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Apr 26 (Fri.)

Time/Room	Joy Lounge	105	South Lounge
08:00-09:00	Registration		
09:00-10:30	**WS 1: Applications of NGS bioinformatics analysis on tuberculosis epidemiology: a hands-on workshop** 10:00-10:10 **Opening** Speaker: Prof. Hsien-Ho Lin 10:10-11:40 **Application of NGS to understand local TB epidemiology – Australia / Moldova / Taiwan** Speaker: Prof. Ben Marais / Prof. Ted Cohen / Prof. Hsien-Ho Lin 11:40-12:00 **Discussion** Speaker: Prof. Ben Marais / Prof. Ted Cohen / Prof. Hsien-Ho Lin 12:00-13:00 **Lunch break** 13:00-13:30 **Linux environment introduction and basic commands** Speaker: Prof. Chien-Yueh Lee 13:30-14:20 **Introduction of NGS and Overview of NGS Data pre-processing** Speaker: Prof. Chien-Yueh Lee 14:30-15:30 **Variant calling, phylogenetic tree and SNP distance calculation** Speaker: Ms. Chieh-Yin (Jenny) Wu 15:45-16:10 **Identification of resistant-conferring mutations** Speaker: Ms. Chieh-Yin (Jenny) Wu 16:10-16:30 **Introduction of online analytical systems for bacterial research: MiDsystem and TBImpact**	**WS 2: Oxford Nanopore Technologies – Third-generation sequencing technology** 10:00-11:20 **Introduction to Nanopore Sequencing and Clinical Applications** Speaker: Dr. Steven Su 11:30-12:00 **Flow Cell Handling Practice** Speaker: Mr. Robert Hung 12:00-13:00 **Lunch break** 13:00-14:40 **Rapid Lambda Sequencing Practice** Speaker: Mr. Robert Hung 14:50-17:00 **Introduction to Data Analysis tools and EPI2ME Labs Practice** Speaker: Dr. Steven Su / Mr. Robert Hung	**WS 3: Endobronchial ultrasound** 9:00-10:00 **Radial-EBUS and Guiding Sheath** Speaker: Prof. Oki Masahide 10:00-11:00 **Convex-EBUS and TBNA** Speaker: Dr. Yuji Matsumoto 11:10-12:30 **Hands-on: R-EBUS image / GS /TBNA** **Moderator: Prof. Chao-Chi Ho** Speaker: Dr. Lih-Yu Chang / Prof. Oki Masahide / Dr. Yuji Matsumoto
12:30-13:40			**Lunch Break**
13:40-15:00			**WS 4: Cryobiopsy & Bronchoscopic thermal vapor ablation** 13:40-14:40 **Cryobiopsy** Speaker: Prof. Takehiro Izumo 14:40-15:40 **Bronchoscopic thermal vapor ablation (BTVA)** Speaker: Dr. Lih-Yu Chang 15:50-17:30 **Hands-on: Cryobiopsy / Snare / APC / BTVA** **Moderator: Prof. Chih-Yen Tu** Speaker: Prof. Takehiro Izumo / Dr. Chia-Hung Chen / Dr. Lih-Yu Chang
15:00-16:30			
16:30-17:30			

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Apr 27 (Sat.)

Time/Room	Plenary Hall	201BC	201DE	201AF	102	105
07:30-08:30	Registration					
08:30-10:00	**Sym 2: Impact of Emerging Respiratory Infectious Diseases on TB** **Moderator: Prof. Chih-Bin Lin / Prof. Giovanni Battista Migliori** 08:30-09:00 **Epidemic and pandemic viral infections: impact on tuberculosis and the lung.** Speaker: Dr. Charoen Chuchottaworn 09:00-09:30 **Impact of COVID-19 on tuberculosis prevention and care in Malaysia** Speaker: Dr. Asmah Razali 09:30-10:00 **Control of COVID-19 pandemic and Tuberculosis, in Taiwan** Speaker: Mr. Po-Wei Chu	**Sym 4: Application of Intelligent Medicine in Critical Care** **Moderator: Prof. Chieh-Liang Wu / Prof. Kuo-Chin Kao / Dr. Chang-Wen Chen** 08:30-09:00 **Developing a Smart ICU** Speaker: Prof. Ming-Ju Tsai 09:00-09:30 **Explainable Machine Learning to Assist Weaning from Mechanical Ventilation in Critical Care** Speaker: Dr. Wen-Cheng Chao 09:30-10:00 **Digital Transformation Saves More Life** Speaker: Dr. Wei-Cheng Chen	**Sym 1: TB in PLHIV** **Moderator: Dr. Anita Pei-Chun Chan / Dr. Kasha Singh** 08:30-09:00 **Integrated strategies to find TB among PLWHAs in Viet Nam** Speaker: Ms. Quynh Hoa Vu 09:00-09:30 **Comprehensive package of HIV-TB-STI-Chem-sex care in Victoria, Australia** Speaker: Dr. Kasha Singh 09:30-10:00 **Experience with the governmental-funded hospital-initiated tuberculosis infection diagnosis and treatment among people living with HIV in Taiwan, 2019-2023** Speaker: Prof. Chien-Ching Hung	**Sym 3: Burden of TB-related Diseases** **Moderator: Prof. Hsien-Ho Lin / Prof. Ben Marais** 08:30-09:00 **General TB** Speaker: Prof. Ted Cohen 09:00-09:30 **Pediatric TB** Speaker: Prof. Ben Marais 09:30-10:00 **The financial burden faced by tuberculosis-affected households: Taiwan and Beyond** Speaker: Prof. Hsien-Ho Lin	**Sym 6: Post-TB Complication** **Moderator: Dr. Wei-Chang Huang / Dr. Meng-Jer Hsieh** 08:30-09:00 **Chronic Pulmonary Aspergillosis: An Unignorable Post-TB Lung Disease** Speaker: Dr. Meng-Rui Lee 09:00-09:30 **Post-TB lung function change: an overview** Speaker: Dr. Po-Jui Chang 09:30-10:00 **Is prior history of TB a risk factor of lung cancer** Speaker: Dr. Jeng-Sen Tseng	**Sym 5: Opportunities and Challenges for Chronic Airway Diseases** **Moderator: Dr. Hao-Chien Wang / Prof. Shih-Lung Cheng / Dr. Wu-Huei Hsu** 08:30-09:00 **Impulse oscillometry: interpretation and clinical application in chronic airway diseases** Speaker: Prof. Diahn-Warng Perng 09:00-09:30 **Long-term trends of COPD mortality: Gaps and opportunities** Speaker: Dr. Chia-Hung Chen 09:30-10:00 **The environmental impact of inhalers for asthma: A green challenge and a golden opportunity** Speaker: Dr. Horng-Chyuan Lin
10:00-10:10	Break					
10:10-11:10	**Plenary Session 1: TB in Asia-Pacific Region: Past, Present and Future TB in APR** **Moderator: Prof. Guy Marks / Dr. Jen-Hsiang Chuang** 10:10-10:40 **The Evolution of the Taiwan TB Program: A Historical Perspective** Speaker: Dr. Jen Suo 10:40-11:10 **Strategy to end tuberculosis in the Asia-Pacific Region** Speaker: Prof. Guy Marks					
11:10-12:10	**Plenary Session 2: Universal Health Coverage (Health Economics)** **Moderator: Prof. Chen-Yuan Chiang / Prof. Shan-Chwen Chang** 11:10-11:40 **Tuberculosis and Universal Health Coverage** Speaker: Ms. Emiko Masaki 11:40-12:10 **Operational Modeling with Health Economics to Support Decision Making for COPD Patients** Speaker: Dr. Chiung-Zuei Chen					
12:10-12:20	Break					
12:20-13:20		Lunch Symposium	Lunch Symposium	Lunch Symposium	Lunch Symposium	Lunch Symposium
13:20-13:30	Break					
13:30-14:40	**TATA & TSTLD General Assembly Meeting (Members only)**	Oral Presentation	Oral Presentation	Oral Presentation	Oral Presentation	Oral Presentation
14:40-14:50	Break					
14:50-16:20	**Sym 10: Treatment Strategies for ARDS due to COVID-19** **Moderator: Prof. Chung-Chi Huang / Dr. Chin-Pyng Wu / Dr. Shih-Chi Ku** 14:50-15:20 **High-flow nasal cannula for ARDS** Speaker: Dr. Li-Kuo Kuo 15:20-15:50 **Prone Positioning for ARDS** Speaker: Dr. Ming-Cheng Chan 15:50-16:20 **Extracorporeal membrane oxygenation for ARDS** Speaker: Dr. Shu-Min Lin	**Sym 12: NTM Diagnosis and Treatment** **Moderator: Prof. Satoshi Mitarai / Dr. Jung-Yien Chien** 14:50-15:20 **Challenge in interpretating serial sputum culture results** Speaker: Dr. Chia-Jung Liu 15:20-15:50 **Best supportive care for NTM-LD** Speaker: Dr. Jung-Yien Chien 15:50-16:20 **Anti-NTM treatment & timing of surgery** Speaker: Dr. Wei-Chang Huang	**Sym 8: Non-sequencing-based Diagnosis of TB and LTBI** **Moderator: Dr. Masae Kawamura / Dr. Bo-Shiun Yan** 14:50-15:20 **The Advancement of AI-Augmented Imaging Technology in the Diagnosis of Pulmonary TB** Speaker: Dr. Yu-Sen Lin 15:20-15:50 **Precision Diagnosis of Tuberculosis: Empowering Personalized Healthcare with Nano and Micro Technologies** Speaker: Prof. Tony Hu 15:50-16:20 **Immune Based Diagnosis of LTBI-Where We Are and Where We Are Going**	**Sym 9: Environment & TB** **Moderator: Prof. Inn-Wen Chong / Dr. Simone Barry** 14:50-15:20 **The impact of indoor population and ventilation on TB transmission** Speaker: Dr. Anita Pei-Chun Chan 15:20-15:50 **Exploring the Nonlinear Relationship between Air Pollutants and the Incidence of Respiratory Infectious Diseases in China (2013-2018)** Speaker: Dr.Ta-Chien Chan 15:50-16:20 **The impact of climate change on the risk factors for tuberculosis** Speaker: Dr. Simone Barry	**Sym 7: Regimen optimization and therapeutic drug monitoring** **Moderator: Prof. Chih-Hsin Lee / Dr. Jae-Gook Shin** 14:50-15:20 **Model Informed Precision Dosing and Semi-automated TDM for Personalized Medicine of Antituberculosis Drugs** Speaker: Dr. Jae-Gook Shin 15:20-15:50 **The role of Hollow-Fiber System in optimizing combinational regimen for mycobacterial disease** Speaker: Dr. Shashikant Srivastava 15:50-16:20 **LD-MS/MS method for simultaneous quantification of anti-TB agents** Speaker:Dr. I-Lin Tsai	**Sym 11: Sleep Apnea and Elderly** **Moderator: Dr. Chia-Mo Lin / Dr. Liang-Wen Hang** 14:50-15:20 **Concomitant obstructive sleep apnea and chronic obstructive pulmonary disease in elderly patients** Speaker: Dr. Yung-Che Chen 15:20-15:50 **The interrelationship between sleep duration, daytime sleepiness and sleep disordered breathing: role of age** Speaker: Dr. Pei-Lin Lee 15:50-16:20 **Sleep Apnea and sleep disorders in elderly dwelling community in Taiwan** Speaker: Dr. Li-Pang Chuang
16:20-16:30	Break					
16:30-17:30	**Plenary Session 3: Environment (Climate Change) & Pollution** **Moderator: Dr. Chi Chiu Leung / Prof. Shih-Lung Cheng** 16:30-17:00 **Tobacco control and TB prevention/care** Speaker: Dr. Tara Singh Bam 17:00-17:30 **Estimating the National Carbon Footprint of Inhalers in Healthcare** Speaker: Prof. Ming-Ju Tsai					
17:30-18:10	**Opening Ceremony**					
18:30-20:30	Welcome Reception (Banquet Hall)					

Apr 28 (Sun.)

Time/Room	Plenary Hall	201BC	201DE	201AF	102	105	South Lounge
07:30-08:30	Registration						
08:30-10:00	**Sym 13: Programmatic Management of DRTB** **Moderator: Dr. Jen-Jyh Lee / Dr. Hoang Thi Thanh Thuy** 08:30-09:00 **Progress and challenges of programmatic management of drug-resistant TB in Indonesia** Speaker: Dr. Erlina Burhan 09:00-09:30 **Application of short regimens of rifampicin-resistant TB in Viet Nam: challenges and opportunity** Speaker: Dr. Hoang Thi Thanh Thuy 09:30-10:00 **Operation and challenges of Taiwan multidrug-resistant TB Consortium: the way forward** Speaker: Dr. Chou-Jui Lin	**Sym 29: Application of Tuberculosis Treatment in Lung Cancer** **Moderator: Prof. Yuh-Min Chen / Dr. Chin-Chou Wang / Dr. Te-Chun Hsia** 08:30-09:00 **Epidemiology of Tuberculosis and Lung Cancer** Speaker: Dr. Chia-Hsiang Li 09:00-09:30 **Treatment strategy of lung cancer in lung cancer patients with active tuberculosis** Speaker: Dr. Chih-Hsi Kuo 09:30-10:00 **Is antimicrobial drugs also response against lung cancer in lung cancer patient with Mycobacterium tuberculosis coinfections** Speaker: Dr. Yung-Hung Luo	**Sym 14: TB & Comorbidity** **Moderator: Dr. Yi-Ming Chen / Dr. Jennifer Ann Mendoza-Wi** 08:30-09:00 **The Burden and Impact of NCD Comorbidities On TB Control** Speaker: Dr. Jennifer Ann Mendoza-Wi 09:00-09:30 **Taiwan experience of catalyzing collaborative action on TB and Chronic Complex Diseases: Utilizing Systemic Autoimmune Diseases as a Paradigm** Speaker: Dr. Yi-Ming Chen 09:30-10:00 **Chronic lung disease and TB: current perspectives and the future** Speaker: Prof. Chin Kook Rhee	**Sym 15: Recent Progress of Lung Cancer Treatment** **Moderator: Prof. Jin-Yuan Shih / Dr. Kang-Yun Lee / Dr. Chun-Liang Lai** 08:30-09:00 **Recent advances in immunotherapy of early stage lung cancer** Speaker: Dr. Chao-Hua Chiu 09:00-09:30 **Recent Advances and the Dawn of Antibody-Drug Conjugates in lung cancer** Speaker: Prof. Chien-Chung Lin 09:30-10:00 **Recent Advances in Targeted Therapies of Lung Cancer** Speaker: Dr. Ching-Yao Yang	**Sym 17: Advances in Diagnostic Bronchoscopy** **Moderator: Prof. Chih-Yen Tu / Dr. Bin Hwangbo** 08:30-09:00 **EBUS-TBNA for Lung cancer Staging: Current Status and Future Directions** Speaker: Dr. Bin Hwangbo 09:00-09:30 **The diagnosis of lung nodule in the era of interventional pulmonology** Speaker: Dr. Chia-Hung Chen 09:30-10:00 **Application of hybrid operating room in the field of interventional pulmonology** Speaker: Dr. Shun-Mao Yang	**Sym 16: Environmental Lung Disease** **Moderator: Prof. Chau-Chyun Sheu / Prof. Yasuo Morimoto** 08:30-09:00 **Current status of air pollution and efforts to improve air quality in the Asia-Pacific region.** Speaker: Prof. Yasuo Morimoto 09:00-09:30 **Interactions between air pollution and gut microbiota on human health.** Speaker: Prof. Peggy Lai 09:30-10:00 **Innovative health promotion and environmental education under air pollution environment** Speaker: Dr. Chih-Hsing Hung	**Sym 18: Pulmonary Hypertension** **Moderator: Dr. Hsao-Hsun Hsu / Dr. Ching-Lung Liu** 08:30-09:00 **Living-donor lobar LTx for pulmonary hypertension** Speaker: Dr. Daisuke Nakajima 09:00-09:30 **Incidence and long-term outcome of chronic thromboembolic pulmonary hypertension in Taiwan** Speaker: Dr. Chi-Wei Tao 09:30-10:00 **Emerging new drugs for pulmonary hypertension** Speaker: Dr. Ping-Hung Kuo
10:00-10:10	Break						
10:10-11:10	**Plenary Session 4: COVID-19** **Moderator: Prof. Guy Marks / Prof. Kuo-Chin Kao** 10:10-10:40 **Challenges of emerging infectious diseases on tuberculosis prevention and care** Speaker: Dr. Jae-Joon Yim 10:40-11:10 **Prevalence, risk factor, and prognosis of long COVID: now and feature** Speaker: Dr. Jia-Yih Feng						
11:10-12:10	**Plenary Session 5: Update in Pulmonary Diseases** **Moderator: Dr. Pan-Chyr Yang / Dr. Hao-Chien Wang** 11:10-11:40 **Next generation sequencing for lung cancer in the era of precision therapy** Speaker: Dr. Kuei-Pin Chung 11:40-12:10 **Current update of acute exacerbation in interstitial lung diseases** Speaker: Dr. Toru Arai						
12:10-12:20	Break						
12:20-13:20		Lunch Symposium	Lunch Symposium	Lunch Symposium	Lunch Symposium	Lunch Symposium	
13:20-13:30	Break						
13:30-14:40	Oral Presentation	Oral Presentation	Oral Presentation	Oral Presentation			
14:40-14:50	Break					Break	
14:50-16:20	**Sym 24: Health Insurance, Health Data, and Open AI** **Moderator: Dr. Shao-Haei Liu / Dr. Pau-Chung Chen** 14:50-15:20 **Advancing Taiwan's National Health Insurance: the New Epoch of Digital Governance** Speaker: Dr. Chung-Liang Shih 15:20-15:50 **Big data, where is it and where to go** Speaker: Dr. Hung-Yi Chiou 15:50-16:20 **The impact of open AI on healthcare** Speaker: Prof. Fu-Chang Tsai	**Sym 19: TB in Elder and Children** **Moderator: Prof. Ben Marais / Prof. Chou-Jui Lin** 14:50-15:20 **Closing the gap: advances in laboratory diagnosis of tuberculosis in children using non-sputum specimens** Speaker: Dr. Rina Triasih 15:20-15:50 **What is new: updates on child-friendly formulations for drug-susceptible and drug-resistant tuberculosis** Speaker: Prof. Ben Marais 15:50-16:20 **Unmet needs of elder TB patients: from screening, treatment, comorbidity management to palliative care** Speaker: Dr. Jen-Hau Chen	**Sym 20: Programmatic Management of DSTB: Progress and Challenges** **Moderator: Dr. Ruay-Ming Huang / Prof. Nicholas Paton** 14:50-15:20 **Rifapentine-based short course anti-tuberculosis therapy for drug susceptible tuberculosis and Taiwan experience** Speaker: Dr. Chin-Chung Shu 15:50-16:20 **The role of high dose rifampicin, linezolid, clofazimine in the short course regimen for drug susceptible tuberculosis and Korea experience** Speaker: Prof. Nakwon Kwak 16:00-16:30 **Incorporating newer drugs into regimens for treatment of drug-susceptible TB** Speaker: Prof. Nicholas Paton	**Sym 23: Interstitial Lung Disease** **Moderator: Dr. Hao-Chien Wang / Dr. Yoshikazu Inoue** 14:50-15:20 **The new treatment strategy of IPF** Speaker: Dr. Toru Arai 15:20-15:50 **The hypersensitive pneumonitis consensus in Japan** Speaker: Dr. Yoshikazu Inoue 15:50-16:20 **The progressive pulmonary fibrosis consensus of Taiwan** Speaker: Dr. Tang-Hsiu Huang	**13:40-16:00** **TCDC Side Event** **National TB Prevention and Control Program toward the Goal of TB Elimination**	**Sym 22: Lung Cancer Surgery** Moderator: Dr. Chien-Sheng Huang / Dr. Pei-Ming Huang 14:50-15:20 **Recent advances in preoperative tumor localization.** Speaker: Prof. Po-Kuei Hsu 15:20-15:50 **Outcome of Sublobar resection for Ealy stage NSCLC** Speaker: Dr. Tsai-Wang Huang 15:50-16:20 **Robotic surgery in Thoracic oncology** Speaker: Mr. Shuenn-Wen Kuo	
16:20-16:30	Break						
16:30-17:30	**Plenary Session 6: Advance in TB: Current & Future** **Moderator: Prof. Jann-Yuan Wang / Prof. Seiya Kato** 16:30-17:00 **New Diagnosis** Speaker: Prof. Satoshi Mitarai 17:00-17:30 **Recent advance in the treatment of tuberculosis** Speaker: Prof. Giovanni Battista Migliori						
18:30-20:30	Gala Night (Grand Hyatt Taipei, 3F Grand Ballroom)						

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Apr 29 (Mon.)

Time/Room	201BC	201DE	201AF	102
08:00-09:00	Registration			
09:00-10:30	**Sym 28: Programmatic Management of LTBI: Progress and Challenges** **Moderator: Dr. Hung-Ling Huang / Prof. Yan Lin** 09:00-09:30 **Completion, safety, and efficacy of tuberculosis preventive treatment regimens containing rifampicin or rifapentine** Speaker: Dr. Nicholas Winters 09:30-10:00 **Real-world experiences on LTBI intervention in people with risk factors** Speaker: Prof. Yan Lin 10:00-10:30 **Programmatic Management of LTBI: Progress and Challenges** Speaker: Dr. Hung-Ling Huang	**Sym 27: Rapid Molecular Diagnosis and Detection of DRTB** **Moderator: Dr. Kuan-Jen Bai / Dr. Sushil Pandey** 09:00-09:30 **Recent progress in the use of rapid molecular test for the detection of drug-resistant tuberculosis in the Philippines** Speaker: Dr. Ramon P. Basilio 09:30-10:00 **Diagnosis of bedaquiline, delamanid, and pretomanid resistance** Speaker: Dr. Sushil Pandey 10:00-10:30 **Rapid molecular tests for tuberculosis and tuberculosis drug resistance** Speaker: Ms. Ya-Yen Yu	**Sym 25: Case Finding: Active Case Finding and Systemic Screening** **Moderator: Prof. Chi-Li Chung / Dr. Erlina Burhan** 09:00-09:30 **Active case-finding for TB in Taiwan** Speaker: Dr. Pin-Hui Lee 09:30-10:00 **New model to end TB in VN** Speaker: Dr. Huyen Truong 10:00-10:30 **The strategies for TB case-finding in Indonesia** Speaker: Dr. Fathiyah Isbaniah	**Sym 21: Smoking and tuberculosis: a combination** **Moderator: Dr. Jia-Yih Feng / Dr. Ch** 15:00-15:30 **The impact of Tobacco U transmission Dynamics and Treatme** Speaker: Dr. Chuan-Chin Huang 15:30-16:00 **Smoking cessation: the Hong Kong** Speaker: Dr. Chi Chiu Leung 16:00-16:30 **Impact of cigarette smo health: interaction between smoke** Speaker: Dr. Sheng-Wei Pan
10:30-11:00	Break			
11:00-12:00		**Closing Ceremony**		

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Pre-Conference Workshop 1: Applications of NGS bioinformatics analysison tuberculosis epidemiology: a hands-on workshop

Date: Friday, April 26, 2024
Time: 09:30-16:30 (GMT+8)

10:10-11:40

Application of NGS to understand local TB epidemiology – Australia

Speaker: Prof. Ben Marais
Abstract:

Background: Routine whole genome sequencing of Mycobacterium tuberculosis has been implemented with increasing frequency. However, its value for tuberculosis (TB) control programs beyond individual case management and enhanced drug resistance detection has not yet been explored.

Methods: We analysed routine sequencing data of culture-confirmed TB cases notified between 1st January 2017 and 31st December 2021 in New South Wales, Australia. Genomic surveillance included evidence of local TB transmission, defined by single nucleotide polymorphism (SNP) clustering over a variable (0-25) SNP threshold, and drug resistance conferring mutations.

Findings: Sequences from 1831 patients were examined, representing 64·8% of all notified TB cases; 96·2% of culture-confirmed cases. Applying a 5-SNP cluster threshold identified 62 transmission clusters with 183 clustered cases; 101/183 (55·2%) had 0 SNP differences. Cluster assessment over a 5 -year period provided a comprehensive overview of likely recent transmission within NSW, Australia, as an indicator of local TB control. Genotypic drug susceptibility testing (gDST) was highly concordant with phenotypic DST and provided a 6·8% increase in antimycobacterial resistance detection. Importantly, it detected mutations missed by routine molecular tests.

Interpretation: Performing routine prospective WGS has clinical value and provides programmatic indicators of TB control; a rolling 5-year cluster assessment reflects local epidemic containment and gDST provides comprehensive drug resistance surveillance.

Major points:

- low TB incidence countries are well positioned to incorporate routine WGS into their TB control programs
- detecting the presence of drug resistance conferring mutations or identifying a laboratory contamination event hasimportant implications for patient care
- detecting instances of local TB transmission and gaining a deeper understanding of local transmission dynamicsguides better targeted public health responses and have important implications for disease control
- the incorporation WGS into key TB program performance indicators (KPIs) will advance progress towards TB elimination, defined as 'zero local TB transmission'.

Application of NGS to understand local TB epidemiology – Moldova

Speaker: Prof. Ted Cohen
Abstract:TBD

Application of NGS to understand local TB epidemiology – Taiwan

Speaker: Prof. Hsien-Ho Lin
Abstract:

This session aims to share the application of whole genome sequencing (WGS) in understanding local TB transmission. In Taiwan, our ongoing cohort study in Kaohsiung since 2019 involves WGS on clinical isolates fromall culture-confirmed TB cases and integrate this information with WGS, contact tracing, and geospatial data. Preliminary results indicate that approximately 13% to 23% (using a SNP distance cutoff of 5 and 12 respectively) ofTB cases in Kaohsiung could be attributable to recent transmissions, but the rate varied substantially by lineage and location. Importantly our study identified a number of potential transmission clusters which were not detected by routine contact investigation in the context of intensified case finding among close contacts. These findings revealed the challenge of routine contact tracing in identifying transmission from casual contact in the community, especially for a disease like TB with a long incubation period and airborne transmission nature. The insights gained could guide future investigations, offering valuable experiences for precision tuberculosis control in Taiwan.

13:00-13:30
Linux environment introduction and basic commands

Speaker: Dr. Chien-Yueh Lee
Abstract:

This lecture allows participants to explore the next-generation sequencing (NGS) analysis in a Linux environment. Linux knowledge is essential for harnessing the power of cutting-edge tools and technologies in genomics research because it is the backbone of bioinformatics and computational biology. This educational session aims to provide participants with essential knowledge that will allow them to navigate and leverage the capabilities of Linux for efficient NGS data analysis. Participants will be guided through a series of basic Linux commands, explaining their purpose and usage. Practical demonstrations will promote hands-on learning and allow participants to apply their newly acquired knowledge in real-world scenarios.

Another critical component of the lecture is instructing users on installing necessary bioinformatics tools using Conda—a powerful package manager. Conda streamlines the setup process for various bioinformatics applications by simplifying the deployment of software dependencies. Participants will learn step-by-step tool installation procedures, ensuring they have the skills to set up a robust computational environment for genomics research.

In conclusion, the lecture provides an indispensable initiation into Linux for next-generation sequence analysis. Participants will emerge with the confidence and proficiency needed to navigate the Linux environment, laying a solid foundation for bioinformatics endeavors.

13:30-14:20
Introduction of NGS and Overview of NGS Data pre-processing

Speaker: Dr. Chien-Yueh Lee
Abstract:

Next-generation sequencing (NGS) technologies have transformed genomics research by allowing the production of large quantities of genetic data quickly and on a massive scale. This lecture aims to provide an overview of crucial aspects of NGS data pre-processing before the variant calling step, covering key topics such as NGS data formats, quality control, and read mapping. The section commences with an exploration of diverse data formats inherent to NGS technologies. Understanding the file structures and additional information, such as FASTQ and BAM, is pivotal for researchers embarking on genomics projects. Quality control emerges as a critical phase in the pre- processing pipeline, acting as a gatekeeper to ensure the reliability of downstream analyses. Participants will learn how to assess and interpret quality reports, as well as how to deal with issues such as sequence accuracy, poor base removal, and adapter contamination. Read mapping, which aligns sequenced reads to a reference genome to reveal biological insights, is a critical component of NGS data analysis. Participants will gain hands-on experience with NGS data analysis and understand the pre-processing pipeline through practical demonstrations in the lecture.

14:30-15:30
Variant calling, phylogenetic tree and SNP distance calculation

Speaker: Ms. Chieh-Yin (Jenny) Wu
Abstract:

In this workshop session, we will delve into the crucial stages, including variant calling, phylogenetic tree construction, and SNP distance calculation. We will execute variant calling by utilizing the Pilon tool. This involvesnot only the practical implementation but also an in-depth exploration of the underlying principles and influential parameters affecting the accuracy of variant calling results. Subsequently, we will generate SNP alignments within the provided example strains. This step is pivotal for constructing a phylogenetic tree, allowing us to visually represent the evolutionary relationships between the strains. Additionally, we will explore the calculation of SNP distance as a quantitative measure of relatedness between different strains.

15:45-16:10
Identification of resistant-conferring mutations

Speaker: Ms. Chieh-Yin (Jenny) Wu
Abstract:

This session focuses on the identification of resistant-conferring mutations, commencing with a fundamental introduction to the concept of mutations associated with resistance. TB profiler tool will be implemented to efficiently identify resistant-conferring mutations. Through practical demonstrations, participants will learn how to navigate the tool effectively and interpret the results generated.

16:10-16:30
Introduction of online analytical systems for bacterial research: MiDsystem and TBImpact

Speaker: Dr. Chien-Yueh Lee
Abstract:

This lecture will provide a concise overview of two online analytical systems specifically developed for processing microbial sequencing data: MiDSystem and TBImpact. MiDSystem is a comprehensive online platform that analyzes microbial genome data using two main pipelines: de novo assembly for single-species studies and metagenomics. The system can handle input from different types of whole-genome shotgun sequencing data, including both short-read and long-read sequencing platforms. MiDSystem provides a range of features, such as sequence quality assessment, genome assembly, abundance quantification, gene prediction, functional annotation, and phylogenetic tree construction. It streamlines the necessary analytics steps for microbial sequencing data.

TBImpact is an integrated web-based platform developed for the purpose of examining genetic information of Mycobacterium tuberculosis. Compared to conventional NGS pipelines in tuberculosis research, it is the first tool to incorporate the genotype imputation method. This method can infer and restore missing genotypes of samples, leading to enhanced accuracy in transmission analysis. The TBImpact pipeline comprises seven major steps, including sequence preprocessing, lineage determination, variant identification, genotype imputation, transmission analysis, drug resistance prediction, and phylogenetic tree construction. This platform effectively simplifies intricate data processing procedures, providing researchers with visualized outcomes to facilitate the examination of the transmission chain and drug resistance of Mycobacterium tuberculosis.

Both MiDSystem and TBImpact greatly enhance the efficiency and reduce the time required for researchers to analyze samples. These systems facilitate researchers in focusing on the investigation of the pathogenicity of specific bacteria or the exploration of the relationship between microbial composition and the environment.

Pre-Conference Workshop 2: Oxford Nanopore Technologies – Third-generation sequencing technology

Date: Friday, April 26, 2024
Time: 09:00-17:00 (GMT+8)

10:00-11:20
Introduction to Nanopore Sequencing and Clinical Applications

14:50-17:00
Introduction to Data Analysis tools and EPI2ME Labs Practice

Speaker: Dr. Steven Su
Abstract:

A nanopore sequencing demonstration as well as a rapid sequencing control experiment will allow each participant to gain practical hands-on experience of running Nanopore sequencing devices such as MinION/GridION.

A one day training course, conducted on-site, for up to 20 participants. Work with our experts instructors to gain a comprehensive overview of Nanopore technology, and hands-on experience on running sequencing experiments inthis training.

Pre-Conference Workshop 3: Endobronchial ultrasound

Date: Friday, April 26, 2024
Time: 09:00-12:30 (GMT+8)

09:00-10:00
Radial-EBUS guided bronchoscopy: Guide sheath method and ultrathin bronchoscopic method

Speaker: Dr. Masahide Oki
Abstract:

Bronchoscopy has been widely used to diagnose peripheral lung cancer. The diagnostic sensitivity of conventional bronchoscopy using only fluoroscopic guidance for cancers less than 20 mm in diameter is only 34%. However, since the early 2000s, several useful devices including radial probe endobronchial ultrasound (EBUS) instruments with/without guide-sheaths (GSs), navigation devices, and ultrathin bronchoscopes have been developed. The diagnostic yields afforded by virtual bronchoscopic navigation (VBN), EBUS with a GS rather than without a GS,and ultrathin (compared to thin) bronchoscopy have been proven in randomized studies. In addition, improved or new sampling instruments including transbronchial needles and cryoprobes are now clinically available. Bronchoscopic techniques have thus changed drastically, and the diagnostic sensitivity for peripheral lung cancers less than 20 mm in diameter is now about 60%. In the United States and Europe, advanced electromagnetic navigation, cone-beam CT-guided, and robotic bronchoscopy are becoming gradually introduced but are not yet available in Japan because of the high costs. No randomized studies have explored the efficacies of these state-of-the-art devices. Large randomized studies are required.

10:00-11:00
Convex-EBUS and TBNA

Speaker: Dr. Yuji Matsumoto
Abstract: TBD

Pre-Conference Workshop 4: Cryobiopsy & Bronchoscopic thermal vapor ablation

Date: Friday, April 26, 2024
Time: 13:40-17:30 (GMT+8)

13:40-14:40
Cryobiopsy

Speaker: Prof. Takehiro Izumo
Abstract:

In recent years, bronchoscopy has gained importance in the treatment of non-small cell lung cancer (NSCLC) due to its evolution and diverse applications. This lecture aims to harmonize these advancements with the future Sustainable Development Goals (SDGs), focusing particularly on the prospects of cryobiopsy in NSCLC treatment.

Bronchoscopy, known for its precision and minimally invasive nature, plays a crucial role in the early detection, diagnosis, and treatment of NSCLC. To contribute to the SDGs, particularly the goal of "good health and well-being," a patient-centered approach and the use of cutting-edge technologies like artificial intelligence (AI) are deemed essential.

Advancements in technology have led to increasingly sophisticated bronchoscopies, offering less invasive cancer treatments compared to percutaneous or open biopsies. This not only shortens patient recovery time but also promotes the efficient use of medical resources, contributing to equitable and effective healthcare provision within communities from an SDG perspective.

Furthermore, the adoption of bronchoscopy, being less environmentally impactful than surgery, aids in building a sustainable healthcare system. The integration of bronchoscopy with the SDGs' vision of expanding medical access aligns with providing flexibility to meet diverse regional needs. The progress in bronchoscopy also holds significant importance from a diversity standpoint, as it becomes more versatile in application.

Bronchoscopy is poised to be a key technology in NSCLC treatment, paving an important path towards achieving the SDGs. With tailored responses to individual patient needs and further technological advancements, bronchoscopyis envisioned to become an indispensable element in a sustainable future of healthcare.

14:40-15:40
Bronchoscopic Thermal Vapor Ablation (BTVA): Introduction and Experience Sharing from NTUHHsinChu Branch

Speaker: Dr. Lih-Yu Chang
Abstract:

Due to structure destruction, medical treatment, even combined with pulmonary rehabilitation, might not be effectiveenough for severe emphysema control. Surgical lung volume reduction assists emphysema control by removing space occupied bullae and decreased residual volume. However, the mortality and morbidity rate are relatively high. Bronchoscopic lung volume reduction (BLVR) are alternative methods developed to reduce residual volume with significant lower risk. BLVR has been included into treatment choice since GOLD-guideline 2017.

Bronchoscopic thermal vapor ablation (BTVA) is one kind of BLVR. BTVA uses vapor to deliver energy to target lung segment and induce the area fibrosis/ shrinkage gradually. Residual volume decreasing and life quality/ exercise tolerance improving would happen about few months later. In this section, we will introduce the technique and shareour experience at National Taiwan University Hospital (NTUH), HsinChu branch.

Symposium 1 : TB in PLHIV

Date: Saturday, April 27, 2024
Time: 08:30-10:00 (GMT+8)

08:30-09:00
Double-X and other integrated strategies to find TB among PLHIV in Vietnam

Speaker: Dr. Quynh Hoa Vu
Abstract:

Background

Tuberculosis (TB) is the leading opportunistic infection that causes death in people living with HIV/AIDS (PLWHAs), and HIV is the strongest risk factor for developing TB among new TB bacteria infected or latent TB infected people. Despite of achieving remarkable results on TB control, Vietnam is still a country with high TB burden, ranks 11th among 30 countries with highest TB patients globally. National TB Control Program of Vietnam(NTP) is making every effort to reach the goal of ending TB by 2035.

Intervention/ Response

Currently, the NTP is implementing TB Intensified Case Finding (ICF) for PLWHAs using 2X strategy (Xray and Xpert). Also, the NTP and Vietnam Administration of HIV/AIDS Control (VAAC) have developed TB/HIV collaborative plan to implement TB/HIV prevention, diagnosis and treatment activities. PLWHAs will be provided medical examination, TB screening by symptoms and clinical technical tests (ie., CRP, Chest Xray, LF LAM, XpertMTB/RIF, Xpert Ultra or other molecular biology tests).

Results/ Impact

In 2023, the NTP conducted TB ICF using 2X strategy for Methadone users in 12 provinces. 10,314 Methadoneusers underwent CXR screening, 939 people (9.1%) had abnormal CXR results. 1,025 TB suspected people conducted Xpert test. 121 people detected and enrolled for TB treatment (Source: NTP, Vietnam).

Within CDC/ PEPFAR supported project, among 93,263 ART patients in 10 CDC/PEPFAR provinces, 90,788people screened for TB in Q4/2023 (97%). As a result, 1,974 TB cases detected (2.2 %) (Source: PEPFAR Vietnam).

Challenges/Solutions

Challenges: TB diagnostic and screening tools are available in National Guidelines but the implementation remains difficult due to limited resources; incomplete TB/HIV monitoring tool; data reporting and exchange is not complete and timely. Solutions: Optimize the usage of TB diagnostic and screening tools; Standardization of TB/HIV monitoring tool; Improve the coordination between NTP and VAAC.

09:00-09:30
Comprehensive package of HIV-TB-STI-Chem-sex care in Victoria, Australia

Speaker: Dr. Kasha Singh
Abstract: TBD

09:30-10:00

Experience with the governmental-funded hospital-initiated tuberculosis infection diagnosis and treatment among people living with HIV in Taiwan, 2019-2023 (題目更新)

Speaker: Prof. Chien-Ching Hung

Abstract:

PWH are provided with free-of-charge interferon-gamma release assay (IGRA) and treatments for LTBI in Taiwan since 2019. We investigated the care cascade of LTBI among PWH at a university hospital in Taiwan in 2019-2023. LTBI treatments include 1-month daily isoniazid (300 mg) plus rifapentine (600 mg) (1HP), 3-month weekly isoniazid (900 mg) plus rifapentine (900 mg) (3HP), 4-month daily rifampin (4R), and 9-month daily isoniazid (9H).PWH testing IGRA-positive were advised to receive directly-observed therapy for LTBI after active TB was excluded by review of clinical symptomatology and chest radiography. Overall, 3482 PWH without TB or LTBI treatment underwent IGRA testing. The majority of the included PWH were male (96.6%) (mean age, 41.6 years).

Overall, 136 (4.1%) tested IGRA-positive and 35 (1.1%) had indeterminate results. 126 (92.6%) and 1 (2.9%) PWH with positive IGRA and those with indeterminate IGRA result, respectively, initiated LTBI treatment. 1HP (89/121,73.6%) and 3HP (30/121,24.8%) were the most common regimens prescribed. The most frequent ART used were coformulated bictegravir/emtricitabine/tenofovir alafenamide (96/121, 79.3%) and DTG-based regimens (21/121, 17.4%). Overall, 111 (91.7%) PWH completed LTBI treatment and 9 failed to complete LTBI treatment. The most common reasons of treatment non-completion included skin rash, nausea and general malaise. Before LTBI treatment, plasma HIV-1 RNA <200 and <50 copies/ml was 98.3% (119/121) and 93.4% (113/121), respectively, for PWH who initiated LTBI treatment; at 3-6 months of LTBI treatment completion, the respective rate of <200 and <50 copies/ml was 96.4% (106/110) and 94.5% (104/110). The screening rate for LTBI among PWH at the study site was 95.6% and the positive rate was 4.1%. About 92.6% of PWH testing positive for LTBI initiated treatment and only 8.3% failed to complete treatment due to adverse effects. Combination of 1HP or 3HP with integrase inhibitor-based antiretroviral therapy did not compromise the virologic control.

Symposium 2 : Impact of Emerging Respiratory Infectious Diseases on TB

Date: Saturday, April 27, 2024
Time: 08:30-10:00 (GMT+8)

08:30-09:00
Epidemic and pandemic viral infections: impact on tuberculosis and the lung.

Speaker: Dr. Charoen Chuchottaworn
Abstract: TBD

09:00-09:30
Impact of COVID-19 on tuberculosis prevention and care in Malaysia

Speaker: Dr. Asmah Razali
Abstract:

Background: COVID-19 pandemic has impact on health sector globally including TB services in Malaysia. World Health Organization (WHO) modelling estimates that the number of TB patients globally might falls by 25% to 50%over a 3-month period because of disruptions to services. Here we reflect on the impact of COVID-19 and TB services in Malaysia.

Method: Malaysia imposed a Movement Control Order (MCO) on 18 March 2020 following a surge in COVID-19cases. Since then the National TB control programme has responded with multi-faceted approach to ensure the continuity of services like case detection, treatment and contact tracing. Data from TB surveillance system (MyTB)were analysed from 2019 & 2020. New Norms of activities advocated were reviewed for its effectiveness.

Results: Registered TB cases in Malaysia reduced by 10% for the year 2020 compared to 2019. TB mortality remains at 6.8 per 100,000 population. Percentage of TB contacts screened dropped by nine percent. No much changes noticed in BCG immunisation coverage (2019- 98.5%;2020- 98.8%). Modified activities such as two weekssupply of TB medicines with virtual DOT to reduce daily health-facility visit, synergic approach for contact tracing of COVID-19 and TB and compulsory use of PPE and social distancing advocated.

Conclusion: The negative impact of COVID-19 was the reduction in TB cases registered and less contacts been followed up. However, due to timely and effective interventions carried out by the TB control programme in Malaysia the impact was not as bad as predicted by WHO.

Keywords: Tuberculosis, Malaysia, trends, COVID-19.

09:30-10:00
Control of COVID-19 pandemic and Tuberculosis, in Taiwan

Speaker: Mr. Po-Wei Chu
Abstract: TBD

Symposium 3 : Burden of TB-related Diseases

Date: Saturday, April 27, 2024
Time: 08:30-10:00 (GMT+8)

08:30-09:00
General TB

Speaker: Prof. Ted Cohen
Abstract: TBD

09:00-09:30
Pediatric TB

Speaker: Prof. Ben Marais
Abstract:

This presentation will provide a brief overview of pediatric insights and the latest developments related to TB epidemiology, TB disease spectrum (clinical presentation), TB diagnosis and TB prevention. Recent advances in TB treatment will be covered in another presentation.

09:30-10:00
The financial burden faced by tuberculosis-affected households: Taiwan and Beyond (題目更新&摘要)

Speaker: Prof. Hsien-Ho Lin
Abstract:

One of the three major targets of WHO's End TB Strategy is to alleviate the economic burden: no TB patient or their household should face catastrophic costs due to TB. The WHO Global TB Programme established a standardized protocol to provide programmatic guidance on the design, implementation, and analysis of national patient cost surveys. To date, national TB patient cost surveys have been mostly conducted in high burden countries, and no survey has been conducted in high-income countries. The presentation will start with an overview of the findings from previous national surveys, with a focus on countries from the Asia Pacific region. I will then introduce the design and findings from the national TB patient cost survey in Taiwan, a high-income country where the national health insurance has been providing full coverage for TB-related medical care for over two decades. We found that even in a high-income setting with universal health coverage that fully covered the costs of direct medical care for TB patients, costs of TB-related care remained an economic threat to a substantial proportion of TB-affected households, especially for those with MDR-TB. The implication of these results on the progress toward ending TB will be discussed.

Symposium 4 : Application of Intelligent Medicine in Critical Care

Date: Saturday, April 27, 2024
Time: 08:30-10:00 (GMT+8)

08:30-09:00
Developing a Smart ICU

Speaker: Prof. Ming-Ju Tsai
Abstract:

The modern healthcare landscape is witnessing a paradigm shift with the integration of cutting-edge technology intotraditional medical practices. Among these innovations, the development of Smart Intensive Care Units (ICUs) emerges as a groundbreaking advancement in patient care.

Smart ICUs leverage a network of interconnected devices, sensors, and advanced analytics to continuously monitor patients, gather real-time data, and provide predictive insights. By integrating artificial intelligence and machine learning algorithms, these systems enable early detection of deterioration, reducing the likelihood of adverse eventsand facilitating timely interventions. Moreover, Smart ICUs streamline workflows through automated documentation, smart alarms, and predictive analytics, allowing healthcare professionals to focus more on patient care and less on administrative tasks.

This presentation explores the evolution, components, and potential impact of smart ICUs in facilitating patient care. The experience of developing a smart ICU in Kaohsiung Medical University Hospital will also be shared. We believe that the development of smart ICUs represents a transformative approach to critical care management, promising to enhance patient outcomes, improve operational efficiency, and drive innovation in the healthcare industry.

09:00-09:30
Explainable Machine Learning to Assist Weaning from Mechanical Ventilation in Critical Care

Speaker: Dr. Wen-Cheng Chao **(頭銜更新)**

Abstract:
The successful implementation of artificial intelligence (AI) in critical care hinges on the interpretability of AI models and their integration with clinical workflows. We utilized data from the Taichung Veterans General Hospital in Taiwan (2015–2019) and employed various ML models including XGBoost, CatBoost, LightGBM, RF, and LR to establish the extubation prediction model. Additionally, we used visualized explainable AI tools, such as SHapley Additive exPlanations (SHAP), partial dependence plot (PDP) and Local Interpretable Model-agnostic Explanations (LIME) plots, to provide understandable and transparent model predictions. These tools align AI outcomes with clinical insights, enhancing trust and usability in a critical care setting. Our results indicate that the explainable AI models not only achieve high accuracy in predicting extubation outcomes but also are integrated into the clinical workflow, thereby advancing the practical application of AI in medical settings. The study showcases the potential of AI to augment clinical decision-making processes, particularly in the complex and dynamic environment of intensive care units.

09:30-10:00
Digital Transformation Saves More Life

Speaker: Dr. Wei-Cheng Chen **(頭銜更新)**
Abstract: TBD

Symposium 5 : Opportunities and Challenges for Chronic Airway Diseases

Date: Saturday, April 27, 2024
Time: 08:30-10:00 (GMT+8)

08:30-09:00
Impulse oscillometry: interpretation and clinical application in chronic airway diseases

Speaker: Prof. Diahn-Warng Perng

Abstract:
Small airways refer to an internal diameter of 2 mm or less which are the major sites of inflammation and obstruction in asthma and chronic obstructive pulmonary disease (COPD). In asthma, small airway dysfunction (SAD) assessed by the forced expiratory flow between 25% and 75% of vital capacity percent predicted (FEF25- 75%) is associated with asthma symptoms and healthcare utilization. In addition, SAD is present across patients withall severities of asthma and is particularly prevalent in severe diseases observed in a large asthma cohort. In COPD, the presence of SAD in terms of abnormal small airway resistance and reactance is associated with disease severity. Moreover, COPD patients with SAD may have poor spirometric results, more severe lung hyperinflation, and poor quality of life. Impulse oscillation (IOS) uses an oscillation technique that measures lung mechanics in an effort-independent manner to assess respiratory resistance and reactance during tidal breathing by applying different soundwaves with various frequencies. Patients with respiratory symptoms and preserved pulmonary function may still have SAD, which can be identified with the aid of IOS in addition to spirometry. IOS has better sensitivity than effort-dependent FEF25-75% to detect SAD in both asthma and COPD. Furthermore, bronchodilator response assessed by forced oscillation, particularly respiratory reactance can detect more subjects with poor asthma control than did spirometry.

09:00-09:30
Long-term trends of COPD mortality: Gaps and opportunities (摘要更新)

Speaker: Dr. Chia-Hung Chen
Abstract:

Chronic obstructive pulmonary disease (COPD), a progressive lung disease, is characterized by long-term respiratory symptoms and airflow limitation. The burden of COPD is expected to increase in the coming decades due to an aging population and longer exposure to COPD risk factors such as smoking or air pollution. COPD accounts for most of the deaths from chronic lower respiratory diseases, the third leading cause of death worldwide in 2015, when 3.2 million people died from the disease. And also the nineth leading cause of death in the Taiwan in 2022.In this speech, we will focus on the gaps and opportunities of mortality in COPD.

We want to identify both gaps and opportunities to improve our understanding and decrease the burden of COPD. For example, the gaps relate to the factors beyond cigarette smoking that may be driving mortality. Opportunities include a rationale for a more standardized approach to the classification and management of COPD. Additional opportunities relate to learning from different countries that have had successful declines in COPD mortality, better understanding of the factors that drive COPD incidence and affect severity, determining the factors responsible for increasing mortality among younger women in many countries and identifying interventions that improve quality and duration of life in people with established COPD.

09:30-10:00
The environmental impact of inhalers for asthma: A green challenge and a golden opportunity

Speaker: Dr. Horng-Chyuan Lin
Abstract:

Inhalers form the mainstay of treatment for various respiratory illnesses, primarily asthma and chronic obstructive pulmonary disease (COPD). The propellants in metered-dose inhalers (MDIs) are powerful greenhouse gases, which account for the carbon footprint related to the delivery of care. The climate emergency is a healthcare emergency

and
the impacts on human health are already being seen. To achieve lesser greenhouse gas emissions and net carbon

zero, a shift away from metered-dose inhalers which contain powerful greenhouse gases is necessary. Many patients can use dry powder inhalers which do not contain greenhouse gases and are equally effective at managing respiratorydiseases, such as asthma and COPD.

Dry-powder inhalers (DPIs) present a viable alternative to MDIs because they have a substantially smaller carbon footprint, and they are similarly effective. An important part of the carbon footprint of MDI prescribing is short-acting beta agonists (SABA). Strategies that replace overuse of reliever MDIs with regimes emphasizing inhaled corticosteroids have the potential to improve asthma control alongside significant reductions in greenhouse gas emissions. Real-world evidence shows that once-daily long-acting combination DPIs can improve compliance and asthma control, but also reduce the carbon footprint. Moreover, based on the GINA, anti-inflammatory reliever (AIR) and maintenance and reliever therapy (MART), which use combination reliever and inhaled steroids in one device (usually a DPI), can simplify therapy and improve asthma control. Most important, both treatment strategies can significantly reduce the greenhouse gas emissions and the carbon footprint of primary care.

The patient–practitioner relationship are important moral aspects of doctors' management decisions in addition to environmental concerns. By focusing and educating on asthma patients who are currently using high amounts of SABA-containing MDI relievers and prioritizing inhaled steroids via DPIs, there are golden opportunities to make asthma care more effective, safer and greener.

Symposium 6 : Post-TB Complication

Date: Saturday, April 27, 2024
Time: 08:30-10:00 (GMT+8)

08:30-09:00
Chronic Pulmonary Aspergillosis: An Unignorable Post-TB Lung Disease

Speaker: Dr. Meng-Rui Lee **(頭銜更新)**
Abstract:

Chronic Pulmonary Aspergillosis (CPA) remains a significant clinical post-tuberculosis lung disease due to its considerable mortality and morbidity rates. It has been estimated that the 5-year mortality rate for CPA is notably high, approaching 50-85 %. Diagnosing CPA is challenging, requiring a combination of clinical symptoms, compatible radiographic findings, and mycologic evidence. Among the diagnostic criteria, obtaining mycologic evidence poses the greatest challenge. The optimal test for mycologic diagnosis of CPA remains a topic of debate. Unlike in cases of invasive pulmonary aspergillosis, serum galactomannan tests have low sensitivity for CPA. Similarly, Aspergillus culture demonstrates a low yield rate in detecting the presence of Aspergillus, even with the suggestion of utilizing high-volume cultures.

The diagnosis of CPA currently relies on testing for Aspergillus antibodies, specifically Aspergillus IgG. However, Aspergillus IgG testing is not without its limitations. This presentation will therefore include current diagnostic approach to CPA and its future directions. Furthermore, we will share our studies regarding CPA in Taiwan, focusing on its role in post-TB lung disease.

09:00-09:30
Post-TB lung function change: an overview

Speaker: Dr. Po-Jui Chang **(頭銜更新)**
Abstract:

While TB is treatable with antibiotics, there is increasing recognition that lung damage and impaired lung function frequently persist after successful treatment. This presentation will provide an overview of post-TB lung function changes based on recent research. Multiple studies have demonstrated that 38-62% of cured TB patients have abnormal lung function, with obstructive, restrictive, and mixed ventilatory defects. The likelihood of post-TB lung dysfunction appears to be higher with more extensive disease, delayed treatment, smoking, and diabetes. Post-TB lung impairment is associated with reduced exercise tolerance, quality of life, and increased risk of chronic obstructive pulmonary disease (COPD) over time. Proposed mechanisms include fibrosis, bronchiectasis, and small airway narrowing. Early case detection, timely treatment, smoking cessation support, and close monitoring of lung function after cure could mitigate declining lung health in this vulnerable population. Further research into post-TB chronic lung disease is warranted globally given the enormous burden of TB disease. This presentation will review key studies on post-TB lung function change, discuss proposed disease mechanisms and risk factors, highlight impacts on quality of life, and suggest strategies for early detection and proper management.

09:30-10:00
Is prior history of TB a risk factor of lung cancer

Speaker: Dr. Jeng-Sen Tseng

Abstract:
Lung cancer, which has both a high incidence and a high mortality rate, is the leading cause of cancer-related death worldwide. In addition to cigarette smoking, many environmental and genetic factors have been suggested to be involved in the pathophysiology of lung tumorigenesis. Many previous studies have reported that tuberculosis infection may cause inflammation in the lung, which results in lung fibrosis, dysplasia, and scar formation. Additionally, the persistent and uncontrolled inflammatory cascades could lead to DNA damage, apoptosis, and

residual fibrosis, which may finally cause gene mutations and slowly evolve into cancer cells.

In this presentation, we are going to talk about the current evidence addressing the association between tuberculosis and the subsequent risk of lung cancer formation. Because not all the studies have revealed consistent results, we will also discuss the possible confounders, which could influence the interpretation of these data, e.g., the exposure to smoking or other lung cancer risk factors, the influence of the latency period of tuberculosis, and the extent of tuberculosis infection as well as lung fibrosis. In many countries with low TB incidence, their incidence of lung cancer has not decreased and vice versa. Currently, many interesting issues remain unclear; hence, more evidence and deep investigation are still required to answer this question regarding “Is prior history of TB a risk factor of lung
cancer?”.

Plenary 1 : TB in Asia-Pacific Region: Past, Present and Future TB in APR

Date: Saturday, April 27, 2024
Time: 10:10-11:10 (GMT+8)

10:10-10:40
The Evolution of the Taiwan TB Program: A Historical Perspective

Speaker: Dr. Jen Suo

Abstract:
Taiwan tuberculosis (TB) program started with a Bacille Calmette-Guérin (BCG) campaign in 1950. In 1954, the program introduced its first mobile units for Mass Miniature Radiography (MMR), later evolved into comprehensive mobile teams. The first island-wide TB prevalence survey was conducted in 1957.

Significantly, 1957 also heralded the advent of case detection strategies employing sputum smear microscopy and MMR, followed by the initiation of complimentary TB drug treatment and the establishment of the Central TB Registry for case management. By 1967, a comprehensive vertical system was realized, featuring a central TB Control Bureau, three TB Regional Control Centers, twenty-one TB Centers in counties, and over three hundred TB workers in local health stations.

The program evolved in parallel with the country's prosperity, advancements in medical resources, the expansion of health insurance coverage, and a decrease in the number of TB patients.

Over time, TB case finding and treatment gradually shifted from the specialized vertical TB system to the general health care system (GHCS). However, case management still relied on the former system. Since 1997, free diagnosis and treatment for all PTB and extrapulmonary TB are covered by the National Health Insurance (NHI). Efforts to promote TB case reporting from the GHCS including the “no reporting, no reimbursement” policy by NHI, have made the Central Registry dependable in monitoring TB incidence since 2005.

In 2001, the Government decided to abolish the vertical system. TB services were integrated into the GHCS. This integration posed several challenges: such as enhancing the quality of TB laboratory services by National TB Reference Laboratory, improving diagnosis and treatment protocols, and streamlining case management including the treatment of LTBI, by the implementation of the DOTS, DOTS-plus and DOPT strategies. These challenges were systematically addressed, culminating in the current state of TB control within Taiwan.

10:40-11:10
Strategy to end tuberculosis in the Asia-Pacific Region

Speaker: Prof. Guy Marks
Abstract: TBD

Plenary 2 : Universal Health Coverage (Health Economics)

Date: Saturday, April 27, 2024
Time: 11:10-12:10 (GMT+8)

11:10-11:40
Tuberculosis and Universal Health Coverage

Speaker: Ms. Emiko Masaki **(頭銜更新)**
Abstract:

Universal Health Coverage (UHC) refers to the goal of ensuring that all people have access to essential health services without facing financial hardship. It encompasses a range of services, including preventive, curative, and palliative care, as well as access to essential medicines and vaccines. Achieving UHC for tuberculosis (TB) involvesensuring that everyone who needs TB prevention, diagnosis, treatment, and care services can access them without encountering financial barriers. This includes providing affordable or free diagnostic tests, medications, and supportive care services. Additionally, UHC efforts aim to strengthen health systems to effectively prevent, detect, and treat TB, as well as to address social determinants of health that contribute to TB transmission.

The COVID-19 pandemic led to widespread lockdowns and disruptions in supply chains, resulting in economic contractions in many countries. Despite a rebound in economic growth following the pandemic, the Asia-Pacific region is confronted with a complex economic landscape characterized by uncertainty, inflationary pressures, and fiscal challenges. Efforts to integrate TB services into UHC frameworks are crucial for addressing TB effectivelyand sustainably. Given the current macroeconomic constraints and limited fiscal space for health faced in many countries in the region, improving the efficiency and effectiveness of health spending including TB spending is essential for achieving sustainable, equitable, and high-quality TB services.

11:40-12:10
Operational Modeling with Health Economics to Support Decision Making for COPD Patients

Speaker: Dr. Chiung-Zuei Chen
Abstract:

Chronic obstructive pulmonary disease (COPD) is the third leading cause of death worldwide in 2019. Global COPD prevalence was projected to approach 600 million cases worldwide by 2050, which represents a relative growth of 23% in the number of individuals with COPD compared with 2020 (JAMA Network Open. 2023). To lower the future burden of COPD, evidences from long-term longitudinal studies are needed.

The life trajectory of COPD has traditionally been illustrated as a continuous accelerated decay in health status known as the accelerated frailty course. However, the life trajectory of COPD in the real world remains unknown until recently studies revealed that COPD has three phases post-hospitalization for their first severe exacerbations (SAE). The first was a one-year period of elevated Health-related Quality of Life (HRQoL), followed by a two-year prolonged stable phase. After the second SAE, the final phase was characterized by a rapid decline in HQoL and frequently SAE. The median time from the first to the second SAE was three years, which decreased to less than 6 months from 8 to the 9th AE, respectively. For patients who did not receive pulmonary rehabilitation were associated with early progression of declined HRQoL in the first 2 years. A precise COPD diagnosis necessitates not only clinical judgment but also confirmation through spirometry. A steady increase in the proportion of COPD diagnoses using spirometry since 2010 in Taiwan. Patients had diagnosed using spirometry displayed higher adherence to guideline-recommended pharmacotherapy and better outcomes, with lower mortality rates and less loss of life expectancy.

To understand the life trajectory of COPD can help physician to early intervention and support the evidences to share decision making with patients and their family. A growing tendency among physicians to adhere to guidelines, seek accurate diagnoses, and improve management, reflecting enhancements in the healthcare system.

Symposium 7 : Regimen optimization and therapeutic drug monitoring

Date: Saturday, April 27, 2024
Time: 14:50-16:20 (GMT+8)

14:50-15:20
Model Informed Precision Dosing and Semi-automated TDM for Personalized Medicine of AntituberculosisDrugs (題目更新)

Speaker: Dr. Jae-Gook Shin
Abstract:

Model-Informed Precision Dosing (MIPD) has emerged as a critical component in the evolution of personalized drug therapy, particularly salient in addressing the broad spectrum of drug response variability in clinical settings. MIPD leverages quantitative analyses to integrate variability sources in both Pharmacokinetics (PK) and Pharmacodynamics (PD), utilizing advanced modeling and simulation techniques. This approach marks a significant departure from traditional, less tailored methods of drug delivery.

Tuberculosis (TB), a major global health challenge and the second leading cause of death from infectious diseases, exemplifies the need for such innovation. Traditional TB treatment methodologies, including fixed-dose and body weight-based dosing, often fall short in providing effective disease control, a challenge compounded by the rising prevalence of multi-drug resistant (MDR) TB. Therefore, the adoption of novel strategies is imperative for TB eradication.

Central to these strategies is the consideration of the considerable inter-individual variability in the PK and PD of anti-TB drugs. MIPD, grounded in PK/PD principles, could play a crucial role in optimizing TB treatment. The Center for Personalized Precision Medicine of Tuberculosis (cPMTb) has initiated a prospective clinical cohort, systematically implementing Model-based Therapeutic Drug Monitoring (TDM) with randomized sample collectionin clinical settings. This initiative aims to build a comprehensive database to support MIPD in anti-TB pharmacotherapy.

This presentation will cover various MIPD approaches with using population PK/PD and Physiologically Based Pharmacokinetic (PBPK) modeling and simulation, extending beyond Model-based TDM utilizing semi-automated tools. While the application of MIPD in anti-TB pharmacotherapy requires further validation and experience, integrating clinical data into established and validated PK/PD models is poised to significantly enhance personalized precision dosing of antituberculosis drugs in clinical practice.

15:20-15:50
The role of Hollow-Fiber System in optimizing combinational regimen for mycobacterial disease

Speaker: Dr. Shashikant Srivastava **(講師全名&摘要更新)**
Abstract:

There is a need to develop new, short-course optimal dose ORAL combination regimens for the treatment of pulmonary disease caused by Mycobacterium tuberculosis as well as hard-to-treat nontuberculous mycobacteria (NTM), namely M. avium complex and M. abscessus, among others. Several in vitro and in vivo models have been used to understand the relationship between drug exposure, antimicrobial kill, and acquired drug resistance during the therapy to optimize current treatment regimens and to design pharmacokinetics/pharmacodynamics (PK/PD) optimized dose regimens with new anti-tuberculosis drugs, the bench-to-bed translations of the preclinical animal model results is limited. Here, we present a preclinical drug development platform based on the hollow fiber model, mathematical modeling, and clinical trial simulations to accelerate the clinical development pathway of PK/PD optimized treatment regimens of old/new/repurposed drugs for M. tuberculosis and NTM pulmonary disease.

15:50-16:20
LD-MS/MS method for simultaneous quantification of anti-TB agents

Speaker: Dr. I-Lin Tsai
Abstract:

Therapeutic drug monitoring is pivotal in ensuring the safety and efficacy of anti-TB drug therapy. Liquid chromatography-mass spectrometry (LC-MS) stands out as a sensitive and selective method, offering the advantage of multi-target analysis. Accordingly, we have introduced a novel quantification method using LC-MS to assess anti-TB drug concentrations from dried plasma spots. Merely 15 µL of plasma was required for each dried plasma spot, with a 6 mm diameter spot cut for extraction. The extraction method employed is innovative, utilizing microwave-assisted sample extraction—a process completed in only 40 seconds at 400 W. For drug separation, we chose a reversed-phase C18 column, and the parameters of multiple reaction monitoring were meticulously optimized to achieve optimal selectivity. Initially focusing on fluoroquinolone, we assessed the efficiency of the sample preparation process. Subsequently, the workflow expanded to encompass first-line and second-line anti-TB agents. Our findings demonstrated well-fitted calibration curves for various drugs, covering their therapeutic ranges. However, the diversity of the drugs posed a challenge in extraction recovery. The necessity of fine-tuning the extraction reagents for improved performance was discussed in this study.

Symposium 8 :
Precision Diagnosis of TB and LTBI: Non-sequencing-based Methods

Date: Saturday, April 27, 2024
Time: 14:50-16:20 (GMT+8)

14:50-15:20
The Advancement of AI-Augmented Imaging Technology in the Diagnosis of Pulmonary TB

Speaker: Dr. Yu-Sen Lin
Abstract:

Recent breakthroughs in AI and TB diagnostics have revolutionized the field with the introduction of AI-augmented tools. These tools employ advanced machine learning algorithms to detect TB infections in chest X-rays, CT scans, and sputum samples. The use of deep learning allows these tools to analyze medical images and identify TB infections with remarkable precision. In addition to this, AI-augmented tools have been instrumental in the development of a virtual assistant for health workers. This has significantly improved the diagnosis of TB in remote areas, where access to medical facilities is limited, helping health workers diagnose TB quickly and accurately in low-resource settings. For example, the detection of acid-fast bacillus in TB smears by AI imaging system has been validated and published in the literature. These tools are designed to address the challenges posed by the COVID-19 pandemic, which has led to a decrease in the detection of new TB cases. In conclusion, the integration of AI in TB diagnostics is paving the way for early detection and effective treatment strategies, thereby contributing to the globalfight against TB.

15:20-15:50
Precision Diagnosis of Tuberculosis: Empowering Personalized Healthcare with Nano and Micro Technologies

Speaker: Dr. Tony Hu
Abstract:

Precision diagnostic medicine occupies the frontline for the clinical campaign against disease. Historically, Tuberculosis is humanity's leading infectious nemesis, in terms of morbidity/mortality. Today, ~25% of the global population harbors latent Mycobacterium tuberculosis (Mtb) infections, with risks for re-activation and spread through close contact. Despite grave impacts, scant research evaluates mechanisms or biomarkers to advance insights into tuberculosis diagnosis, activation, and progression, severely limiting clinical patient management, and perpetuating dire outcomes. Addressing these challenges, my team employs a variety of cutting-edge platforms, including high-resolution mass spectrometry, nanomaterial probes, and CRISPR to elucidate ultrasensitive and quantitative readouts. Translating these advances, we envision simple point-of-care assays, deployed into resource-limited endemic regions, allowing rapid diagnosis and precision guidance for therapeutics, augmenting global pandemic eradication efforts.

15:50-16:20
Immune-based diagnosis of LTBI: where we are and where we are going? (摘要更新)

Speaker: Dr. Jennifer Ann Mendoza-Wi
Abstract:

The difficulty in eliminating TB can be attributed to the diverse mechanisms of immune evasion and immune response manipulation by MTB. MTB can persist in the human body for years without causing clinical symptoms, leading to a condition known as latent tuberculosis infection (LTBI). The Problem: Latent tuberculosis infection (LTBI) has become a major source of active tuberculosis (ATB). The two currently available classes of tests – tuberculin skin test (TST) and interferon-gamma release assay (IGRA) – require a competent immune response to accurately identify TB infection. However, a positive test result by either method is not, by itself, a reliable indicator of the risk of progression to TB disease. The diagnostic difficulties of LTBI include issues such as cost, detection time, sensitivity, and specificity. Where We are: In 2015, WHO updated its recommendations on the use of TST and

IGRA for the diagnosis of TB infection, and in 2022 issued a policy statement extending these recommendations to cover the use of new and updated versions of blood-based IGRA. Newer Mtb antigen-based skin tests (TBST) have been developed to measure the cell-mediated immunological response to Mtb specific antigens. Comparative studieshave been done and there is emerging evidence that these tests may offer similar specificity to IGRA, and when compared with TST they may provide more reliable results in children and in people living with HIV. The new IGRA tests available will be discussed. Where are we going: Machine learning (ML) in LTBI diagnosis? ML is becoming an important tool in the field of identifying and diagnosing LTBI. ML uses algorithmic training forming astructured knowledge system to provide personalized decision support and rapid diagnosis. It represents a promising approach to accurately discriminate and diagnose LTBI and ATB.

Symposium 9 :
Environment & TB: Air Pollution (Indoor/Outdoor) & Climate

Date: Saturday, April 27, 2024
Time: 14:50-16:20 (GMT+8)

14:50-15:20
The impact of indoor population and ventilation on TB transmission

Speaker: Dr. Anita Pei-Chun Chan

Abstract:
For infection control, wearing proper personal protective equipment and removing all infectious particles are crucial strategies. In TB control, the most effective HVAC (heating, ventilation, and air conditioning) system is one that does not recirculate air, opting for a 100% outside air arrangement. However, continuously heating or cooling outside air to maintain a comfortable room temperature and relative humidity, especially in tropical or subtropical regions, can be cost-prohibitive. Preventing TB transmission in such regions poses challenges, particularly in denselypopulated facilities striving for environmental sustainability, energy conservation, and carbon reduction.

Post-COVID-19, alongside administrative controls such as early diagnosis, prompt and effective treatment, or proper isolation, facilities still face airborne disease challenges. These facilities should make improvements to ensure that their systems have adequate components in place. These enhancements include introducing fresh outside air to diluteand replace room air, using filters to remove infectious particles from recirculated air, employing UVC lamps to disinfect recirculated air, and designing systems to support pressure differentials for isolation rooms and protective environments. These features can either be incorporated into the design of a new system or added to an existing system to concurrently address TB transmission.

In this talk, we'll review TB transmission in poorly ventilated, densely populated spaces and address practical ventilation changes and common pitfalls encountered with stakeholders. We'll share experiences using CO2 levels as a surrogate for standardizing minimal ventilation requirements after outbreak investigations. We also would like to emphasize the importance of legislation for indoor air quality, so that all stakeholders can create a safer environment not only to the people living inside but also to the care providers. This environment control measures can finally help achieving END TB goal by 2035.

15:20-15:50
Exploring the Nonlinear Relationship between Air Pollutants and the Incidence of Respiratory InfectiousDiseases in China (2013-2018) (題目更新)

Speaker: Dr. Ta-Chien Chan

Abstract:
Limited research has been conducted on the relationship between air pollutants and the incidence of respiratory diseases, beyond influenza and tuberculosis. Meteorological factors significantly influence the diffusion and concentration of air pollutants. This study aims to explore associations between air pollution (PM2.5, PM10, SO2, NO2, O3, and CO exposure), considering meteorological conditions, and seven respiratory infectious diseases (influenza, pertussis, rubella, mumps, pulmonary tuberculosis, meningitis, and measles).

Data spanning from 2013 to 2018 were collected from China's notifiable infectious disease report database. Pearson'scorrelation coefficient was utilized to examine associations between air pollution exposure and meteorological conditions. Monthly air pollution data were sourced from 1,498 air quality stations or satellite images, while meteorological data came from 756 monitoring stations. A Distributed Lag Non-Linear Model (DLNM) with relativerisk was applied to analyze the impact of air pollutants on respiratory infectious diseases.

Tuberculosis and mumps exhibited similar lagged effects. Higher levels of NO2 and CO were correlated with short-term effects on the incidence of pulmonary tuberculosis and mumps. Notably, the overall model performance was superior when using air monitoring stations compared to satellite images. Results from the DLNM revealed that meteorological factors exerted a stronger impact on respiratory infectious diseases with an acute and short-term

lageffect compared to air pollutants.

15:50-16:20
The impact of climate change on the risk factors for tuberculosis

Speaker: Dr. Simone Barry **(頭銜更新)**
Abstract:

Tuberculosis (TB) remains a persistent global public health threat, surpassing recommended guidelines set by the World Health Organisation and the United Nations. Despite the recent acknowledgement of the link between TB and climate change, this association is often marginalized in global agendas.

Recent research has revealed a positive association between climate change proxies and key TB risk factors such as HIV, diabetes, undernutrition, overcrowding, and poverty, with varying results for indoor air pollution. This evidence suggests that climate change may heighten susceptibility to TB, particularly in developing countries, by amplifying the prevalence of these risk factors.

There is an urgent need to address the relationship between climate change and TB, especially in light of the Intergovernmental Panel on Climate Change's confirmation of unprecedented climate changes. The failure to integrate climate change considerations into global agendas poses a threat to TB eradication efforts, as evidenced byinsufficient reductions in TB incidence and deaths by 2020.

Geographically vulnerable regions, including Africa, Asian mega-deltas, and small island developing states, face heightened TB risks due to the intersection of climate change and existing epidemics.

Relevant to developing economies, this presentation aims to highlight broader implications for climate change and human health. This presentation advocates for increased attention to this evolving research field and concludes by emphasizing the significance of our results for understanding and addressing TB transmission.

Symposium 10 : Treatment Strategies for Acute Respiratory Distress Syndrome due to Coronavirus Disease 2019

Date: Saturday, April 27, 2024
Time: 14:50-16:20 (GMT+8)

14:50-15:20
High-flow nasal cannula for ARDS (摘要更新)

Speaker: Dr. Li-Kuo Kuo
Abstract:

The use of high-flow nasal cannula (HFNC) in adult patients with acute hypoxemic respiratory failure has continuously increased especially in COVID-19 pandemic. New category of non-intubated ARDS is created for patients on HFNC at ⩾30 L/min who otherwise meet ARDS criteria in a recently published global definition of ARDS. Recent research in ARDS gradually focused on the importance of identifying clinical and biological features subphenotypes in ARDS patients. Different subphenotypes might have different outcomes and response to specific therapies including HFNC. Here we will introduce and review the most recent improvement in application of HFNCto patients with ARDS.

15:20-15:50
Prone Positioning for ARDS

Speaker: Dr. Ming-Cheng Chan
Abstract:

Acute Respiratory Distress Syndrome (ARDS) remains a significant challenge in critical care medicine, characterized by severe hypoxemia, diffuse pulmonary inflammation, and respiratory failure. Over the years, pronepositioning has emerged as a promising intervention to improve oxygenation and outcomes in patients with ARDS.

Numerous studies and clinical trials have investigated the impact of prone positioning on ARDS outcomes. Meta-analyses of these trials consistently demonstrate significant improvements in oxygenation metrics, including PaO2/FiO2 ratio and oxygenation index, in patients placed in the prone position compared to those in the supine position. Furthermore, prone positioning has been associated with a reduction in mortality rates, although the magnitude of these benefits may vary depending on patient characteristics and the timing of prone sessions.

The physiological mechanisms underlying the efficacy of prone positioning are multifactorial and include more uniform ventilation-perfusion matching, reduced lung stress and strain, improved drainage of secretions, and attenuation of ventilator-induced lung injury. Additionally, recent evidence suggests that early initiation of prone positioning within the first 48 hours of ARDS onset may confer greater benefits compared to delayed prone positioning.

Despite its benefits, prone positioning is not without limitations and potential complications, such as pressure sores, endotracheal tube displacement, and hemodynamic instability. Careful patient selection, adequate sedation and paralysis, and meticulous positioning protocols are essential to mitigate these risks and optimize the effectiveness of prone positioning.

In conclusion, prone positioning represents a valuable adjunctive therapy in the management of ARDS, offering significant improvements in oxygenation, ventilation, and mortality outcomes. Early application, adherence to lung protective strategy, and longer duration (at least 16 hours/day) are keys to the successful management of ARDS with prone positioning.

15:50-16:20
Extracorporeal membrane oxygenation for ARDS

Speaker: Dr. Shu-Min Lin **(講師人選更新)**
Abstract: TBD

Symposium 11 : Sleep Apnea and Elderly (議程主題更新)

Date: Saturday, April 27, 2024
Time: 14:50-16:20 (GMT+8)

14:50-15:20
Concomitant obstructive sleep apnea and chronic obstructive pulmonary disease in elderly patients(題目、講者更新)

Speaker: Dr. Yung-Che Chen
Abstract: TBD

15:20-15:50
The interrelationship between sleep duration, daytime sleepiness and sleep disordered breathing: role of age

Speaker: Dr. Pei-Lin Lee

Abstract:
Excessive daytime sleepiness (EDS) is a common symptom in patients with sleep- disordered breathing (SDB) with the prevalence as high as 33.4% to 57%. EDS has been associated with motor vehicle accidents, impaired quality of life, increased healthcare utilization, and higher all-cause mortality. Factors affecting EDS in the general population include younger age, male gender, obesity, depression, and sleepapnea, yet the significance of comorbidities and habitual sleep duration are less certain. The recommended sleep duration for adults 18-64 y/o and ≥65 y/o is 7-9 hours and 7-8 hours, respectively. For community cohorts, several large-scale studies have demonstrated a bi-directional relationship between sleep duration and health outcomes, where both short and long self-report sleep durations were associated with incident cardiovascular disease, obesity, metabolic dysregulation, and mortality. This association was more consistent across studies for sleep duration <6 h. Notably, the evidence supporting the association between short sleepduration and incident EDS is scarce compared to other health outcomes. Hence, moreand more studies to clarify the intriguing association between sleep duration and EDS in patients with SDB would be needed.

15:50-16:20
Sleep Apnea and sleep disorders in elderly dwelling community in Taiwan (摘要更新)

Speaker: Dr. Li-Pang Chuang **(頭銜更新)**
Abstract:

Sleep disturbance is a prevalent health problem that substantially affects older adults. The associations between sleeppatterns and adverse health outcomes have been examined with regard to sleep duration, insomnia, and the use of hypnotics. The evidence for a link between sleep duration and adverse health outcomes is consistent and robust among older adults.

Obstructive sleep apnea (OSA) is a disorder of repeated upper airway collapse during sleep, which caused apnea or hypopnea in varying degrees. Intermittent oxygen desaturation, hypercapnia and sleep fragmentation contributed to excessive daytime sleepiness and associated with the development of some clinical comorbidities, including hypertension, cardiovascular disease, cardiac arrhythmia, pulmonary hypertension, stroke, cognitive impairment, and metabolic syndrome.

Although higher proportion of OSA was found in the people age 65 years and older, the trend of OSA prevalence was not only simple positive correlated with age in elder. The etiology of OSA in aged population might be differentfrom those in middle age. Sarcopenia is a skeletal muscle disorder characterized by low muscle strength, low muscle

mass and low physical performance, which contribute to recurrent falling, fractures and mortality. Muscle weakness may lead to increased costs of hospitalization and health care. The change of lifestyle, physical activity, nutritional condition, hormonal status and chronic metabolic disease along with aging leads to the development of sarcopenia.

Prevalence and severity of both OSA and sarcopenia increased with the advance of age. One of the pathogenic mechanisms associated with OSA and sarcopenia and sarcopenia is poor upper airway muscle function, which may induce upper airway collapse. Since there have been fewer studies that evaluated the interaction between age, OSA
and sarcopenia, this talk aimed to reveal the relationship between OSA, obesity and sarcopenia in aged population.

Symposium 12 : NTM Diagnosis and Treatment

Date: Saturday, April 27, 2024
Time: 14:50-16:20 (GMT+8)

14:50-15:20
Challenge in interpretating serial sputum culture results

Speaker: Dr. Chia-Jung Liu
Abstract:
The assessment of sputum mycobacterial culture is crucial for diagnosing, evaluating the clinical course, and assessing treatment responses in patients with nontuberculous mycobacterial lung disease (NTM-LD). It is important to note that a positive NTM culture in a respiratory specimen does not definitively indicate a pulmonary infection. Potential factors, such as NTM specimen contamination or colonization of the respiratory tract by NTM must be meticulously considered. Hence, the current recommended diagnostic procedure for NTM-LD involves the collection of three sputum samples on separate days, coupled with a thorough evaluation of clinical and radiologicalfindings. Nevertheless, determining the clinical status of NTM in sputum culture remains a clinical challenge.

In addition to its role in NTM diagnosis, the culture of serial sputum samples serves as a vital biomarker for monitoring the clinical course and treatment response. Microbiological persistence in NTM-LD patients is associated with disease progression. Regarding treatment outcomes, achieving microbiological cure at the completion of treatment is linked to longer survival. Furthermore, early changes in semiquantitative colony counts in sputum culture predict clinical and radiological improvement, indicating treatment success. Despite this compelling evidence, a notable limitation is that some NTM-LD patients may not produce adequate sputum for evaluation.

In this section, I will address the challenges in interpreting sputum culture in NTM-LD and try to provide insights into potential future directions.

15:20-15:50
Best supportive care for NTM-LD (題目更新)

Speaker: Dr. Jung-Yien Chien **(頭銜更新)**
Abstract:

15:50-16:20
Anti-NTM treatment & timing of surgery

Speaker: Dr. Wei-Chang Huang **(頭銜更新)**
Abstract:

The heterogeneous disease course and high intrinsic antibiotic resistance of non-tuberculous mycobacteria (NTM) lung disease makes it crucial to determine who, when and how to treat. This lecture will bring the updated progress in NTM management, which involves medical and surgical therapeutic strategies, to the audience.

Plenary 3 : Environment (Climate Change) & Pollution

Date: Saturday, April 27, 2024
Time: 16:30-17:30 (GMT+8)

16:30-17:00
Tobacco control and TB prevention/care

Speaker: Dr. Tara Singh Bam
Abstract:

Problem:

Tobacco smoking and tuberculosis represent a significant global public health concern. Smoking stands as a potent risk factor for TB. Extensive scientific research underscores smoking's substantial role in TB, amplifying the risk of infection, mortality, treatment relapse, heightened clinical severity, and delays in both diagnosis and treatment. According to the WHO, the eradication of smoking could potentially reduce TB rates by up to 20%. Thus, there is a pressing need to prioritize concerted efforts in integrating TB and tobacco control strategies to address this critical issue.

Methods:

The Union's ABC (Ask, Brief Advice, Cessation Support) approach has been integrated into regular TB services at selected TB clinics in Indonesia, India, Bangladesh, and China to promote smoking cessation among TB patients. During each visit, all patients were asked about their current smoking status. Following the determination of smoking status, brief advice was consistently offered at each visit. Personalized information was provided, emphasizing the benefits of quitting smoking for proper recovery from TB. Additionally, cessation support was extended, advising patients to refrain from smoking indoors and informing their family and friends about their decision to quit smoking.

Results:

The provision of brief advice lasting 5 to 7 minutes yielded impressive smoking cessation rates in India (67%), Bangladesh (82%), China (66%), and Indonesia (67%). Notably, in Indonesia, over 85% of TB patients ensured their homes were smoke-free by the end of their TB treatment, compared to only 18% at the beginning of treatment. It's noteworthy that these results were achieved without incurring any additional costs to TB control programs.

Conclusion:

Effective tobacco control and smoking cessation initiatives within TB control efforts play a vital role in advancingthe goal of ending TB. Incorporating smoking cessation as a key element of TB control programs is essential for achieving this objective.

17:00-17:30
Estimating the National Carbon Footprint of Inhalers in Healthcare (摘要更新)

Speaker: Prof. Ming-Ju Tsai
Abstract:

The healthcare sector, vital for public health, significantly contributes to carbon emissions. Inhalers, commonly prescribed for respiratory conditions, notably add to healthcare emissions due to propellants with high global warming potentials. This presentation investigates the carbon footprint of inhaler usage, aiming to raise awareness for sustainable healthcare.

Through analyzing inhaler types, usage patterns, and greenhouse gas emissions, it estimates their carbon footprint. Key findings reveal significant carbon intensity differences among inhaler formulations, with metered-dose inhalers (MDIs) generally emitting more than dry powder inhalers (DPIs) and soft mist inhalers (SMIs). Variations in

prescribing practices and patient adherence further affect the overall carbon footprint. The presentation emphasizesadopting environmentally sustainable alternatives, like low-carbon inhalers and recycling programs, and advocatesfor policy interventions and guidelines to reduce the carbon footprint of respiratory therapies while ensuring equitable access to treatments.

Additionally, it addresses indirect emissions from acute exacerbations of airway diseases, which necessitate hospitalizations and interventions, contributing significantly to healthcare emissions. Managing exacerbations involves medical procedures, transportation, energy consumption, and waste generation. Addressing inhaler carbon footprints must consider mitigating the environmental impact of airway disease exacerbations, emphasizing preventive measures, patient education, and holistic management approaches.

By quantifying inhaler carbon footprints, this presentation contributes to sustainable healthcare practices, offeringopportunities to minimize the environmental impact of medical interventions.

Symposium 13 : Programmatic Management of Drug-resistant TB: Progress and Challenges

Date: Sunday, April 28, 2024
Time: 08:30-10:00 (GMT+8)

08:30-09:00
Progress and challenges of programmatic management of drug-resistant TB in Indonesia

Speaker: Dr. Erlina Burhan
Abstract:

Indonesia is one of the countries with the highest burden of Drug-Resistant Tuberculosis (DR TB) in the world. Stakeholders in Indonesia have implemented interventions to address this gap, including policy interventions, social support, medical approaches, technological advancements, and environmental interventions. Indonesia has implemented all WHO TB treatment guidelines, ranging from 18- to 20-month treatment regimens to the latest 6-month BPaLM and BPaL guidelines. These shorter and availability of the regiment might be helpful for patients. But that is not the only problem. There are still wide gaps in diagnosis and management of DR TB. Previous data have reported, Indonesia as one of the 10 countries accounted for 70% of the global gap between the estimated number of people who developed MDR/RR TB and the number of people enrolled on treatment for MDR/RR TB in 2022. This poses a major challenge to achieve goal target of ending the global TB epidemic by 2030. We need better understanding to identify the programmatic gaps of DR TB which defining from access to testing, confirmation of diagnosis, treatment initiation, and treatment completion. Since the end of the COVID-19 pandemic declared, the progress of TB services has significantly improved. Addressing patient's access, Indonesia is increasing the number of healthcare facilities equipped with DR TB diagnostic tools and emphasizing contact investigations. In terms of diagnosis, the procurement of advanced diagnostic services has aided such as GeneXpert testing, followed by LPA. However, current policies in Indonesia are still striving to strengthen resistance TB examination services. Indonesia is also engaging in research on artificial intelligence to enhance the speed and accuracy of TB diagnosis. Regarding DR TB treatment and prevention, Indonesia actively performs treatment guidelines from the WHO. Additionally, Indonesia has begun actively participating in the development and research of new TB drugs, including TB vaccination.

09:00-09:30
Application of short regimens of rifampicin-resistant TB in Viet Nam: challenges and opportunity

Speaker: Dr. Hoang Thi Thanh Thuy

Abstract:
Since 2016, short regimens for rifampicin-resistant tuberculosis (TB) have been applied in Vietnam according to WHO recommendations. Its positive results compared with longer regimens encourage increased implementation ofthese regimens nationwide. Most recently, the BPaL regimen also demonstrates encouraging outcomes. There was a consensus among clinicians that BPaL regimen is more tolerable for patients as it comprises only three medicines; patients also reported preferring the BPaL regimen. The adverse events may be severe, but can be controlled.

Although the primary outcomes of short regimens are recognized to be better than those of long regimens, the recurrence rate of short regimens has not been fully evaluated. Furthermore, there are differences in the treatmentsuccess rates of short regimens when performed under research conditions (above 80%) compared to the results when it was implemented under program conditions (below 75%) in Vietnam. The reason may be related to laboratory capacity, human resources, care models and quality of medical services at the study sites, which are considered better than other sites in the country.

Therefore, to expand the implementation of these regimens nationwide, solutions are needed to address these problems in many treatment facilities, which suggest an opportunity to improve Programmatic Management of Drug resistant TB (PMDT) in Vietnam by strengthening laboratories capacity, developing human resource, decentralization of diagnostic and treatment management capacity, and application of advance technology for patientadherence and adverse event monitoring.

09:30-10:00
Operation and challenges of Taiwan multidrug-resistant TB Consortium: the way forward

Speaker: Prof. Chou-Jui Lin

Abstract:
Taiwan multidrug-resistant TB Consortium (TMTC) was established in 2007 with the goal to avert high failure and loss-to-follow-up rate among MDRTB patients treated in late 1990s in Taiwan. With full funding support from the Centers of Disease Control (CDC) in Taiwan, TMTC was able to provide free MDRTB treatment, adverse events management, financial incentives and directly observed therapy — all in a patient-centered approach organized by designated hospitals. This reformed care model soon led to significant improvement of treatment outcome of MDRTB patients, who were mainly treated with injectable-based long regimen. Besides clinical patient management, TMTC also had quarterly meetings and annual evaluation with the CDC, which in turn help to consolidate the policies and maintain consistent care qualities. However, MDRTB patients in Taiwan were generally older and with comorbidities compared with those in high burden countries.

To ensure patient safety, TMTC initiated a two-year project of active drug-safety monitoring (aDSM) in 2017 as the program started to adopt new and/or repurposed drugs and novel regimens. This aDSM activity greatly expanded TMTC's capacity for adverse events detection and management, and further paved the way for introducing different short regimens as the landscape of MDRTB treatment changes rapidly. As this programmatic success has translated into epidemiological impact, the number of MDRTB patients continues to decline since 2007.

It is therefore pivotal for TMTC to maintain excellent programmatic performance as the patients got fewer in the last mile to end TB.

Symposium 14 : TB & Comorbidity (DM/Malnutrition/ESRD…) (focusingon implantation in primary care)

Date: Sunday, April 28, 2024
Time: 08:30-10:00 (GMT+8)

08:30-09:00
The Burden and Impact of NCD Comorbidities On TB Control (題目、摘要更新)

Speaker: Dr. Jennifer Ann Mendoza-Wi
Abstract:

Globally , the incidence of tuberculosis (TB) is declining very slowly and the noncommunicable disease (NCD) burden for many countries is steadily increasing. Several NCDs, such as diabetes mellitus (DM), alcohol use disorders and smoking-related conditions, are responsible for a significant proportion of TB cases These NCDs put patients at increased risk for developing TB and at risk for poor treatment outcomes. However, they also present an opportunity to provide better care through increased case-detection activities, improved clinical management and better access to care for both TB and NCDs. The double burden of communicable diseases and NCDs is most pronounced among the poor, further underscored by the causal links between them. There is a growing body of evidence describing the links between tuberculosis (TB) and NCDs like DM, COPD, alcohol use, mental illness andmalnutrition.

In the Asia Pacific Region, the latest Global TB Report of the WHO reports over 6.7 million new TB cases and over 883,000 people died of TB in 2021. The top 5 biggest risk factors that caused TB disease in 2021 were undernourishment (1.2 million new cases), tobacco use (502,000 new TB cases), alcohol (486,000 new TB cases), diabetes (234,000 new TB cases), and HIV (209,000 new TB cases). The intersection of tuberculosis (TB) and non-communicable diseases (NCDs) threatens the capacity for low- and middle-income countries (LMIC) to achieve global public health targets.

What is the impact of NCDs on TB risk and response to TB treatment?

Common NCDs and NCD risk factors—diabetes, chronic pulmonary disease, smoking and alcohol abuse—are strong individual-level risk factors for TB disease and TB-related mortality. Two-way screening and integrated service management can help with TB control programs by improving early diagnosis, treatment, and treatment outcomes.

09:00-09:30
Taiwan experience of catalyzing collaborative action on TB and Chronic Complex Diseases: Utilizing Systemic Autoimmune Diseases as a Paradigm (題目、摘要更新)

Speaker: Dr.Yi-Ming Chen **(頭銜更新)**
Abstract:

The presentation explores a comprehensive overview of Taiwan's strategic efforts in integrating public health and clinical practices to address the increasing challenges of Tuberculosis (TB) and systemic autoimmune diseases, witha specific focus on Rheumatoid Arthritis (RA). The narrative emphasizes the initiation of a robust risk management plan prior to the commencement of targeted therapies, which include Tumor Necrosis Factor inhibitors (TNFi), non-TNFi biologics, and Janus kinase inhibitors (JAKi), to preemptively mitigate the risk of TB.

Taiwan’s proactive public health strategies, such as the TB halving initiative, coupled with stringent patient screening and monitoring protocols, have substantially reduced TB incidence. Central to these efforts is the annual follow-up with Quantiferon testing, a critical tool for the early detection of latent TB reactivation, especially in patients undergoing advanced immunosuppressive treatments. This practice is a cornerstone of Taiwan's TB control strategy, enabling timely intervention and management of latent TB infection in RA patients.

The presentation demonstrates how Taiwan has successfully balanced the dual objectives of advancing RA treatment with targeted therapies and controlling TB, through a meticulous, data-driven public health approach. The inclusion of annual Quantiferon testing illustrates Taiwan’s commitment to precision medicine and patient safety, ensuring

that the benefits of targeted therapies in RA management are maximized while minimizing the infectious risks.

This abstract collectively displays Taiwan's integrative model that synergizes clinical innovation with proactive public health measures, offering a replicable framework for global health systems. The insights provided demonstrate the effectiveness of annual monitoring and the importance of a comprehensive risk management plan in navigating the complexities of treating systemic autoimmune diseases within the context of infectious disease epidemiology.

09:30-10:00
Chronic lung disease and TB: current perspectives and the future

Speaker: Prof. Chin Kook Rhee
Abstract:

It has been well known that previous history of tuberculosis (TB) is a risk factor for chronic obstructive pulmonary disease (COPD). COPD was four times more common among those with previous TB (25.7% vs 8.3% without previous TB, $p<0.001$) [1]. Also, post-TB was associated with small airway dysfunction, which was present in 48.9% post-TB subjects [2]. The burden of COPD developed by TB was high in Asian countries. The average totalannual per-patient cost was USD 4,141 [3]. The exact mechanisms of COPD in post-TB patients are not clear. Following mechanisms have been proposed; bronchiectasis, bronchiolar narrowing, bronchiolitis obliterans, and accelerated parenchymal destruction [4]. COPD developed by TB showed unique features. The number of lobes involved by TB was significantly correlated with forced expiratory volume in one second (FEV1) and number of exacerbations. The mean decline of FEV1 was 38.24 ml/yr [5]. In a prospective, randomized, multicenter, double-blind, placebo-controlled trial, indacaterol significantly improved FEV1 and dyspnea score [6]. In a retrospective study, tiotropium group showed better survival than non-tiotropium group [7]. Further study regarding COPD developed by TB is needed.

References

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Symposium 15 : Recent Progress of Lung Cancer Treatment

Date: Sunday, April 28, 2024
Time: 08:30-10:00 (GMT+8)

08:30-09:00
Recent advances in immunotherapy of early stage lung cancer

Speaker: Dr. Chao-Hua Chiu

Abstract:
Immune checkpoint inhibitors, such as anti-PD-1/PD-L1 and anti-CTLA-4 agents, have substantiated their efficacy as therapeutic modalities for metastatic lung cancers over the past 10 years. The first checkpoint inhibitor, pembrolizumab, obtained FDA approval in 2014 as a second-line treatment in non-small-cell lung cancer (NSCLC). Subsequently, in conjunction with other agents such as nivolumab and atezolizumab, these anti-PD-1/PD-L1 inhibitors expeditiously transitioned to the forefront of initial treatment, markedly altering the landscape of the management for metastatic NSCLC patients. On the other hand, for locally advanced NSCLC, Durvalumab, another anti-PD-L1 agent, has demonstrated a remarkable overall survival advantage in stage III NSCLC following standard concurrent chemoradiation. In 2021, the pivotal phase III trial, Checkmate 816, revealed that a chemoimmunotherapy regimen administered for three cycles prior to surgical intervention in stage II and III NSCLC patients yielded a pathological complete response rate (pCR) of 24.1%, contrasting with the 2.2% pCR rate observed with chemotherapy alone. Subsequently, a substantial increase in disease-free survival (DFS) was ascertained, aligning with expectations. Concurrently, atezolizumab also showed a significant DFS benefit subsequent to standard post-operative chemotherapy. In 2023, multiple perioperative chemoimmunotherapy investigations, entailing the administration of immunotherapy both before and after surgery, collectively elucidated a pCR rate alongside prolonged DFS which faithfully reproduced the prior clinical trials results. Nonetheless, due to the limited follow-up duration, none of the aforementioned studies have thus far demonstrated an overall survival benefit for patients. In summary, the role of immune checkpoint inhibitors across various stages of NSCLC has been unequivocally established. In early-stage lung cancer, immune checkpoint inhibitors manifest a highly promising potential to enhance the curative prospects for resectable lung cancer, marking a paradigm shift in the history of lung cancer therapeutics.

09:00-09:30
Recent Advances and the Dawn of Antibody-Drug Conjugates in lung cancer **(題目更新)**

Speaker: Prof. Chien-Chung Lin

Abstract:
The historical origins of antibody-drug conjugates (ADCs) can be traced back to the early 20th century when Paul Ehrlich envisioned a more targeted delivery of anticancer therapy known as the magic bullet. ADCs consist of three essential components: an antibody directed against a tumor-associated antigen, a linker, and a cytotoxic payload. Therationale behind ADCs is to selectively target cancer cells, delivering concentrated cytotoxic payloads through an antibody-mediated process that minimizes harm to normal tissue while maximizing damage to tumors. An ideal ADC should demonstrate stability in blood circulation, accurately reach the therapeutic target, and release cytotoxic payloads in cancer cells. The efficacy and safety of ADCs are influenced by the selection of the target antigen, antibody, cytotoxic payload, linker, and conjugation methods. Since 2020, the FDA has approved the first ADC for non-small cell lung cancer (NSCLC) patients, namely trastuzumab deruxtecan. However, ADCs have both on-target and off-target toxicities, with the latter prevailing and seemingly linked to the nature of the payload and its release in circulation and normal tissue. Meanwhile, resistance mechanisms to ADCs are multifactorial such as involving antigen downregulation or loss, alterations in intracellular trafficking or lysosomal drug breakdown, and upregulation of ADP-binding cassette transporter proteins in tumor cells. In this presentation, we will discuss the structure and mechanism of action of ADCs, drawing insights from pre-clinical work. We will provide a summary of recent progress in ADC application for lung cancer, describe ADC toxicity profiles, and address potential resistance mechanisms.

09:30-10:00

Recent Advances in Targeted Therapies of Lung Cancer (題目、摘要更新)

Speaker: Dr. Ching-Yao Yang
Abstract:

Molecular targeted therapy stands out as the major breakthrough in the treatment of advanced non-small cell lung cancer (NSCLC) over the past decade, particularly in adenocarcinoma histology. Tumors with specific driver mutations typically exhibit a remarkable response to relevant targeted therapies. Therefore, the identification of druggable driver mutations in advanced NSCLC has become a pivotal step in contemporary lung cancer management. Currently, there are nine FDA-approved targeted therapies for lung adenocarcinoma, targeting driver oncogenes such as EGFR, ALK, ROS1, BRAF, KRAS, RET, MET, ERBB2, and NTRK. For tumors lacking identifiable driver oncogenes, a distinct category emerges—high PD-L1-expressing lung cancer. This subset demonstrates a positive response to immune checkpoint inhibitors that target the PD-1/PD-L1 axis. In this talk, wewill provide a brief overview of recent advances in lung cancer treatment, with a specific emphasis on targeted therapies.

Symposium 16 : Environmental Lung Disease

Date: Sunday, April 28, 2024
Time: 08:30-10:00 (GMT+8)

08:30-09:00
Current status of air pollution and efforts to improve air quality in the Asia-Pacific region.

Speaker: Prof. Yasuo Morimoto
Abstract: TBD

09:00-09:30
Interactions between air pollution and gut microbiota on human health. (摘要更新)

Speaker: Prof. Peggy Lai
Abstract:

Exposure to air pollution is one of the largest environmental risk factors leading to premature mortality worldwide. While not intuitive, air pollution exposure has the potential to alter the gut microbiome through ingestion of inhaled particles with chamber studies showing that 20% of inhaled fine particles are immediately ingested. Beyond the microbial components of air pollution serving as a source of microbes to the gastrointestinal tract, non-microbial components of air pollution such as PM2.5 have been shown in animal studies to alter the gut microbiome through the induction of inflammatory changes. In this talk, we will briefly review principles of microbiome and virome research, discuss existing human studies focused on air pollution exposure and changes to the gut microbiome, and review recent research focused on an air pollution intervention study (ClinicalTrials.gov NCT03351504) and changes to the gut microbiome and virome.

09:30-10:00

Innovative health promotion and environmental education under air pollution environment (摘要更新)

Speaker: Dr. Chih-Hsing Hung
Abstract:

Innovative health promotion and environmental education under air pollution

The Siaogang District of Kaohsiung City is located in a heavy industry area with around 1,482 factories and heavy air pollution. For a long time, the issue of air pollution affecting the health of local residents need our effort to be ceased. There are the several issues need to be solved in Siaogang area. Therefore, Kaohsiung Medical University, under the solid foundation of higher education talent cultivation, and Siaogang Hospital exert the energy accumulated in the long-term local cultivation, integrate cross-institutional and cross-college professional knowledge fields, and invite local communities, primary and secondary schools in Siaogang to jointly promote the local care practice plan for environmental education and health promotion. It is hoped that through the talent training resourcesat the university side and the co-learning mode of teachers and students, the environmental education and health promotion will be anchored in the air pollution, and take root in the middle and primary schools, and practice cross- domain and cross-school "talent co-learning" and "in the university's social responsibility of "connecting with the ground", to achieve the goal of "connecting education - converging and connecting", and exerting social influence.
Through the connection of educational resources to promote diverse learning, service feedback, environmental education, and health promotion, from the campus to the community, so that disadvantaged groups, economically disadvantaged students and the public can enjoy the well-being of health care, reduce social injustice, and promotepeace diverse society through some innovations.

We hope to promote environmental education and health promotion activities under air pollution, so that the Siaogang area can become a demonstration area for "the peaceful coexistence of residents and the environment", "schools and social education", and "health and life promotion" in the Kaohsiung Industrial Zone, and has become a characteristic program of national air pollution environment and health promotion education.

Symposium 17 : Advances in Diagnostic Bronchoscopy

Date: Sunday, April 28, 2024
Time: 08:30-10:00 (GMT+8)

08:30-09:00

EBUS-TBNA for Lung cancer Staging: Current Status and Future Directions (題目更新)

Speaker: Dr. Bin Hwangbo **(頭銜更新)**
Abstract:

Endobronchial ultrasound guided transbronchial needle aspiration (EBUS-TBNA) is the primary procedure for invasive mediastinal staging of lung cancer. Adding endoscopic ultrasound with bronchoscope-guided fine needle aspiration (EUS-B-FNA) following EBUS-TBNA can improve the sensitivity of endoscopic staging in mediastinal staging. Confirmatory mediastinoscopy is still recommended by guidelines after negative EBUS-TBNA results. However, according to our study, false-negative EBUS-TBNA cases who underwent upfront surgery have favorable survival, which was similar to that of pN1 patients, which may provide a rationale for omitting mediastinoscopy after negative EBUS-TBNA results. Moreover, a recent randomized controlled trial by Bousema et al. showed that the rate of unforeseen N2 disease after endoscopic staging without mediastinoscopy is in acceptable range. The role of EBUS-TBNA in lung cancer staging became more important.

Recommendations for invasive mediastinal staging with EBUS-TBNA are slightly different in several international guidelines. To find proper indications for staging with EBUS-TBNA, prediction models for mediastinal metastasis and its detection by EBUS-TBNA were developed by our group using age, histology, tumor centrality, tumor size and cN stage by CT or PET-CT as predictors. To guide lymph node selection process during EBUS-TBNA, studieson echo-features of lymph nodes and deep learning methodology have been published. Prediction models for nodal metastasis and other methodologies can assist decision making during EBUS-TBNA staging. Proposals for the 9th edition of the TNM classification for lung cancer added new sub-descriptors to N2 for single station (N2a) and multiple station (N2b) involvement. N1 staging is getting more important with the adoption of neoadjuvant chemo-immunotherapy. As N staging became more complex, the role of EBUS-TBNA is essential in guiding treatment decisions. More studies on the role of EBUS-TBNA are needed to meet clinical needs to tailor the treatment.

09:00-09:30

The diagnosis of lung nodule in the era of interventional pulmonology

Speaker: Dr. Chia-Hung Chen **(頭銜、摘要更新)**
Abstract:

Since its introduction in the 1966 by Professor Shigeto Ikeda, flexible bronchoscopy has become the most commonly used invasive technique for diagnosing and treating diseases of the lungs and bronchi. Basic bronchoscopic techniques such as bronchoalveolar lavage, endobronchial and transbronchial biopsy, and cytology brushing, continue to be cornerstone in the management of our patients with lung ailments. However, it is the multiple advances in the last decade that have taken the role of bronchoscopy to a much higher level both in the diagnostic and therapeutic arena.

The increase in incidental discovery of pulmonary nodules has led to more urgent requirement of tissue diagnosis. The peripheral pulmonary nodules are especially challenging for clinicians. There are various modalities for diagnosis and tissue sampling of pulmonary lesions, but most of these modalities have their own limitations. This hasled to the development of many advanced technical modalities, which have empowered pulmonologists to reach the periphery of the lung safely and effectively. These techniques include thin/ultrathin bronchoscopes, radial probe endobronchial ultrasound (RP-EBUS), and navigation bronchoscopy-including virtual navigation bronchoscopy (VNB) and electromagnetic navigation bronchoscopy (ENB). Recently, newer technologies-including robotic- assisted bronchoscopy (RAB), cone-beam CT (CBCT), and augmented fluoroscopy (AF)-have been introduced to aid in the navigation to peripheral pulmonary nodules. Technological advances will also enable more precise tissue sampling of smaller peripheral lung nodules for local ablative and other therapies of peripheral lung cancers in the future. On this speech, we will summarize on recent advances in diagnostic bronchoscopy technology.

09:30-10:00
Application of hybrid operating room in the field of interventional pulmonology

Speaker: Dr. Shun-Mao Yang
Abstract:

Hybrid operating rooms equipped with cone-beam computed tomography had been applied in the field of interventional pulmonology in recent years. Augmented fluoroscopic bronchoscopic lung marking is particularly useful in cases where lung lesions are small, deep within the lung tissue, or difficult to access by traditional methods. It aids in improving the accuracy and safety of subsequent interventions, such as lung resections or biopsies, by ensuring that the targeted lesion is precisely identified and localized. Image-guided lung ablation is a minimally invasive medical procedure used to treat lung tumors or lesions, particularly for patients who may not be suitable candidates for traditional surgical resection. This technique combines advanced imaging technology with precise ablation methods to target and destroy abnormal tissue within the lungs.

Symposium 18 : Pulmonary Hypertension

Date: Sunday, April 28, 2024
Time: 08:30-10:00 (GMT+8)

08:30-09:00
Living-donor lobar LTx for pulmonary hypertension

Speaker: Dr. Daisuke Nakajima

Abstract:
Living-donor lobar lung transplantation (LDLLT) was developed by a group in the University of Southern Californiain 1993 and was introduced in Japan in 1998 in order to resolve a serious problem of donor organ shortage. By the end of 2022, a total of 1,036 lung transplant procedures had been performed in Japan, and LDLLT accounted for 27% of these procedures. LDLLT was basically indicated for critically ill adult and pediatric patients with various lung diseases, including pulmonary hypertension (PH).

Between 2008 and 2022, we performed LDLLT for 12 (7 pediatric) patients who suffered from PH in Kyoto University. Functional size matching with forced vital capacity was 69.5 ± 21.0% and anatomical size matching with3D-CT volumetry was 121.1 ± 52.7%. Novel LDLLT procedures were employed in 8 patients in order to deal with the issue of size mismatching between the recipients and lobar grafts, including 2 native upper lobe-sparing, 1 right- to-left horizontally rotated, and 5 single-lobe transplantation. The LDLLT procedures were performed under cardiopulmonary support and the total graft ischemic time was 157 ± 40 minutes. The mean pulmonary arterial pressure significantly decreased from 65.2 ± 23.5 mmHg to 22.4 ± 9.2 mmHg immediately after LDLLT. The LDLLT patients demonstrated comparable post-transplant outcomes with the 27 PH patients receiving brain-dead donor lung transplantation (BDLT): The postoperative extracorporeal membrane oxygenation (ECMO) requirement was 41.7% after LDLLT and 25.9% after BDLT; the in-hospital mortality rate was 8.3% after LDLLT and 7.4% after BDLT; the 1- and 5-year survival rates were 91.7% and 91.7% after LDLLT and 92.6% and 82.8% after BDLT.

Meticulous perioperative management is required for PH patients, considering the frequent requirement of ECMO support for dealing with primary graft dysfunction after LDLLT. Finally, LDLLT can successfully ameliorate PH and provide favorable posttransplant outcomes.

09:00-09:30
Incidence and long-term outcome of chronic thromboembolic pulmonary hypertension in Taiwan
（題目、摘要更新）

Speaker: Dr. Chi-Wei Tao
Abstract:

Chronic thromboembolic pulmonary hypertension (CTEPH) is a rare condition, and delayed diagnosis or treatment can significantly impact patient prognosis. The complexity of diagnosing CTEPH depends on the experience of clinicians and available medical resources. Currently, the primary treatment modality remains EPA, with or without BPA or novel targeted medications. Historically, the incidence and clinical features of CTEPH in Taiwan and other Asian populations were poorly understood. Our society conducted a retrospective Taiwan cohort study – the Registry of CTEPH – over a two-year period, inclusive of follow-up. Adhering to global guidelines, the study aimed to explore the geodemographics of CTEPH in Taiwan and outline practical management and treatment outcomes.
Today, we present the study's findings on incidence and outcomes, concurrently discussing our society's next steps in establishing an education and referral system.

09:30-10:00

Emerging new drugs for pulmonary hypertension（題目更新）

Speaker: Dr. Ping-Hung Kuo
Abstract:

Therapeutics in pulmonary arterial hypertension (PAH) has been an area of explosive research over the last 20 years. The current cornerstone of PAH treatment is pulmonary vasodilators. Considering the multiple mechanisms underlying PAH pathogenesis, it may be necessary to explore novel molecular targets responsible for the disorder, and to develop formulations that can be delivered to the target sites more effectively. New developments in established PAH medications include the fixed ERA/PDE5i compound, high-dose macitentan, dry powder formulation of treprostinil, device for inhaled nitric oxide, relinepag (an IP agonist), MK-547 (an inhaled sGC), etc. For novel therapeutic targets in PAH, recent investigations largely focus on various mechanisms involving BMPs, growth factors, tyrosine kinase, serotonin, estrogen, immunity/inflammation, and metabolism, among others. The new drugs under clinical development for these novel approaches include sotatercept, inhaled imainib, seralutinib, rodatristat, sirolimus, ranolazine, etc. Of note, sotatercept is a fusion protein that acts as a ligand trap and prevents itsbinding to the BMPR-ALK1 receptor complex, thereby inhibiting the downstream signaling pathways involved in endothelial and smooth muscle cell proliferation. Several clinical trials have demonstrated its efficacy to improve pulmonary vascular resistance and exercise capacity among PAH patients. These encouraging results suggest that this novel approach may act both to vasodilate and to address the detrimental changes of pulmonary arterial and rightventricular remodeling, offering hope for a potential breakthrough in PAH treatment. In the future, therapies targeting alternative pathways may represent complementary approaches to treatment of PAH, allowing for multimodal therapy alongside pulmonary vasodilators. This lecture will briefly highlight recent clinical developmentof these potential new drugs for PAH.

Symposium 29 : Application of Tuberculosis Treatment in Lung Cancer(議程名稱更新)

Date: Monday, April 28, 2024
Time: 08:30-10:00 (GMT+8)

08:30-09:00
Epidemiology of Tuberculosis and Lung Cancer

Speaker: Dr. Chia-Hsiang Li
Abstract: TBD

09:00-09:30
Treatment strategy of lung cancer in lung cancer patients with active tuberculosis

Speaker: Dr. Chih-Hsi Kuo
Abstract:TBD

09:30-10:00
Is antimicrobial drugs also response against lung cancer in lung cancer patient with Mycobacterium tuberculosis coinfections

Speaker: Dr. Yung-Hung Luo
Abstract: TBD

Plenary 4 : COVID-19

Date: Sunday, April 28, 2024
Time: 10:10-11:10 (GMT+8)

10:10-10:40
Challenges of emerging infectious diseases on tuberculosis prevention and care

Speaker: Dr. Jae-Joon Yim
Abstract:

Emerging infectious diseases, including severe acute respiratory syndrome (SARS), Middle East respiratory syndrome (MERS), influenza A (H1N1)pdm.09, and COVID-19, could significantly impact the control of tuberculosis (TB). The substantial global impact of the COVID-19 pandemic, with reported cases exceeding 770 million worldwide, highlights the profound effects of emerging infectious diseases on TB in terms of epidemiology, diagnosis, treatment, and prognosis. According to the World Health Organization (WHO), the number of newly diagnosed TB cases decreased from 7.1 million in 2019 to 5.8 million in 2020, marking an 18% decline back to 2012levels. Additionally, there were substantial reductions (-15%) in the number of patients treated for drug-resistant TB and (-21%) for TB prevention in 2020, potentially attributed to COVID-19-related disruptions in access to TB diagnosis and treatment. Compounding the challenges, the clinical presentation of COVID-19 and TB often overlaps,and co-infection is not uncommon. Although the treatment for each disease remains standard, aside from potential drug-drug interactions, TB patients co-infected with COVID-19 exhibited higher rates of treatment failure, loss to follow-up, and in-hospital mortality. Moreover, pulmonary sequelae from both COVID-19 and TB may overlap, leading to prolonged respiratory symptoms. While the COVID-19 pandemic wanes, the reported global number of newly diagnosed TB patients surged to 7.5 million in 2022—the highest since WHO began global TB monitoring in 1995. This resurgence is attributed to the disruption of TB services during the pandemic. To prevent such setbacks inthe future, there is a critical need to strengthen essential TB services and prepare effective strategies against
emerging infectious diseases.

10:40-11:10
Prevalence, risk factor, and prognosis of long COVID: now and feature

Speaker: Dr. Jia-Yih Feng
Abstract:

Long COVID-19, also known as Post-Acute Sequelae of SARS-CoV-2 infection (PASC), represents a significantand evolving challenge in the landscape of global health. Characterized by persistent symptoms and health issuesthat continue for weeks or months after the acute phase of COVID-19 has resolved, long COVID affects patients regardless of the severity of their initial infection. Its impact is broad, affecting multiple organ systems, and has profound implications for individuals, healthcare systems, and societies.

The spectrum of symptoms associated with long COVID is diverse, including but not limited to chronic fatigue, shortness of breath, chest pain, cognitive disturbances often referred to as "brain fog," joint pain, and neurological symptoms. It also encompasses psychological sequelae such as depression and anxiety, underscoring the mental health impact of the condition. Importantly, long COVID can occur even in individuals who experienced mild initial COVID-19 symptoms, making it a concern for a significant portion of the infected population.

The pathophysiology behind long COVID is not fully understood, but several hypotheses include persistent immune activation, residual organ damage, and microvascular injury. These ongoing symptoms not only reduce the quality of life but also have socio-economic implications, as they can affect an individual's ability to return to work and perform daily activities.

The prevalence of long COVID has prompted new clinical guidelines and rehabilitation strategies, aiming to address the complex, multi-systemic nature of the condition. Healthcare providers are adapting to manage this new chronic condition, which often requires a multidisciplinary approach involving general practitioners, specialists, and allied health professionals. Research is ongoing to understand the long-term consequences of the infection and to identifyeffective treatments.

Plenary 5 : Update in Pulmonary Diseases

Date: Sunday, April 28, 2024
Time: 11:10-12:10 (GMT+8)

11:10-11:40
Next generation sequencing for lung cancer in the era of precision therapy

Speaker: Dr. Kuei-Pin Chung

Abstract:
In East Asian population with lung adenocarcinoma, driver mutations in cancer cells can be detected in around 80% of the subjects, and are crucial genetic biomarkers for selecting personalized targeted therapy to prolong the survival.While EGFR mutations involving the coding of the kinase domain are the first driver mutations identified in the history, several driver mutations in lung adenocarcinoma have been discovered to date, and include single nucleotidemutations of KRAS and BRAF, fusion/rearrangement mutations of ALK, ROS1, NTRK1/2/3, and RET, and MET exon 14 skipping due to disrupted splicing mechanism. Although polymerase chain reactions, mass spectrometry, and immunohistochemistry staining, are applied in clinical laboratory for detecting driver mutations using tissue sections, these assay platforms only detect mutations of single gene. The development and maturation of next- generation sequencing (NGS) technology pave the avenue to comprehensive profiling of all potential druggable driver mutations of target genes with enhanced analytical sensitivity. Meanwhile, several recent studies have demonstrated that driver mutations can be successfully identified through sequencing circulating DNA fragments from tumor cells, and blood genotyping through NGS platform is an alternative diagnostic approach for detecting driver mutations, in particular when tissue biopsy is not feasible or tissue specimens are limited. This talk will focus on the history and the breakthrough of molecular diagnostics in clinical laboratory, and the clinical applications and
implementations of NGS for identifying driver mutations in lung cancer.

11:40-12:10
Current update of acute exacerbation in interstitial lung diseases (題目更新)

Speaker: Dr. Toru Arai
Abstract:

Idiopathic pulmonary fibrosis (IPF) is a lung disease of unknown etiology with a poor prognosis. Kondoh et al. firstly reported three patients with IPF showing rapid deterioration in English literature (Chest 1993). Such cases ofacute deterioration with unknown etiology are known as acute exacerbation (AE) of IPF (AE-IPF). From the experience of acute lethal IPF patients in clinical trial of interferon-γ, presence of AE-IPF in the clinical course of IPF was confirmed in countries other than Japan (Martinez, Ann Intern Med 2005). Frequency of AE-IPF was 20- 30% during the three years from the diagnosis of IPF and 90-day survival was 35 -70% (Arai T, J Clin Med 2023; Suzuki Respirology 2020). AE is now reported to occur in IIP patients other than IPF and in interstitial lung disease(ILDs) other than IPF according to the diagnostic criteria of AE-IPF. Frequency of AE in ILDs other than IPF is about half of that in IPF (Arai T, Respirology 2016; Suzuki, Respirology 2020); however, prognosis of AE in ILDsother than IPF is similar to that of AE in IPF (Arai T, Respirology 2017; Suzuki, Respirology 2020).

Corticosteroid is usually used for AE-IPF and its effectiveness has not been proved sufficiently; however, we have evaluated its effect for AE-IIP patients, who did not need positive pressure ventilation within one month from the start of therapy (Arai T, Respirology 2017). We have shown survival of AE-IIP patients treated with high dose prednisolone was better than that with low dose prednisolone. In addition, we have performed prospective clinical trial to show effectiveness of soluble thrombomodulin (rTM) (SETUP trial) and shown its usefulness; however, RCTof rTM following SETUP trial denied its effect (Kondoh, AJRCCM 2020).

We would like to show updated information about AE-ILD using recent literature and recent data of our institute.

Symposium 19 : TB in Elder and Children

Date: Sunday, April 28, 2024
Time: 14:50-16:20 (GMT+8)

14:50-15:20
Closing the gap: advances in laboratory diagnosis of tuberculosis in children using non-sputum specimens

Speaker: Dr. Rina Triasih
Abstract: **(摘要更新)**

The morbidity and mortality of tuberculosis (TB) in children is high, but the diagnosis remains a challenge, in particular in young children who are most vulnerable group to develop severe forms of TB. WHO recommends that children with presumptive TB should be performed bacteriological confirmation tests whenever possible. However, obtaining sputum in young children is not easy and TB in children is often paucibacillary. Only around one-third of children with clinically diagnosed TB had positive culture result. There has been several significant progress in specimen collection and the use of molecular TB diagnostic in the past decade. The wide implementation of Xpert MTB/RIF Ultra leads to improving case finding, but the use of non-sputum specimens is needed to maximize the impact on young children. Non-sputum specimens, which are non-invasive and child-friendly, have been evaluated with various results. Stool specimens with several methods of processing before testing have been documented to have comparable diagnostic accuracy to standard specimens, and have been recommended by the WHO. A recent systematic review reported pooled sensitivity of Xpert MTB/RIF on stool specimen of 50% and specificity of 99% compared to respiratory specimens. TB LAM urine assay demonstrated good diagnostic values in HIV-positive and malnourished children, but needs more validation. Another option is using nasopharyngeal aspirates (NPA), which is shown that in children aged less than five years, two NPA had a sensitivity of 74%, comparable to two induced sputum (71%) and two gastric aspirate (77%). The use of oral swab specimen in adult patients showed fair accuracy, but the performance in children was poor. Bioaerosols sampling in face masks (FM) has been studied to identify exhaled respiratory pathogens, including M. tuberculosis, but has not been evaluated in children. Expanding research on child-friendly samples is needed.

15:20-15:50
What is new: updates on child-friendly formulations for drug-susceptible and drug-resistant tuberculosis

Speaker: Prof. Ben Marais
Abstract:

This presentation will provide a brief overview of TB treatment principles, how this applies to children and different TB disease manifestations, together with an update of child-friendly formulations for drug-susceptible and drug-resistant tuberculosis.

15:50-16:20
Unmet needs of elder TB patients: from screening, treatment, comorbidity management to palliative care

Speaker: Dr. Jen-Hau Chen
Abstract: TBD

Symposium 20 :
Programmatic Management of DSTB: Progress and Challenges

Date: Sunday, April 28, 2024
Time: 14:50-16:20 (GMT+8)

14:50-15:20
Rifapentine-based short course anti-tuberculosis therapy for drug susceptible tuberculosis and Taiwan experience

Speaker: Dr. Chin-Chung Shu
Abstract:

Tuberculosis (TB) remains one of the most prevalent infectious diseases in the world. Currently, for drug-susceptible TB (DS-TB), a standard multi-drug combination therapy lasting at least six months is still required. Although the cure rate for this treatment regimen is high, the prolonged use of medication and the associated treatment costs are significant concerns.

In the past, experts have been working towards shortening the duration of DS-TB treatment, aiming to reduce it to four months. However, previous efforts such as the REMox and RIFAQUIN Trials have ended in failure. Recently, a study investigated the efficacy of daily high-dose rifapentine combined with moxifloxacin, isoniazid, and pyrazinamide over a four-month course. This treatment approach demonstrated non-inferiority compared to the traditional six-month regimen, offering a breakthrough and a new hope for shortening the duration of DS-TB treatment.

In the past-three years, we also conducted a short-course pilot study using high-dose rifapentine combined with moxifloxacin, isoniazid, and pyrazinamide for DS-TB patients in Taiwan. Although the drop out rate is not low but the efficacy seems similar compared with the traditional six-month regimen. We will present the benefits and difficulties in applying the new short-course high dose rifapentine-base treatment for DS-TB in the APRC 2024.

15:20-15:50
The role of high dose rifampicin, linezolid, clofazimine in the short course regimen for drug susceptible tuberculosis and Korea experience

Speaker: Prof. Nakwon Kwak

Abstract:

In the search for more effective treatment regimens for drug-susceptible tuberculosis (DS-TB), we will review the potential role of high-dose rifampicin, linezolid, and clofazimine based on our clinical experience in South Korea.

The conventional dose of rifampicin is limited to 10 mg/kg. However, there is increasing evidence that doses of 20 to 30 mg/kg are safe. As a result, attempts have been made to increase the efficacy of rifampicin by increasing the dose. A trial was initiated in South Korea to compare a shorter regimen of 30 mg/kg rifampicin given for 3 months after culture conversion with the standard 6-month HRZE regimen. Although the study was discontinued, it provided valuable insights into the safety and efficacy of high-dose rifampicin.

Linezolid, a cornerstone of multidrug-resistant TB (MDR-TB) treatment, has been widely used. Building on promising evidence of its efficacy, a Korean study compared the effect of 2-4 weeks of linezolid replacing 2 monthsof ethambutol, with comparable culture conversion rates at 8 weeks. The results showed the potential of linezolid to shorten treatment for DS-TB.

Clofazimine, traditionally used for leprosy, has recently emerged as a key drug for MDR-TB. Although not actively used in South Korea, clofazimine is widely used for other mycobacterial infections. We will present insights into its appropriate dosing and efficacy based on our data.

We hope that our clinical experience in South Korea will provide valuable perspectives for the development of regimens aimed at shortening treatment duration in DS-TB.

15:50-16:20
Incorporating newer drugs into regimens for treatment of drug-susceptible TB

Speaker: Prof. Nicholas Paton
Abstract: TBD

Symposium 22 : Lung Cancer Surgery

Date: Sunday, April 28, 2024
Time: 14:50-16:20 (GMT+8)

14:50-15:20
Recent advances in preoperative tumor localization.

Speaker: Prof. Po-Kuei Hsu
Abstract:

Various preoperative localization approaches, including transbronchial and transthoracic methods, as well as different markers such as dye, wires, and coils, have been widely utilized by thoracic surgeons. These methods aim to confidently remove small, non-visible, non-palpable lung tumors during thoracoscopic surgery. The so-called image-guided thoracic surgery comprises three mainstream platforms: CT scanner, bronchoscopy, and navigation systems. For example, a hybrid operating room equipped with a C-arm cone-beam CT and integrated software offers great potential as a safe and effective tool to intraoperatively localize small pulmonary nodules. An example of a bronchoscopic method for preoperative localization is the virtual-assisted lung mapping (VAL-MAP) technique developed by Japanese thoracic surgeons. However, it is a "mapping" rather than a "marking" technique. Another crucial platform is the navigation system. Although navigational bronchoscopy-guided thoracoscopic resection of small lung nodules was published a decade ago, recent advancements in thoracic navigation systems allow for both transbronchial (endobronchial) and transthoracic (percutaneous) approaches. This makes the technique applicable to the entire lung field and can be used for both preoperative localization and local ablative therapy. Our previous reports have demonstrated the feasibility and accuracy of electromagnetic navigation-guided percutaneous preoperative localization for small pulmonary nodules. Combining electromagnetic navigation-guided localization with mobile CT, this protocol features a wide field of view, quick image acquisition for in-time 3D image reconstruction, and real-time needle path navigation.

In recent years, innovative technologies, including robotic bronchoscopy, robotic navigation, and molecular imaging, have gained widespread attention in the field of minimally invasive thoracic surgery. These innovations aim to achieve more precise and efficient preoperative localization for small lung tumors. In this presentation, we will elaborate on some classic approaches and recent advances in preoperative tumor localization.

15:20-15:50
Outcome of Sublobar resection for Ealy stage NSCLC (新增題目、摘要)

Speaker: Dr. Tsai-Wang Huang
Abstract:

Two randomized clinical trials, one from Japan and the other coordinated by the Alliance Group, have established new standards of surgical care for early stage non–small cell lung cancer (NSCLC). Although the trials differed in design, size, and end points, both showed that sublobar resection was noninferior to lobectomy for primary peripheral tumors measuring 2 cm or less in size. These findings changed the standard set by the Lung Cancer Study Group trial for T1 N0 M0 NSCLC. The analysis of the Alliance trial compares outcomes after segmentectomy versus wedge resection and shows no significant differences between these 2 approaches. The Japanese JCOG 0802 trial compared lobectomy with segmentectomy. What approach should a thoracic surgeon choose? Did patients of real-world practice achieve the similar excellent outcome of clinical trial?

We retrospectively reviewed the data form our institute. Of 688 enrolled patients; 354 patients underwent lobectomy;334 patients underwent segmentectomy. The 5-year DFS was 89.8% in lobectomy group; 97% in segmentectomy group with HR of 0.315 (p =0.007). The 5-year OS was 94.6% in lobectomy group; 96.8% in segmentectomy group with HR of 0.487 (p =0.154). The Cox regression revealed the GGO ratio of 0.5 was still predictor of recurrence.

Similar oncologic outcomes after lobectomy and segmentectomy were indicated among patients with early-stageNSCLC. The real-world data was similar with results of clinical trial.

15:50-16:20
Robotic surgery in Thoracic oncology

Speaker: Dr. Shuenn-Wen Kuo
Abstract:

In recent years, robotic surgery has emerged as a revolutionary advancement in the field of thoracic oncology. This presentation aims to explore the transformative impact of robotic-assisted techniques in the treatment of thoracic malignancies. Highlighting its precision, enhanced visualization, and minimally invasive nature, we will delve into the benefits that robotic surgery brings to both patients and healthcare providers. Additionally, we will address the importance of surgeon proficiency, training, and multidisciplinary collaboration in maximizing the potential of robotic surgery. As we navigate through the nuances and considerations surrounding this cutting-edge approach, wewill ultimately illuminate the promising future that robotic surgery holds in revolutionizing thoracic oncology treatment strategies.

Symposium 23 : Interstitial Lung Disease

Date: Sunday, April 28, 2024
Time: 14:50-16:20 (GMT+8)

14:50-15:20
The new treatment strategy of IPF

Speaker: Dr. Toru Arai
Abstract:

Idiopathic pulmonary fibrosis (IPF) is a poor prognostic interstitial lung disease with unknown etiology, showing progressive fibrosis and pathologically and radiologically usual interstitial pneumonia (UIP) pattern. Before the anti-fibrotic drugs were introduced for the treatment of IPF, steroid therapy was recommended according to the statementfor IPF (AJRCCM 2000). However, steroid plus immunosuppressants was denied as a treatment for IPF based on PANTHER trial (Raghu, NEJM 2012). Effects of pirfenidone and nintedanib were proved by ASCEND trial (King, NEJM2014) and INPULSIS trial (NEJM 2014), respectively. And both anti-fibrotic drugs were recommended (conditional) in the ATS/ERS/JRS/ALAT guideline for IPF (Raghu, AJRCCM 2015).

Introduction of cryobiopsy is most important update for the diagnosis of ILDs including IPF. Simultaneously, each ILD diagnosis with confidence levels are determined according to the multi-disciplinary discussion (MDD). If only transbronchial lung biopsy (TBLB) is performed in addition to bronchoalveolar lavage (BAL), we have to diagnosis most patients as unclassifiable idiopathic interstitial pneumonia (IIP) or ILD. However, using cryobiopsy specimens we can diagnosis specific ILD adding confidence levels. As for IPF, same phenomenon happens and patients with IPF are supposed to be diagnosed earlier than before although confidence level might be low.

Treatment strategy for definite IPF patients might not be changed in recent years; however, such IPF patients with low confidence levels need to be managed with cautious observation with symptomatic, radiologic, physiologic and biomarker findings. Appearance of cryobiopsy enable us to diagnosis some patients more easily than before; however, our responsibility to manage appropriately increased than before at the same time.

I would like to summarize the present problems of IPF diagnosis and long term management of IPF in the era of cryobiopsy.

15:20-15:50
The hypersensitive pneumonitis consensus in Japan (新增摘要)

Speaker: Dr. Yoshikazu Inoue
Abstract:

The Hypersensitive Pneumonitis Consensus in Japan

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Hypersensitive pneumonitis (HP) is typically an immune-mediated diseasethatmanifests as ILD in susceptibleindividuals after exposure to an identified orunidentified factor. In 2020, ATS/JRS/ALAT officially first published a Clinical Practice Guideline (Raghu G, et al. Am J Respir Crit Care Med, 2020), and in 2021, ACCP published the CHEST guideline (Pérez ER F, et al. Chest. 2021). Recently, JRS officially published the guide in 2022 (Japanese) and in 2024 (English version. Tomioka H et al. Resp Invest 2024) as a JRS own practice guide.Major typesof HP in Japan include summer-type, home-related, bird-related, farmer's lung, humidifier lung,etc.. Identifying causative antigens is critical for increasing diagnostic confidence, aswell as improving prognosis through appropriate antigen avoidance. This guide proposes a comprehensive questionnaire for Japanese patients. Thedetection of specific antibodies against causative antigens is an important diagnostic predictorof HP. In Japan,the assessments of bird-specific IgG and the Trichosporonasahiiantibody are commercially available and are

recently covered bymedical insurance. The JRS guide basically adopts theATS/JRS/ALAT guideline, and the

diagnostic criteria was based onthe combination of imaging findings, exposure assessment, bronchoalveolar lavage fluid, and histopathologicalfindings, but the JRS added some annotations to facilitate the interpretation of the Japanspecific situation. The JRS guide recommends checking biomarkers such as seasonal changes in the KL-6 concentration(increase in winter for bird-related HP/humidifier lung and in summer for summer-type HP) and high (and variable) KL-6concentrations (suspicion of HP). Antigen avoidance is crucial for the managementsof HP. JRS guide also addresses the pharmacological management of HP, highlighting the treatment strategy forfibrotic HP including anti-inflammatory, anti-immunosuppressive and antifibrotic drugs.

15:50-16:20
The progressive pulmonary fibrosis consensus of Taiwan

Speaker: Dr. Tang-Hsiu Huang
Abstract:

Idiopathic pulmonary fibrosis (IPF) is the archetype of fibrosing interstitial lung diseases. However, many non-IPF interstitial pneumonias, whether idiopathic or secondary, can also cause increasingly fibrotic destruction of the pulmonary parenchyma despite treatments, and this is a process that is now referred to as progressive pulmonary fibrosis (PPF). In 2021, under the initiation and coordination of Taiwan Society of Pulmonary and Critical care Medicine, multi-disciplinary collaboration among specialists from pulmonology, rheumatology, and medical radiology led to the publication of Taiwan Consensus of Progressive Pulmonary Fibrosis, which has just been recently updated. Based on the local and international evidence and experience, the Consensus presents concise summaries and suggestions regarding the epidemiology, diagnosis and differential diagnosis, pharmacological and non-pharmacological treatments, and follow-up monitoring of PPF. Moreover, the National Health Insurance of Taiwan has recently extended the coverage of the antifibrotic agent nintedanib to patients with PPF. Timely identification of PPF, and the prompt initiation of antifibrotic treatment in addition to disease-targeted therapies, arecritical to slow down further fibrotic destruction and functional deterioration. The medical system and medical community of Taiwan are actively assisting clinicians in this regard.

Symposium 24 : Health Insurance, Health Data, and Open AI

Date: Sunday, April 28, 2024
Time: 14:50-16:20 (GMT+8)

14:50-15:20
Advancing Taiwan's National Health Insurance: the New Epoch of Digital Governance

Speaker: Dr. Chung-Liang Shih

Abstract:
The current status and challenges of Taiwan’s digital health structure will be analyzed to pinpoint the issues the National Health Insurance (NHI) is encountering. In order to create an environment that enhances the health of the people of Taiwan, the speaker will examine the transformative impact of digital technology in healthcare, including telemedicine, mobile medicine, and personalized health care solutions. In addition, plans outlining the implementation of digital governance for the NHI will be also presented, projecting visions for the future of the NHI.

Concerning the digital governance plan for the NHI, several projects are outlined, including a family medicine platform, ePrescription, MediCloud, digitalized medical review, telemedicine, digital NHI Card, NHI BioBank, and digital infrastructure. These projects involve various aspects, such as legal regulation revisions, technological innovation, data security, and privacy protection.

In conclusion, the speaker will articulate visions of how digital governance can improve health care and the NHI, thereby elevating the health system and providing a better environment in order to protect the health of the people ofTaiwan.

15:20-15:50
Big data, where is it and where to go

Speaker: Dr. Hung-Yi Chiou
Abstract: TBD

15:50-16:20
The impact of open AI on healthcare

Speaker: Prof. Fu-Chang Tsai
Abstract: TBD

Plenary 6 : Advance in TB: Current & Future

Date: Sunday, April 28, 2024
Time: 16:30-17:30 (GMT+8)

16:30-17:00
New Diagnosis

Speaker: Prof. Satoshi Mitarai

Abstract:
New diagnostic methods are the key to the better detection and control of tuberculosis. The diagnosis will cover the latent infection, incipient active, and bacteriologically detectable developed tuberculosis diseases. The bacteriological diagnostics will be adopted for the active case finding. In this context, we already have several new molecular diagnostic technologies, however, many of them are not real point-of-care testing (POCT). In addition, the clinical specimens are often sub-optimal especially in sputum vulnerable people like paediatrics, women and PLHIV. Then, it will be necessary to improve specimen collection technology and to develop real POCT with a capacity of detecting primary drug resistances.

One potential item for the improvement of sputum collection is Lung Flute ECO (LF ECO, Acoustic Innovations, Japan). It is a kind of musical instrument which sound waves induce vibrations in the lung cavity, reducing mucus viscosity and loosen mucus from the walls of the lung. A randomised cross-sectional study in Cameroon showed positive results; An additional 6.5% of participants were able to produce sputum with volume >1mL after use of the LF ECO as compared to after video instruction alone (OR 2.6 (1.9-3.7)), Of the 189 people who did not produce >1mL sputum following video instruction alone, 62% of these (117/189) produced >1mL sputum after use of the LF ECO. LF ECO will potentially increase the sensitivity of all types of TB bacteriological examinations.

Though it is not a POCT, targeted next generation sequencing (tNGS) will be a strong tool to diagnose any drug resistant TB within a few days. One of commercially available tNGSs, Deeplex Myc-TB (Genoscreen, France), has a capacity of detecting 15 drug resistances at one time. For the appropriate treatment of any drug-resistant TB, such comprehensive technology should be ulitised widely.

17:00-17:30
Recent advance in the treatment of tuberculosis

Speaker: Prof. Giovanni Battista Migliori
Abstract:

Important developments are occurring in the treatment of both drug-susceptible (DS) and drug-resistant (DR) tuberculosis (TB).

At the end of the presentation participants will be updated on the news related to the treatment of both DS-and DR-TB.

The TB drug pipeline is gradually reducing the duration of anti-TB treatment from 6 to 4 months for DS-TB and from 9 to 6 months for DR-TB. The world Health Organization (WHO) has consolidated and updated both treatment guidelines in 2022 and the UNION has recently published in the IJTLD specific clinical standards on the management of DS-TB in adults and children, adverse events and drug dosing.

Vis-a-vis the rationale for designing an anti-TB regimen for DS-TB the 2HRZE/4RH regimen will be discussed, as well as the two new 4-month regimens: the rifapentine-containing 2HPMZ/2HPM regimen for people aged 12 yearsor more and the 2HR(E)/2HR regimen for children and adolescents between 3 months and 16 years with non-severe TB. The results of the RIFASHORT and TRUNCATE-TB trials will be specifically discussed.

After discussing the new WHO classification of drugs to manage DR-TB, the WHO-recommended regimens to manage mono-resistant TB will be presented as well as the new definitions .

Finally, the regimens to manage multidrug-resistant (MDR-) and extensively drug-resistant (XDR-) -TB will be

discussed, including the BPaL and BPaLM regimens vis-a-vis the results of the NixTB, Zenix and TB-practecal

trials. The principles to design the 9-11 month and longer regimens will be also discussed.

To conclude a critical review of the ongoing and future trials will be done.

Symposium 21 : Smoking and tuberculosis: a dangerous combination

Date: Monday, April 29, 2024
Time: 09:00-10:30 (GMT+8)

09:00-09:30
The impact of Tobacco Use on TB transmission Dynamics and Treatment Response

Speaker: Dr. Chuan-Chin Huang **(頭銜更新)**
Abstract:

Tobacco consumption, particularly cigarette smoking, threatens ongoing and future global tuberculosis control efforts. Recent estimates suggest that 18% of tuberculosis cases and 15-20% of tuberculosis-related mortality can be attributed to tobacco smoking in countries with a high burden of tuberculosis. Despite a decline in the global prevalence of smoking over the past two decades, the World Health Organization estimated that 33% of the global adult population smoked in 2020. Previous studies have demonstrated that individuals who actively smoke or are exposed to secondhand smoke have an increased susceptibility to TB infection, an elevated likelihood of disease progression after being infected, and a heightened risk of experiencing poor treatment outcomes after developing TBdisease. Tobacco use also modifies the transmission dynamics of TB. TB patients who are active smokers are more likely to transmit tuberculosis to their close contacts although we have shown that this risk decreases significantly shortly after TB patients quit smoking. Social network analyses and molecular epidemiological studies have indicated that the assortative mixing pattern or tobacco user further exacerbates the impact of tobacco use on TB control. These findings have led researchers to advocate for the inclusion and expansion of smoking cessation interventions in national tuberculosis programs.

09:30-10:00
Smoking cessation: the experiences in Hong Kong

Speaker: Dr. Chi Chiu Leung
Abstract:

Smoking affects almost all organs in our body and kills up to half of smokers who don't quit. Smoking cessation, one of the most cost-effective interventions, benefits smokers of all age. Helping smokers to quit the highly addictive tobacco is also critical to the success of other tobacco control measures. The Tobacco and Alcohol Control Office (TACO) was set up in Hong Kong in 2001. The Framework Convention on Tobacco Control (FCTC) was signed and ratified by The People's Republic of China in October 2005. In line with Article 14 of the FCTC, Hong Kong has been investing great efforts on smoking cessation, including smoking cessation hotline, smoking cessation clinics, smoking cessation programs for targeted groups, Smartphone Quit Smoking App and "Quit to Win" smoke-free community campaign, etc. The 52-week quit rates of smoking cessation services ranged from 20% to 60%, In April 2012, TACO was designated by World Health Organization as the Collaborating Centre for Smoking Cessation and Treatment of Tobacco Dependence in the Western Pacific Region, Through a multi-pronged approach using legislation, taxation, education and publicity, banning of tobacco advertisement, law enforcement and offer of smoking cessation services, Hong Kong has reduced the smoking prevalence from 22.3% in 1982 to 9.5% in 2021.
However, more than 20% of smokers still do not know, and more than 65% have never tried, any specified smoking cessation services or methods. As much more need to be done, a public consultation on tobacco control strategies was launched in July 2023 to work towards a vibrant, healthy and tobacco-free Hong Kong.

10:00-10:30
Impact of cigarette smoke on lung health: interaction between smoke and tuberculosis

Speaker: Dr. Sheng-Wei Pan

Abstract:
Smoking is a well-known risk factor for the development of tuberculosis (TB). Notably, even exposure to passive smoking, as validated by the measurement of urinary nicotine levels, is also a substantial risk factor for active TB. Furthermore, smoking exerts a considerable influence on the outcomes of TB treatment, manifesting in the postponement of sputum culture conversion and extension of the treatment duration. Moreover, smokers exhibit anelevated mortality rate associated with TB in comparison to non-smokers.

Regarding the influence of cigarette smoke on host factors predisposing susceptibility to Mycobacterium tuberculosis (MTB) infection, the constituents of cigarette smoke impede mucociliary clearance, and induce deficiencies in the immune response of macrophages. Remarkably, nicotine, operating via the α7 nicotinic receptor, attenuates the production of tumor necrosis factor-α by macrophages and induces a reduced synthesis of interleukin-
12. This effect impedes the formation of granulomas, which play a crucial role in containing the infection during this stage in immunocompetent individuals. Instead, it creates conditions conducive to the progression of active TB.

In addition to its impact on host responses, recent investigations have explored the influence of cigarette smoke on the mutagenesis and transcriptional profiles of MTB. Following exposure to cigarette smoke condensate, comprising 55.8% nicotine, there was a more than two-fold increase in the mutation frequency of MTB compared to control exposure. The heightened mutation frequency, as indicated by phenotypic rifampicin resistance, implies that cigarette smoke may have mutagenic effects on MTB, potentially leading to drug resistance. Moreover, cigarette smoke condensate may induce an oxidative stress response in MTB, resulting in specific gene expression phenotypes correlated with drug tolerance, treatment failure, and human TB relapse.

This discussion aims to comprehensively review the potential role of cigarette smoke in the pathogenesis of TB, considering its impacts on both host and pathogen dynamics.

Symposium 25 : Case Finding: Active Case Finding and Systemic Screening

Date: Monday, April 29, 2024
Time: 09:00-10:30 (GMT+8)

09:00-09:30
Active case-finding for TB in Taiwan

Speaker: Dr. Pin-Hui Lee

Abstract:
In Taiwan, despite an overall decline in tuberculosis (TB) incidence from 72.5 to 28 per 100,000 population between 2005 and 2022, specific populations like residents in mountainous aboriginal regions (MARs), inmates, and those in long-term care facilities still face higher TB incidence rates. Notably, medical accessibility for TB care in MARs remains limited, even with 99% coverage under universal healthcare.

For decades, active case finding (ACF) through systematic screening, utilizing mobile chest X-ray (CXR) vans, has targeted residents aged 12 years and older in MARs and inmates. Beginning in 2010, ACF extended to socioeconomically disadvantaged groups and later in 2013, expanded to selectively at-risk groups designated by local health authorities. In 2014, inmate screening integrated into the Ministry of Justice's healthcare program.

Efforts to eliminate health inequalities in MARs began in 2018, with the adoption of WHO-recommended rapid diagnostics for TB in symptomatic individuals or those with abnormalities on CXR in the ACF program. A subsidy program, initiated in 2020, encourages collaborating health care facilities' participation in ACF projects for MARs, promoting provider-initiated CXR screening, follow-up, and referral of TB suspects. The ACF yield rate in MARs has been the highest among various populations, ranging from 313-355/100,000 from 2019 to 2022.

However, challenges persist, including difficulties in reaching some mountainous areas with mobile X-ray vans, stigmatization, and delays in confirming TB suspects found during screening. Addressing these challenges, a pilot project in 2024 will evaluate computer-aided detection with mobile ultra X-ray devices, combined with point-of-care diagnostics, aiming to enhance the efficiency and effectiveness of ACF in MARs.

09:30-10:00
New model to end TB in VN

Speaker: Dr. Huyen Truong
Abstract:

World Health Organization (WHO) estimated the Tuberculosis (TB) treatment coverage in Vietnam being about 60%. This means that remaining 40% of TB cases in the community have not been detected and treated or not been notified. To end TB in Vietnam, the National Tuberculosis program has conducted and expanded innovative approaches to maximize finding and treating undetected TB cases and LTBI cases in the community.

Along with routine passive TB case finding, active TB case finding (ACF) and intensified TB case finding (ICF) are the prioritized interventions to increase TB case detection and treatment enrollment. Double X strategy which is chest Xray (CXR) screening for all participants and Xpert testing for ones with abnormalities suggestive TB on CXRapplying throughout the interventions. ACF events target household contacts (HHCs) of pulmonary TB cases and other risk groups, prioritizing high burden districts, factories, prisons while ICF targets risk groups in non-NTP healthcare facilities.

In 2023, 1,319,283 participants were screened with CXR under all the ACF, ICF interventions, 144,218 (10,9%) had abnormalities on CXR and among those 141,994 (98,5%) were testes with Xpert MTB/RIF, resulting to 27,937 were diagnosed with TB (Yield 2118/100,000 CXR).

ACF and ICF interventions applying double X strategy are the main recovery strategies to increase active TB and latent TB infection detection and treatment after Covid 19 pandemic. In 2023, ACF, ICF contributed to detect 26% TB cases among total notified TB cases in the whole country (27,937/106,085). However, facility-bases case finding through ICF contributed most of the TB cases detected (21,192/27,937 TB cases accounting for 76%).

Building capacity, strengthening intensified TB case finding among risk groups in non-NTP healthcare facilities along with ACF for HHCs and risk groups could contribute significantly to increase TB case and LTBI case detection and notification of the NTP.

10:00-10:30

The strategies for TB case-finding in Indonesia (題目更新)

Speaker: Dr. Fathiyah Isbaniah
Abstract: TBD

Symposium 26 : International Migration & TB

Date: Monday, April 29, 2024
Time: 09:00-10:30 (GMT+8)

09:00-09:30
TB among migrants in Japan -- How to tackle it towards Zero TB?

Speaker: Dr. Akihiro Ohkado

Abstract:
Japan has become a low-tuberculosis(TB)-burden country, with 10,235 newly notified patients at an 8.2 per 100,000 population in 2022, reaching the lowest level since the national tuberculosis control programme started after World War II. However, Japan is experiencing stagnation in the reduction speed of the annual notification rates. The age progress of TB patients and the increase in foreign-born TB patients have been and will be contributing to hampering the achievement of the final goal of TB elimination in Japan.

The former factor is mainly attributable to the severe TB epidemic roughly until the 1960s in Japan. The latter factor additionally challenges us to provide appropriate patient-centred care, for there often exists a communication barrier,and foreign-born TB patients tend to need help with social and economic difficulties in staying in Japan.

The Japanese government has determined to implement a pre-entry TB screening (JPETS) in six Asian countries to reduce foreign-born TB patients in Japan. Raising awareness about TB among medical staff and the community must be one of the cornerstones to improve the access of foreign-born people to medical facilities and to lessen the stigma related to TB among people. Improving access to the medical interpretation service is undoubtedly the key to communicating smoothly with foreign-born so that foreign-born TB patients can confidently continue their anti-TB treatment. Cross-border TB patient care to ensure their anti-TB treatment has not been internationally established yet. The Bridge TB Care (BTBC) in Japan implemented cross-border TB patient care for foreign-born TB patients who left Japan during the anti-TB treatment as a research project that indicated favourable results in continuing the anti-TB treatment among the patients referred.

Persistent patient-centred care for all TB patients is a prerequisite to achieving “Zero-TB” even after reaching the low-incidence level.

09:30-10:00
Challenges and solutions of TB associated with migration: A US perspective (題目更新)

Speaker: Dr. Masae Kawamura
Abstract:

The US is one of the most popular destinations for migrants with an average of a million legal immigrants and another million non-US born persons adjusting their status to become US citizens. As a very low TB incidence country and migrants and students coming from higher incidence countries, screening and management of TB has been a priority. The screening and treatment policies and procedures, known as Technical Instructions, have evolvedover time and based on CDC studies and evaluation by US programs. Today, the US TB screening of immigrants is the most comprehensive in the world while gaps and challenges remain.

In this presentation, the evolution, evidence of effective US practices, upcoming changes, and challenges will be described, as well the new direction and interdependence of these programs in the sending countries.

10:00-10:30
Incident TB in migrants to Taiwan - Government views and policy priorities

Speaker: Dr. Cheng-Yi Lee
Abstract:

In 2022, the Taiwan CDC documented 705 confirmed cases of tuberculosis in individuals of foreign nationality, including 368 cases in males and 337 cases in females. Most cases originated from Indonesia (235 cases, 35.9%), Vietnam (176 cases, 25.0%), and the Philippines (164 cases, 23.3%). The public health authority investigation found that most foreign tuberculosis cases were among migrant workers (82%), with the highest percentage in the age group of 25–34 (47.0%), followed by 35–44 (26.2%). In contrast, the elderly (65+) population made up the majorityof confirmed tuberculosis cases in the general population. This lecture will provide the historical trend of TB migrants in Taiwan, public policy views for the audience, and wishes to communicate with the public for further control policy in an evolving, challenging society.

Symposium 27 : Rapid Molecular Diagnosis and Detection of Drug Resistance of TB: Critical Tools to Achieve the Goal of Ending TB Date:

Monday, April 29, 2024
Time: 09:00-10:30 (GMT+8)

09:00-09:30
Recent progress in the use of rapid molecular test for the detection of drug-resistant tuberculosis in the Philippines (摘要更新)

Speaker: Dr. Ramon P. Basilio
Abstract:

The Philippines grapples with one of the world's highest tuberculosis (TB) incidence rates, contributing significantlyto the global TB burden even before the onset of the COVID-19 pandemic. Amidst pandemic challenges, including disruptions in casefinding and caseholding activities, the TB laboratory network persevered, expanding to over 900 established sites. This expansion coincided with the introduction and transition from Xpert MTB/Rif to Xpert Ultra, bolstering diagnostic capabilities.

Moreover, the pandemic spurred the introduction of Xpert XDR into the national diagnostic algorithm, supporting operational research implementation of the BPAL regimen. Strengthening specimen transport, specimen transportriders facilitated the link between referral facilities and laboratories, improving sample transit efficiency.

Enhanced private sector engagement via the Philippine Private Sector Diagnostics Consortium further broadened access to TB diagnostics and care. Complementary changes in training, including revisions of design, augmented the skillset of healthcare professionals. Expansion of the specimen transport riders initiative further fortified specimen transport capabilities, ensuring swift sample delivery to laboratories. Additionally, participation in molecular testing external quality assurance programs upheld diagnostic accuracy and reliability.

These multifaceted efforts are encapsulated within the TB Laboratory Network Strategic Plan, embodying a comprehensive approach to combat TB in the Philippines. By leveraging technological advancements, strengthening partnerships, and prioritizing training and quality assurance, the Philippines is poised to make significant strides towards TB control and elimination, even amidst challenging circumstances.

09:30-10:00
Diagnosis of bedaquiline, delamanid, and pretomanid resistance (摘要更新)

Speaker: Dr. Sushil Pandey
Abstract:

Drug-resistant tuberculosis (TB) remains a major threat to global TB control and prevention strategy. With an increasing number of recommended new and repurposed anti-TB drugs, there has been a surge in novel treatment regimens which holds a major potential in successfully treating drug-resistant TB and to accelerate the World Health Organization (WHO) End TB initiative. These new regimens are generally safer, shorter, and better tolerated by patients, marking a landmark for TB patient care. Bedaquiline (BDQ) and nitroimidazoles (i.e Pretomanid (Pa) and Delamanid (DLM)) are few such compounds that has been recommend by WHO for treatment of drug resistant TB. However, the efficacy of these treatment regimens remains dependent on evidence-based clinical decision-making, specifically, detection and or rule out of resistance of these drug prior to treatment initiation.

Currently, no WHO-endorsed molecular diagnostics exist to rapidly detect resistance to many new anti-TB agents including BDQ, Pa and DLM. Although Next Generation Sequencing (NGS) approaches cover a diverse array of complex genetic targets to “rule-in” and/or “rule-out” resistance, workflows are still complex and only suitable for centralized testing. Therefore, clinican’s mostly rely on phenotypic drug susceptibility testing (pDST) for new and repurposed drugs. However, in many countries the pDST of BDQ, Pa and DLM are not implemented.

Given the importance of BDQ, Pa and DLM in treatment of drug resistant TB, it is crucial to understand the

complexities involved in molecular diagnosis of resistance to these drugs.

10:00-10:30

Rapid molecular tests for tuberculosis and tuberculosis drug resistance

Speaker: Ms. Ya-Yan Yu **(頭銜、摘要更新)**
Abstract:

Tuberculosis (TB) is an ancient disease caused by Mycobacterium tuberculosis that has been present for thousands of years. From 2020 to 2022, it was the second most fatal infectious disease after COVID-19, with a higher mortality rate than HIV/AIDS.

Traditional methods for testing tuberculosis include acid-fast staining, culture, identification, and drug susceptibility testing, which are labor-intensive and time-consuming. Recent advancements in testing technology have led to the development of rapid nucleic acid amplification tests (NAAT) that can detect TB nucleic acid and drug resistance genes.

Aligned with the Global targets established in 2023 at the second UN high-level meeting on TB, it is anticipated that by 2027, all individuals suspected of TB will have access to NAAT methods recommended by the World Health Organization (WHO) during the initial test.

This course will delve into the WHO-recommended testing methods for TB and TB drug resistance genes, encompassing low-complexity, medium-complexity, and high-complexity NAATs. Participants are encouraged to deepen their understanding of these testing methods and apply them in clinical practice.

Symposium 28 :
Programmatic Management of LTBI: Progress and Challenges

Date: Monday, April 29, 2024
Time: 09:00-10:30 (GMT+8)

09:00-09:30
Completion, safety, and efficacy of tuberculosis preventive treatment regimens containing rifampicin or rifapentine (題目更新)

Speaker: Dr. Nicholas Winters **(頭銜更新)**
Abstract:

An estimated one-quarter of the global population has evidence of tuberculosis infection, of whom 5-10% will develop tuberculosis disease in their lifetime. Hence, treating tuberculosis infection is essential to prevent tuberculosis disease. Shorter regimens of three months of weekly rifapentine plus isoniazid (3HP) and 4 months of daily rifampicin (4R) have been recommended by the World Health Organization for treatment of tuberculosis infection. Compared to longer 6- or 9-month mono-isoniazid regimens, 3HP and 4R have been shown to be as effective at preventing tuberculosis disease with increased treatment completion in clinical trials. However, as 3HP and 4R have not been compared head-to-head in trials, questions remain about their relative completion, safety, andefficacy. I present and describe our analysis comparing 3HP and 4R for these outcomes, which incorporates individual participant data and network meta-analysis methods. I describe and discuss the results of our analysis and potential implications for policy.

09:30-10:00
Real-world experiences on LTBI intervention in people with risk factors

Speaker: Prof. Yan Lin
Abstract:

The main health care intervention available to reduce the risk of TB infection progressing to active TB disease is TB preventive treatment. In 2018, the UN high-level meeting set the ambitious targets: preventive treatment to at least 30 million individuals by 2022, including 24 million household contacts of TB patients and 6 million people living with HIV. However, among those estimated to be eligible for TPT, only 52% completed the entire cascade of care. Of those who completed the TPT, most of them were PLWHIV and has surpassed the subtarget.

Why the TPT subtarget for household contacts was missed; and why there was no substantial progress reported onTPT for other risk groups? A notable reason is the negative impact of the COVID-19 epidemic during the past 2-3years. But what are reasons beyond COVID-19? In the next 5-year from now, it is a critical period to fulfill these commitments and requests at the second UN high-level meeting on TB in 2023 and urgent action needed to translating the commitments into policy action.

This talk will review current situation on reaching the international target, tackle possible reasons on why it fell behand the subtarget and commitment, and propose possible solution on how to move ahead. In particular, it will suggest practical approaches to fulfill the recommendations using real-world experience on LTBI intervention with close focus on the role of National TB Programs and primary health care levels.

10:00-10:30
Programmatic Management of LTBI: Progress and Challenges (題目、頭銜、摘要更新)

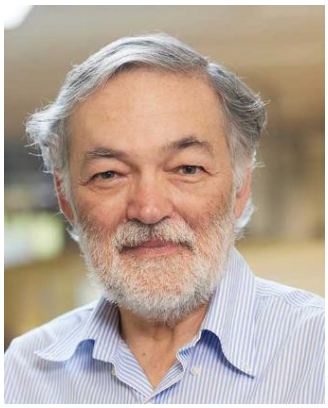
Speaker: Dr. Hung-Ling Huang
Abstract:

Tuberculosis remains one of the serious infectious diseases of international concern to this day, and countries around the world are committed to realizing the World Health Organization's (WHO) vision of "ending tuberculosis by 2035". In order to accelerate the achievement of this goal, one of the important strategies of the WHO is actively

diagnosing and treating latent tuberculosis infection (LTBI) among high-risk populations. As of today, with efforts in public health policies and healthcare personnel, the incidence of tuberculosis has significantly decreased year by year in various countries.

The prescription of treatment for latent tuberculosis has evolved over many years, with the primary goal being to achieve effectiveness and safety through efficient short-term regimens. This course will delve into detailed discussions on the programmatic management of LTBI treatment, effectiveness of various treatment regimens of LTBI and their safety when used among different populations, aiming to provide clinical practitioners with further insights to accelerate the achievement of the goal of ending tuberculosis.

Speaker Introduction



Guy Marks

Professor, Medicine & Health, University

ofNew South Wales

Education and Training

BMedSc MB BS UNSW, PhD Syd, MRCP, FRACP, FAFPHM, FAHMS

Biography

Professor Guy Marks AO FAHMS is a respiratory and public health physician and environmental epidemiologist. His main research interests are in chronic respiratory disease(asthma and COPD), tuberculosis and the adverse health effects of exposure to air pollution.He is Scientia Professor in the School of Clinical Medicine, Discipline of Medicine, South Western Sydney Campus at UNSW Sydney and a physician in the Department of Respiratory Medicine at Liverpool Hospital. He is currently an NHMRC Senior Principal Research Fellow. He is head of the Respiratory and Environmental Epidemiology group at the Woolcock Institute of Medical Research, co-leader of Woolcock Vietnam, and an Honorary Professor at The University of Sydney (Sydney Medical School).

His other major role is as President (and interim Executive Director) of the International Union Against Tuberculosis and Lung Disease (The Union).

In 2020 Guy was elected to Fellowship of the Australian Academy of Health and Medical Sciences. In 2022 he was awarded an Officer of the Order of Australia (AO) for distinguished service to respiratory medicine and research, and to tertiary education.

Seiya Kato

Director, Research Institute of Tuberculosis (RIT)

Education and Training

Dr Kato is a TB specialist, and was appointed as Director of the Research Institute of Tuberculosis, Japan Anti-Tuberculosis Association (RIT/ JATA) in April 2017. Prior to this, he worked from 2006- 2017 as the Vice Director, and from 2003-2006 as the Head of Technical Support Division/ Head of Research Division, for RIT/ JATA. As a TB and public health specialist, Dr Kato serves as Chair of the Japanese Tuberculosis Committee, and is a member of the National Health Science Council, Ministry of Health, Labour and Welfare, Japan. He also serves as a member of the Executive Board of the Japanese Societyfor Tuberculosis and as Chair of its Prevention Committee. Dr Kato graduated from Sapporo Medical University, School of Medicine in 1981, and worked as a pulmonologist for 12 years, during which time he specialized in treating MDR-TB patients and those with HIV. He joined the Sapporo City Government as a medical officer in 1993 and worked for the public health centers and head office for over seven years. In 2000, he joined RIT/ JATA and was in the Philippines as the Chief Advisor for the JICA TB Control Project from 2000-2003.

Biography

Dr. Seiya Kato Dr. Kato, Director of the Research Institute of Tuberculosis, Japan Anti-Tuberculosis Association (RIT/JATA) has played key roles nationally and internationally in TB control as an executive board & chairperson of prevention committee of the Japanese Society for Tuberculosis, a member of the Strategic and Technical Advisory Group (STAG) on TB at WHO HQ, a member of STAG on TB at WHO WPRO, and Chairperson of the TB Committee, National Health Science Council, Ministry of Health, Labour and Welfare, Japan. He published more than 200 research articles on TB control and
public health.

Satoshi Mitarai

Associate Professor, Mitarai Unit,

Okinawa Institute of Science and

Technology Graduate University

Education and Training

Postdoctoral Scholar, Institute for Computational Earth System Science, University of California, Santa Barbara, CA
Ph.D., Mechanical Engineering, University of Washington, Seattle, WA
Associate Professor, OIST Graduate University
Assistant Professor, OIST Graduate University
Principal Investigator, Okinawa Institute of Science and Technology (OIST)
Assistant Project Scientist, University of California, Santa Barbara
Postdoctoral Researcher, University of California, Santa Barbara
Researcher, National Research Institute for Freshers Engineering, Japan

Biography

Dr. Mitarai received a Ph. D. at the University of Washington, and conducted his postdoctoral research at the University of California, Santa Barbara, focusing on the role of ocean turbulence in regulating biological processes at varying spatial scales. Since moving to Okinawa, he has been developing high-resolution circulation models for the ocean circulation processes in the Okinawan sea and aims to quantify connectivity within coral reef systems and hydrothermal vent systems. Also, Dr. Mitarai has been preparing a suite ofocean observation instruments, including 300 surface-drifting buoys (Pacific Gyre Microstars) and two cutting-edge, cabled monitoring systems, which enable them to examine the model predictions in great detail.

Ben J Marais

Professor, The Children's Hospital at Westmead Clinical School

Co-Director, Sydney Institute for Infectious Diseases

Education and Training

BMedSc, MBChB, MMed (Paed), MRCP(UK), FRACP, PhD

Biography

Professor Ben Marais is a paediatrician and paediatric infectious diseases specialist with an interest in global health. He is internationally renowned for his work on childhood and multidrug-resistant (MDR)-tuberculosis (TB). He serves on the executive committee of the NHMRC Centre for Research Excellence in Tuberculosis Control and is a founding member of the Australasian Tuberculosis Forum. He is a strong advocate for Australia to take a leadership role in coordinating enhanced TB and MDR-TB control efforts in the Asia-Pacific region. More broadly, as Co-Director of Sydney ID,he works toward creating a dynamic multi-disciplinary research community in infection, immunity and biosecurity. Professor Marais trained as a paediatrician in South Africa and worked in the UK, the Netherlands, Canada and USA. He described the natural history of childhood TB from the pre-chemotherapy literature and conducted a large, prospective cohort study to document TB incidence and disease diversity among children in Cape Town. As Acting Director of the Ukwandacentre for Rural Health at Stellenbosch University, South Africa, his interest inthe health of underserved populations inspired a comprehensive review of health care delivery in rural and remote areas. Professor Marais was one of three lead authors of the Lancet TB series (2010), which assessed key challenges in global TB control, highlighted the neglected burden of childhood TB and emphasised the need for more holistic and integrated approaches. The final 'Call to Action' manuscript that he led, informed the WHO
post 2015 global TB control targets and action plan.

Jennifer Ann Mendoza-Wi

Past National Chairperson, Philippine Coalition Against Tb

Education and Training

Dr. Jennifer Ann R. Mendoza-Wi, Φ1972, Class 1976, SSE 1975-1976, is a pulmonologistat Dagupan Doctors Villaflor Memorial Hospital. She has significantly contributed to the control of TB in the community through her involvement in the Asia Pacific Society for Respirology, Regional TB Medical Advisory Committee, Philippine Coalition Against TB,and Pangasinan Koalisyon Alis TB. She is also in the forefront of pioneering initiatives such as the Cough Center, Asthma Club, and TB Caravan. She continues to share her knowledge by developing various training seminars and workshops for Internal Medicine, Smoking Cessation, Asthma, COPD, and TB in the region.

Biography

Dr. Wi is a practicing Pulmonologist, an educator and a strong advocate for a TB-FREE Philippines. She has led various chest societies in promoting lung health in the country through vaccination and health education programs for asthma, COPD, and lung malignancies. She is currently the Head of the APSR TB Assembly where she encourages the young pulmonologist to participate in researches and community service programs notonly for TB but other lung diseases as well.

Rina Triasih

Lecturer, Department of Pediatric, Faculty ofMedicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia

Education and Training

2010 – 2013The University of Melbourne: PhD Paediatric tuberculosis
2006 – 2008The university of Melbourne: Master of medicine Paediatric1999 – 2003Universitas Gadjah Mada (UGM): PaediatricianPaediatric 1987 – 1993Universitas Gadjah Mada (UGM): Medical doctor

Biography

Rina Triasih is a doctor, academic, and researcher who focuses on tuberculosis and pediatrichealth. She started her education at Gadjah Mada University, Yogyakarta, where she got hermedical degree and continued her first specialty, pediatrics. Her journey in pursuit of education consists primarily of trips between Indonesia and Australia.

She completed her medical master's degree at the University of Melbourne before returningto Indonesia to obtain her second specialty, which was also pediatrics. She once more earned her doctorate from the University of Melbourne. Additionally, she was a Research and Clinical Fellow in the Royal Children's Hospital of Melbourne's Department of Respiratory Medicine. She has received numerous research grant awards and collaborations,including the Zero TB Partnership with the Burnet Institute in Melbourne, for which she is the Principal Investigator, and the Department of Foreign Affairs and Trade project Papua New Guinea and the Republic of Indonesia Micro-Elimination of Tuberculosis, for which she is the site Principal Investigator. She also edited and contributed to seven books in addition to publishing 35 academic papers. She has received several awards, one of which was the Youngest Researcher Award, which was given out at the 12th National Congress ofChild Health and the 11th Asean Pediatric Federation Conference, both of which were held in Indonesia in 2002.

Tara Singh Bam

Regional Advisor, The Union Asia Pacific

Education and Training

1995 to 2004 - Tuberculosis Control Program in Nepal.
2004 to 2007- Research Fellow - health system in Chulalongkorn University, Thailand.
2007 to 2009 - technical consultant, India Resource Centre at The Union in New Delhi.
2009 to 2014- Country Lead- Tobacco Control in Indonesia. 2014 to present date, Regional Advisor. Tobacco Control Asia Pacific, at the Union in Singapore.
2009 to 2013 - Global coordinator for a working group of Smoking cessation for TBpatients.
2009 to present date - Bloomberg Partners Coordination in Indonesia
2013 to present date- Guest faculty for Johns Hopkins University Tobacco Control Leadership Program

Biography

Dr. Tara Singh Bam, a public health practitioner and Doctorate Degree in Health System Development and Master of Public Health by training. Dr. Tara has more than 20 years experiences in the field of tobacco control, tuberculosis, HIV/AIDS control and health system in Cambodia, China, Georgia, India, Indonesia, Malaysia, Myanmar, Nepal, Papua New Guinea (PNG), Philippines and Timor-Leste. He has also academic teaching and research experiences with many papers presented and published in national and international journals. Dr. Tara is one of the Members of for WHO Civil Society Working Group (CSWG) on NCDs. Currently he serves as a Deputy Regional Director for the Union Asia Pacific Office in Singapore.

Giovanni Battista Migliori

Director, Clinical Epidemiology Service, Maugeri Care and Research Institute, Tradate, Italy

Education and Training

1985, Medical Degree, University of Pavia 1989, Specialization in TB and Lung Diseases, University of Pavia
1994, Specialization in Epidemiology and Biostatistics, University of Pavia 1999 Quality System UNI EN ISO 9002, Certiquality, Milan
2012, FRCP, London (honorary nomination, bye-law 39b)
2013, ERS General Secretary
2014, Foundation Fellow of the European Respiratory Society (FERS)2015,
Fellow of the Asian Pacific Society of Respirology (FAPSR)

Biography

Giovanni Battista Migliori currently works at the Pulmonology, IstitutiCliniciScientifici Maugeri IRCCS. He is the director of the WHO Collaborating Centre for TB and Lung Diseases in Tradate (Italy), Honorary Professor at Blizard Institute, Queen Mary University of London, United Kingdom, Chief Editor of the IJTLD and Chair of the GTN (Global Tuberculosis Network). He is involved on research on prevention, diagnosis and treatment of TB and lung diseases, author or expert reviewer of the latest WHO guidelines and
co-chair of the November 2019 ATS/ERS/IDSA/CDC MDR-TB guidelines. With over 540 publications he is leading one of the most scientifically active research groups at the global
level. The GTN, launched in 2018, involves experts from all continents.

Masae Kawamura

Senior Director, General Internal Medicine, Medical and Scientific Affairs, QFN at QIAGEN

Education and Training

Kaiser Permanente Northern California (Santa Clara)
Residency, Internal Medicine, 1985-1988
University of Hawaii John A Burns School of MedicineMedical School

Biography

L. Masae Kawamura, MD has been a tuberculosis (TB) clinician for more than 30 years, and served as San Francisco's TB Controller from 1996 to the end of 2011. Over a decade ago (2003), under her leadership to promote public health innovation and improve operations research, San Francisco became the first jurisdiction in the U.S. to implement Interferon gamma release assay (IGRA) blood testing for TB as part of routine screening practice and contact investigation. In addition, in 2010, San Francisco TB Control began evaluating the GeneXpert TB test (Cepheid) in its ability to correctly diagnose active TB and its impact on workflow and program efficiency. She joined the global life sciences corporation, QIAGEN, in 2012 as Senior Director of Scientific and Medical Affairs for TB diagnostics. During her tenure as TB Controller, she was the Co-Principal Investigator of the Curry International TB Center (CITC), a CDC–affiliated Regional Training and Medical Center of Excellence. Dr. Kawamura was part of CITC's faculty and TB warmline consultant since its inception in 1994. She also served on the Federal Advisory Council for the Elimination of TB (ACET) for eight years, the last three as chair. In 2011, Dr. Kawamura completed a 2 year term as president of the North American Region of the International Union Against Tuberculosis and Lung Disease (The Union). She continues to serve as a member and is onthe board of directors for Vital Strategies, the Union's affiliate organization. She has served on numerous workgroups of the California TB Controllers Association (CTCA) and was an expert consultant for CDC's Division of Tuberculosis Elimination on numerous guideline committees including both guidelines on interferon gamma release assays, nucleic acid amplification tests and the pending screening and prevention guidelines of foreign-born persons. Prior to leaving the San Francisco Health Department, Dr. Kawamura was on the faculty of the University of California–San Francisco (UCSF) as an assistant clinical professor. She remains an active domesticand international advocate, educator and speaker on tuberculosis, and has coauthored and reviewed numerous TB publications.

Toru Arai

Executive Director, National Hospital Organization Kinki-Chuo Chest Medical Center

Education and Training

Toru Arai practices in Sakai, Japan. Arai and is highly rated in 15 conditions, according to our data. His top areas of expertise are Pulmonary Alveolar Proteinosis, Lymphangioleiomyomatosis, Interstitial Lung Disease, and Acute Interstitial Pneumonia.His clinical research consists of co-authoring 86 peer reviewed articles in the past 15 years.

Yoshikazu Inoue

Advisor/Visiting Researcher, Osaka Anti-tuberculosis Association Osaka FukujujiHospital / NHO Kinki-Chuo Chest MedicalCenter

Education and Training

1977-1983 Ehime University, School of Medicine (M.D.)
1984-1988 Graduate School, Ehime University, School of Medicine (Ph.D.)
1988-1991 Department of Internal Medicine, Respiratory Medicine, National EhimeHospital
1991-1997 Acting Assistant Professor, the 2nd Department of Internal Medicine Ehime, University, School of Medicine
1994-1997 Post graduate fellow, University of Colorado, Health Science Center,National Jewish Center for Immunologyand Respiratory Medicine, Occupational and Environmental Section, PulmonaryDivision (Denver, Colorado,USA)
1997-1998 Chief Physician, Internal Medicine, National Kinki-Chuo Hospital for ChestDiseases, Osaka, Japan
1998-2001 General Manager, Immunology Laboratory, Department of ClinicalResearch, and Chief Physician, InternalMedicine, National Kinki-Chuo Hospital for Chest Diseases, Osaka, Japan
2001-2004 Director of Department of Rerspiratory Failure, Clinical Research Center,National Kinki-Chuo Hospital forChest Diseases, Osaka, Japan
2004 Director of Department of Diffuse Lung Diseases and Respiratory Failure, ClinicalResearch Center,National Hospital Organization Kinki-Chuo Chest Medical Center
2006-2011 Invited Associate Proffessor, Infection, Immunology and Oncology

Cooperating

Course, Graduate School of Medicine, Osaka University, Osaka, Japan
2011-2023 Invited Proffessor, Infection, Immunology and Oncology CooperatingCourse, Graduate School of Medicine,Osaka University, Osaka, Japan
2014-2023 Executive Director, Clinical Research Center, National HospitalOrganization Kinki-Chuo Chest Medical CenterDirector, Department of Intractable Lung Diseases (Interstitial Lung Diseases), Head,Division of TuberculosisVaccine and Treatment National Hospital

Organization Kinki-Chuo Chest MedicalCenter

2014-2023 Group Leader of Respiratory Network of National Hospital Organization
2023- Visiting Researcher, Clinical Research Center, National Hospital OrganizationKinki-ChuoChest MedicalCenter, Osaka, Japan
2023- Advisor, Osaka Anti-Tuberculosis Association, Osaka Fukujuji Hospital

Biography

Dr. Yoshikazu Inoue is Executive Director at the Clinical Research Center, NationalHospital Organization Kinki-Chuo Chest Medical Center in Osaka, Japan, and aninvited Professor of the Infection, Immunology, and Oncology Cooperating Course,Graduate School, at Osaka University.

He studied granulomatous lung diseases duringgraduate school, and mucin-like glycoproteins when he was an Assistant Professor atEhime University in Matsuyama, Japan. Previously, he studied granulomatous lungdiseases and pulmonary fibrosis at the National Jewish Center for Immunology andRespiratory Medicine in Denver, Colorado. Dr. Inoue’ s institute is one of the leadinghospitals and research centers for chest diseases, and an important referral center forinflammatory lung diseases in Japan. In addition to their clinical practice, his team isengaged indomestic and international multicenter trials and in basic clinical research.

He is a member of the Japan Society of Sarcoidosis and Other Granulomatous Disorders(JSSOG), the Japanese Respiratory Society, the Asian Pacific Society Chapter of theFleischner Society, Respirology (APSR), American Thoracic Society, EuropeanRespiratory Society, World Association of Sarcoidosis and other GranulomatousDisorders (WASOG), and others. Dr. Inoe has served in various capacities in thesesocieties, including Board Member, member of the Executive Committee, Secretary,and Trustee. He has been a WASOG Executive CommitteeMember since 2011.
Dr.Inoue is, and has been, involved in the development of several international guidelines,

global clinical trials of pulmonary alveolar proteinosis (PAP),lymphangioleiomyomatosis (LAM), idiopathic interstitial pneumonias (IIPs), idiopathicpulmonary fibrosis (IPF), in addition to acting as an adviser to numerous patientsocieties and foundations for interstitiallung diseases (ILDs) and PAP.

Daisuke Nakajima

Senior Assistant Professor, Kyoto University

Education and Training

2013-Present Professor of Economics, Otaru University of Commerce

2013-2013 Associate Professor of Economics, Otaru University of Commerce

2006-2013 Assistant Professor of Economics, University of Michigan

2005-2006 Lecturer of Economics, University of Michigan

Kasha Singh

Infectious Diseases Physician,

Departmentof Infectious Diseases, The

Royal Melbourne Hospital, Victorian

Infectious Diseases Service (VIDS)

Education and Training

Dr Kasha Singh has a joint undergraduate degreemm, MBBS with a Bachelor of Arts majoring in Philosophy and Asian Studies. Dr Singh completed a Masters in Public health and has a Diploma in HIV medicine from the UK.

Biography

Dr Kasha Singh is an infectious diseases physician with a wide range of interests including public and refugee health and translational research. Dr Singh worked in the UK for 10 years, completing a HIV fellowship at Chelsea and Westminster Foundation Trust in London. Whilst based in London, Dr Singh was also involved in running international clinical trials of tuberculosis treatment with the MRCP/UCL, including capacity development and education. Dr Singh is interested in persistent infections and the public health impact and management of infectious diseases, particularly HIV, hepatitis B and tuberculosis.

Akihiro Ohkado

Head Of Dept. Of Epidemiology And Clinical Research, Research Institute Of Tuberculosis, Japan Anti-tuberculosis Assocation

Education and Training

2017 – 2022: Director, Tuberculosis Research Institute, Japan Tuberculosis Prevention Association, Department of Clinical and Epidemiology

2018: Tuberculosis Research Institute, Japan Tuberculosis Prevention Foundation, Department of Clinical and Epidemiology, Researcher (transition)

2016: Tuberculosis Research Institute, Japan Tuberculosis Prevention Association, Department of Clinical and Epidemiology, Researcher (transition)

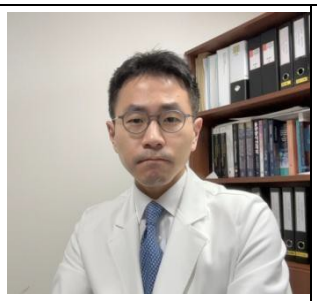
Sushil Pandey

Adjunct Associate Professor, Faculty of Medicine, The University of Queensland

Education and Training

The University of Auckland
Doctor of Philosophy (PhD), Molecular Medicine
1999 - 2004

Auckland University of Technology
Master of Business Administration (MBA), Operations Management and Supervision
2008 – 2010



Nakwon Kwak

Assistant Professor, Internal Medicine, Seoul National University Hospital

Education and Training

M.D. College of Medicine, Seoul National University (2010)
M.S. College of Medicine, Seoul National University (2015)
Ph.D. candidate, College of Medicine, Seoul National University (2020)

Internship, Seoul National University Hospital (March, 2010 ~ February 2011)
Residency, Seoul National University Hospital (March, 2011 ~ February, 2015)
Captain, Republic of Korea Air Force (March, 2015 ~ April, 2018)
Fellowship, Seoul National University Hospital (May, 2018 ~ February, 2019)
Assistant professor, Seoul National University Hospital (March, 2019~)

Nicholas Paton

Professor, Department of Infectious Disease,National University of Singapore

Education and Training

Prof. Nicholas Paton trained in Medicine and Infectious Diseases in Cambridge, Sydney and London, and in Epidemiology at the London School of Hygiene and Tropical Medicine.

Biography

Prof. Nicholas Paton trained in Medicine and Infectious Diseases in Cambridge, Sydney and London, and in Epidemiology at the London School of Hygiene and Tropical Medicine. From 1997 to 2005 he worked as Head of Department at the National HIV Referral Centre in Singapore and, in addition to clinical care responsibilities, developed a Centre for Research in HIV and Communicable Diseases. From 2006 to 2011 he worked at the UK MRC Clinical Trials Unit where he was the Chief Investigator of large HIV treatment trials such as PIVOT (a trial of a PI-monotherapy strategy done at 45 clinical sites in the UK); and EARNEST (testing options for second-line therapy in over 1200 patients in 5 countriesin sub-Saharan Africa).

He currently holds a joint appointment as Professor of Infectious Diseases at the National University of Singapore and at the London School of Hygiene and Tropical Medicine. He is the Chief Investigator of the NADIA trial (comparing dolutegravir with darunavir and comparing maintenance of tenofovir versus switching to zidovudine in second-line therapy,done in 7 sites in Uganda, Kenya and Zimbabwe) and the scientific lead of the CARES trial(comparing long acting cabotegravir/rilpivirine with standard combination ART at 8 sites inUganda, Kenya and South Africa). In Singapore he leads a programme of TB trials focusedon trials of host-directed therapies for TB and exploring novel TB trial outcome measures; and is the Chief Investigator on the TRUNCATE-TB trial (a strategy trial of 2 months of treatment for drug-susceptible TB done across a network of 18 sites in Asia and Africa).

Asmah Razali

Senior Principal Assistant Director, Ministry Of Health (disease Control Division)

Education and Training

MD (UniversitiKebangsaan Malaysia, Malaysia) 2002

MPH (Health Promotion) (Universiti Malaysia Sarawak (UNIMAS), Malaysia) 2011

Shashi Kant

Associate Professor, School of Medicine, UT Tyler, Texas, USA

Education and Training

Experience

Apr 2020 – PresentAssociate Professor, The University of Texas at Tyler

Nov 2014 - Dec 2021Adjunct Assistant Professor, UT Southwestern Medical Center

Jan 2014 - Nov 2014Assistant Professor, UT Southwestern Medical Center

May 2013 - Dec 2013Research Scientist, UT Southwestern Medical Center

Jan 2008 - Apr 2013Post Doctoral Researcher II, UT Southwestern Medical Center

Aug 2019 - Apr 2020Associate Professor, Texas Tech University

Education

2023 – 2024Soules College of Business: Executive MBA Healthcare Management
2005 – 2008Babasaheb Bhimrao Ambedkar University: Ph.D. Environmental Science
2002 – 2004Babasaheb Bhimrao Ambedkar University: M.Sc. Environmental Science
1994 – 1997University of Lucknow: Bachelor of Law Literature Law

Biography

Shashi Kant (Shashikant Srivastava), PhD, serves as an associate professor of pulmonary immunology at The University of Texas Health Science Center at Tyler (UTHSCT). Originally from Lucknow, Uttar Pradesh, India, Dr. Kant is also a lawyer by training. In 2009, he received a PhD in environmental science from Babasaheb Bhimrao Ambedkar University in Lucknow, India. A previous associate professor at the Texas Tech University Health Sciences Center (Dallas campus), Dr. Kant joined the UT Health Science Center at Tyler in April of this year. Recently, Dr.Kant was awarded a UT System Rising STARs award in the amount $250,000. The STARs program provides funding to help UT institutions purchase research equipment and provide laboratory renovations for faculty members to conduct research.

Nicholas Winters

Respiratory Epidemiology and Clinical Research Unit, Montreal Chest Institute,McGill University, Montreal

Education and Training

Bachelor of Science (BS)Biochemistry, University of Manitoba
Master of Science (MS)Experimental Medicine / Epidemiology, McGill University
Research Assistant, World Health Organization

Biography

Nicholas Winters practices in Quebec, Canada. His top areas of expertise are Pneumonia and Flu.His clinical research consists of co-authoring 18 peer reviewed articles in the past 15 years.

Yasuo Morimoto

Occupational Lung Disease, University Of Occupational And Environmental Health, Japan

Education and Training

- 1986Department of Medicine, Faculty of Medicine, Kagoshima University
- 1986Faculty of Medicine, Kagoshima University

Peggy Lai

Associate Professor Of Medicine,

Massachusetts General Hospital

Education and Training

Harvard School of Public Health, Boston, MA

Biography

Dr. Lai's research group (lai-lab.com) focuses on research at the intersection of environmental exposures, the microbiome, and chronic lung disease. Her lab works collaboratively on both U.S. based and global projects spanning the spectrum of translational research, observational studies, and randomized clinical trials. Dr. Lai's primary appointment is within the Division or Pulmonary and Critical Care Medicine at MGH. She has secondary appointments in the Clinical and Translational Epidemiology Unit within the Mongan Institute at MGH, the Department of Environmental Health at the Harvard T.H. Chan School of Public Health, and Boston Children's Hospital.

Bin Hwangbo

Adjunct Associate Professor, Center for Lung Cancer, National Cancer Center

Education and Training

1989-1995 M.D. / Seoul National University College of Medicine
1999-2001 M.S. / Medicine / Seoul National University College of Medicine
2001-2003 Ph. D. / Medicine / Seoul National University College of Medicine
1995-1996 Internship, Seoul National University Hospital
1996-2000 Residency, Dept. of Internal Medicine, Seoul National University Hospital
2000-2001 Fellowship, Pulmonology, Internal Medicine, Seoul National University Hospital
2009-2010 Visiting Doctor, Ruhrlandklinik, Germany etc.

Biography

Dr. Bin HWANGBO is a specialist in the division of pulmonology and the center for lung cancer. She has focused on the research of validating the usefulness of bronchoscopy as a tool for lung cancer diagnosis and staging She obtained her medical degree from Seoul National University College of Medicine in 1995. She completed her internal medicine residency from Seoul National University College of Medicine, followed by a fellowship in pulmonology, Seoul National University Hospital in 2000. She has been awarded several NCC grants, serving as Principal Investigator and Co-Principal Investigator on many projects. Her researches has affected in bronchology field widely, especially in lung cancer staging. From December 2017, as a Head of Division of Education & Training, she is in charge of cancer expert training, medical research capabilities enhancement programs, basic
bioethics and patient-oriented training education to foster next-generation global leaders.

Simone Barry

Physician, University of Newcastle

Education and Training

Dr Simone Barry is a Respiratory and Sleep Disorders Physician.

She undertook her medical training at University of Newcastle with specialist training undertaken at St Vincent's Hospital and Royal North Shore Hospital in Sydney. She completed a clinical fellowship specialising in tuberculosis at Royal Adelaide Hospitalbefore returning to Sydney to complete a PhD in the molecular aspects of tuberculosis.

Dr Barry holds a staff specialist position at Royal Adelaide Hospital. Her clinical practice in Respiratory and Sleep medicine encompasses all aspects of both disciplines with a special interest in tuberculosis, COPD, lung cancer and interstitial lung disease.

Charoen Chuchottaworn

Senior Medical Advisor, Pulmonologist,

Central Chest Institute Of Thailand

Education and Training

Dr. Charoen Chuchottaworn is Consultant, Bureau of Tuberculosis, Department of Disease Control, Ministry of Public Health; Former, Senior Medical Physician, Advisory Level, Central Chest Institute of Thailand, Department of Medical Services, Ministry of Public Health. Dr. Chuchottaworn has also formerly held the position of “Chief” at Central Chest Hospital and the Chest Disease Institute in Thailand. He received his MD from Chiang Mai University, Chiang Mai, Thailand. He holds certificates in tuberculosis control and mycobacteriology; is a Diplomate Thai Boards of Respiratory Medicine and Internal Medicine.

Dr. Chuchottaworn has published papers in national and international medical journals and has served as a Principal Investigator in several studies. His main clinical interest is tuberculosis.

Biography

Dr. Charoen Chuchottaworn is a Pulmonologist in Nonthaburi. Dr. Charoen Chuchottaworn is affiliated with medical facilities such as Central Chest Institute. Dr. Charoen Chuchottaworn graduated from Chiang Mai University.

Erlina Burhan

Pulmonologist, Department of Pulmonologyand Respiratory Medicine, Faculty of Medicine, Universitas Indonesia - Persahabatan Hospital.

Education and Training

Dr. Erlina Burhan is a Clinical Senior Lecturer in the Department Pulmonology and Respiratory Medicine, Faculty of Medicine Universitas Indonesia. In 2020, She initiated the Respiratory and Tuberculosis Research and Training Centre (SATURATE) and currently lead this research unit in Persahabatan General Hospital, Indonesia.

Dr. Erlina graduated with her Medical Doctor from Universitas Andalas, Indonesia in 1989 and Masters in Community Health in 1995 from Heidelberg University, Germany. She accomplished her residency in pulmonology in 2004 and consultant of respiratory infectionin 2010. She was awarded her Ph.D degree in Medicine by Universitas Indonesia in 2012 and her doctoral research focused on Tuberculosis clinical research.

Dr. Erlina is a national principal investigator (Indonesia) on the TRUNCATE-TB trial (a strategy trial of 2 months of treatment for drug-susceptible TB done across a network of 18sites in Asia and Africa). Beside her effort on Tuberculosis elimination, during COVID-19 pandemic she has been contributing in global and national effort against COVID-19 pandemics through guideline development, strategic partnership and leadership in many global studies investigating monoclonal antibody and mRNA vaccine against COVID-19. After seeing COVID-19 pandemic was stable, in 2022, she was appointed to be national principal investigator of an operational study investigating BPaL regiment for Pre-XDR TB patients in Indonesia. In 2023, she is appointed as a member of board director of Stop TB partnership (Private Sector Provide). Her current research interest is on the TB drug regiment strategies, TB vaccine and its impact on health outcomes, and other respiratory infection.

Hoang Thi Thanh Thuy

Deputy Director, High-Tech Requested Treatment Center

Doctor, National Lung Hospital

Education and Training

Focal Person, Programmatic Management of Drug-Resistant Tuberculosis, National TB Programme, Vietnam

Ted Cohen

Professor of Epidemiology(Microbial Diseases),

Yale School of Medicine, Yale University

Education and Training

DPH Harvard School of Public Health (2006)

MPH University of North Carolina, Chapel Hill (2001)MD

Duke University (2001)

BA Oberlin College, Neuroscience (1996)

Biography

Dr. Cohen is an infectious disease epidemiologist whose primary research focus is tuberculosis. He is particularly interested in understanding how TB drug-resistance and medical comorbidities such as HIV frustrate current efforts to control epidemics, with an ultimate goal of developing more effective approaches to limit the morbidity caused by thispathogen. Dr. Cohen's training is in epidemiology and clinical medicine, and his work includes mathematical modeling, fieldwork, and analysis of programmatic data. His research program is currently funded by NIH and US CDC Awards.

Chi Chiu Leung

Honorary Consultant, Hong Kong Tuberculosis, Chest And Heart Diseases Association

Education and Training

Dr Chi Chiu Leung graduated from the University of Hong Kong in 1983, and underwent postgraduate training in both respiratory medicine and public health, and research fellowship in Stanford University Medical Centre.

He served as Consultant Chest Physician in the Department of Health, Hong Kong, China from 1996 to 2018. He headed the Public Service Branch of the Centre for Health Protection from 2016 to 2018. He was the principal investigator of the Hong Kong study site of the Tuberculosis Trial Consortium from 2009 to 2018. He served in various scientific committees of the Centre for Health Protection and the Grant Review Board for the Health and Medical Research Fund. He also chaired the Pneumoconiosis Medical Board from 1996to 2018. He is currently a deputy editor of Respirology, an associate editor of the International Journal of Tuberculosis and Lung Disease and chairman of the Advisory Committee on Communicable Diseases of the Hong Kong Medical Association. He served in the editorial Board of the American Journal of Respiratory and Critical Care Medicine from 2008 to 2012. He has published around 200 articles in peer-review journals with over 5000 citations.

Jae-Gook Shin

Professor,Department of Pharmacologyand Department of Clinical Pharmacology,Inje University

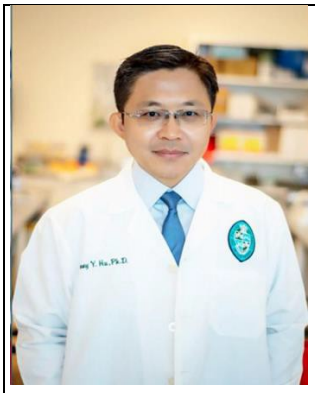
Education and Training

Jan 1990 - Jan 1992Seoul National University
Jan 1988 - Jan 1990Masters, Seoul National University
Jan 1980 - Jan 1986Bachelors, Inje University College of Medicine

Biography

Dr. Jae-Gook Shin is currently a Professor and Chair of the department of Pharmacology and Clinical Pharmacology and founding Director of the Pharmacogenomics Research Center at Inje University College of Medicine, Busan, Korea. He is also Director of the Center for Personalized Precision Medicine of Tuberculosis (cPMTb) at Inje University College of Medicine, which is funded by Korean Ministry of Science and ICT. He also founded and developed the clinical trial center in Inje University Busan Paik Hospital as a director and PI of Global Center of Excellence in Clinical Trials, funded by Korean Ministry of Health and Welfare. He was PI of over 100 investigator or sponsor initiated clinical trials for drug development as well as for the clinical pharmacology researches.

Dr. Shin received MD degree in Inje University, PhD from Seoul National University (Korea), and did clinical pharmacology training in Georgetown University Medical Center (USA) as an Awardee of MSD International Fellowship granted by Merck foundation. He published 320 articlesin international peer reviewed journals in the area of clinical pharmacology including pharmacogenomics and personalized medicine, clinical PK/PD, DMPK/ drug interaction, clinical trials in drug development etc. He is highly experienced in the clinical and translational science in pharmacogenomics and personalized medicine, and interested to the implementation of those principle to the clinical practice. He is now serving for SPMED Co., a venture company in Korea, as CEO. He is also invited guest or honorary professors in several Universities including Fudan University, China and Haiphong Medical and Pharmacy University, Vietnam. Dr. Shin has been served for the domestic or international professional societies/Communities such as KSCPT, Eastern Regional IRB, KoNECT, IUPHAR Clinical Division council and Pharmacogenomcis Committee etc.



Tony Hu

Distinguished Professor, TulaneUniversity

Education and Training

Dr. Tony Hu is a distinguished Professor of Biochemistry and Molecular Biology, Biomedical Engineering, and Microbiology at Tulane University. He holds the prestigious Weatherhead Presidential Chair in Biotechnology Innovation and is the founding Director of the Center for Intelligent Molecular Diagnostics at Tulane School of Medicine.

Dr. Hu's research is focused on engineered multi-omics, nanomedicine, mechanism-driven biomarker discovery, and assay development. His groundbreaking work employs the uniqueproperties of nanomaterials to improve assay performance and reproducibility, thereby offering a novel approach to clinical microbiology and biomarker discovery. His goal is to develop a full spectrum of diagnostic, prognostic, and treatment evaluation assays, redefining diagnostic criteria for infectious and malignant diseases using molecular tests.

Dr. Hu's contributions to the field are widely recognized, and he was elected as a fellow of the American Institute of Medical and Biological Engineering (AIMBE) in March 2023. He has published over 150 high-impact papers and has filed 2 patent applications involving nanomedicine, 14 of which have been licensed by US-based or international companies.

Dr. Hu's research is supported by leading organizations such as the DOD, NIH, Gates Foundation, and WHO, among others. He has mentored 78 fellows and students from 21 countries, many of whom have gone on to establish independent faculty positions. In addition, Dr. Hu is a co-founder of two biotech startup companies, Intelligenome Inc. in San Jose, CA, and NanoPin Technologies in New Orleans, LA.

Dr. Hu's innovative and pioneering research has resulted in significant advancements in thefield of biomarker discovery and nanomedicine. His contributions have not only advanced the scientific community's understanding of infectious and malignant diseases but have alsoled to the development of novel diagnostic tools and therapies that can benefit patients

worldwide.

Chin Kook Rhee

Professor, Seoul St. Mary’s Hospital, College of Medicine, The Catholic University of KoreaDivision of Pulmonary and Critical Care Medicine, Department of Internal Medicine

Education and Training

1996~2002Graduation from College of Medicine, The Catholic University of Korea

2005~2007(M.S) The Catholic University of Korea

2007~2013(M.D., Ph.D.) The Catholic University of Korea

Biography

Prof. Rhee currently serves as the Professor in the Division of Pulmonary and Critical Care Medicine, Department of Internal Medicine at Seoul St. Mary's Hospital of The Catholic University of Korea.

Prof. Rhee is an Associate Editor of BMC Pulmonary Medicine. He is a member of Editorial Board of American Journal of Respiratory and Critical Care Medicine, Journal ofCOPD, Frontiers in Medicine, Journal of Thoracic Disease, Journal of Korean Medical Science, and Life. He is also a Deputy Editor of Tuberculosis and Respiratory Diseases.

Prof. Rhee is a member of long-range planning committee of ERS Assembly 5, Head Elect of APSR COPD assembly, APSR Bulletin Coordinator, Deputy Chairperson of APSR Education Committee, and a member of APSR council. He is APSR 2022 Congress Vice Secretary. He is a member of steering committee of International Severe Asthma Registry.He is also a member of many committee of Korean Academy of Tuberculosis and Respiratory Disease.

Prof. Rhee has published 189 SCI(E) articles (77 publications as first/corresponding author). The focus of his research is COPD and asthma with primary interests in topics related to cohort study, big data analysis, clinical trial, ACO, and severe asthma.

Hung-Yi Chiou

Distinguished Investigator And Director,

Institute Of Population Health Sciences,

National Health Research Institutes, Taiwan

Education and Training

Education

1996.06 PhD, Epidemiology Group, Institute of Public Health, National Taiwan University
1989.06 Master of Public Health Group, Institute of Public Health, National Taiwan University
1985.06 Bachelor of Public Health, National Taiwan University

Experience

2020- Director, National Institute of Population Health Sciences, National Institutes of Health
2020- Director of International Cooperation and Development Foundation
2019-2020 Director of the Health and Clinical Research Data Value-added Center, Preparatory Office, Data Division, Taipei Medical University
2018- Professor Cheng, Master of Applied Molecular Epidemiology, Taipei Medical University
2018- Professor, Department of Elderly Health Management, Taipei Medical University
2018- Professor Cheng, PhD Program in Global Health and Health Security, Taipei Medical University
2018-2020 Director of the Master's Degree Program in Applied Molecular Epidemiology, Taipei Medical University

Biography

Dr.Chiou is known as an outstanding epidemiologist and focuses on research at cancer and cardiovascular diseases. He applies molecular epidemiology as his primary research method and dedicates his work in personalized preventive medicine and precision medicine in cancer and cardiovascular diseases. Up-to-date, Dr. Chiou has published over 273research articles.
As well as teaching and research, Professor Chiou has strong interests in advocacy of enhancement of public policy and healthcare system. He sits on the advisory board of Taiwan's Ministry of Science and Technology and Ministry of Health and Welfare to support the government's efforts in reforming its public health initiatives.

Jae-Joon Yim

Professor, Seoul National University College of Medicine

Education and Training

Department of Internal Medicine

Division of Pulmonary and Critical Care Medicine

Seoul National University College of Medicine, Seoul, Republic of Korea

Jen-Hau Chen

Attending Physician, Department of Geriatrics, National Taiwan University Hospital

Education and Training

Education

PhD, Institute of Epidemiology and Preventive Medicine, National Taiwan University School of Public Health

Master, Public Health, Harvard University, USA

MBBS, Department of Medicine, National Taiwan University School of Medicine

Experience

Clinical Lecturer, Department of Internal Medicine, National Taiwan University Hospital

Attending Physician, Department of Internal Medicine, National Taiwan University College of Medicine Hospital

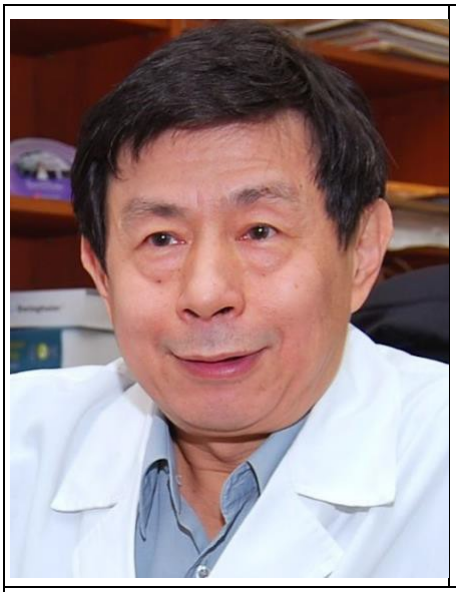
Geriatrician, Beth Israel Deaconess Medical Center, Harvard Medical School, USA

Geriatrics Fellow, Beth Israel Deaconess Medical Center, Harvard Medical School, USA

Resident Physician, Department of Internal Medicine, National Taiwan University School of Medicine

Resident Physician, Department of Internal Medicine, Taipei Hospital

Resident Physician, Department of Internal Medicine, Taipei Chung Hsing Hospital



Jen Suo

Visiting Staff , Taipei Jen-chi Hospital

Education and Training

Visiting staff, Taipei Jen-Chi Hospital. 2018-

Professional Experience:

Medical Doctor, the First Chest Clinic, National TB Association, Taipei,2005-2018
Bachelor of Medicine, National Taiwan University, Medical College1972/09-1979/06

Fathiyah Isbaniah

Pulmonologist, Department Pulmonology and Respiratory Medicine University of IndonesiaPersahabatan Hospital Jakarta

Education and Training

Education

Elementary School, Lab-School IKIP, Jakarta ; 1987

Junior High School 236 Lab-School IKIP, Jakarta ; 1990

Senior high school 81 Lab-School IKIP, Jakarta ; 1993

Medical Doctor, Faculty of Medicine, University of Indonesia Graduate 18 February 2000

Employment

General practitioner, Family Medicine, Jakarta 2000-2002

Staff of Department Pulmonology and Respiratory Medicine, Faculty of Medicine University of Indonesia 2007 - now

Pulmonologist in Pumonology (Respiratory infection Division) Persahabatan hospital, Jakarta, Indonesia, 2007 – now

Anita Pei-Chun Chan

Deputy Director Of The Division Of Chronic Infectious Diseases, Taiwan CDC

Education and Training

Education

2009 – 2013 National Taiwan University: Doctor of Philosophy (Ph.D.) Institute of Epidemiology and Preventive Medicine, College of Public Health
2005 – 2007 National Taiwan University: Master's Degree Epidemiology and Tuberculosis
1993 – 2000 National Cheng Kung University: Doctor of Medicine (M.D.)

Experience

Jan 2021 – Present Deputy Director, Division of Chronic Infectious Diseases, Taiwan Centers for Disease Control

Jan 2016 – PresentAssociate Director, TB Research Center, Taiwan Centers for Disease Control

Jul 2015 – PresentAdjunct Assistant Professor, Institute of Epidemiology and Preventive Medicine, College of Public Health, National Taiwan University

Biography

Dr. Anita Chan is presently the Deputy Director at the Division of Chronic Infectious Diseases, the Centers for Disease Control, Ministry of Health and Welfare, Taiwan (Taiwan CDC). She also serves as Associate Director at the Tuberculosis Research Center, Taiwan CDC. Her other positions include Standing Committee of Taiwan Guidelines for TB Diagnosis and Treatment, Adjunct Assistant Professor at the Institute of Epidemiology and Preventive Medicine, College of Public Health, National Taiwan University, Taiwan. She has more than 15 years of experience on policy implementation for TB control. Important operational research papers had been published toprove the effectiveness of policy implementation of TB/HIV/STD. Her main research interests are tuberculosis, infection control, vaccination, ethics and law of notifiable diseases, and infectious

diseases.

Chien-Ching Hung

Vice superintendent (Clinical Professor),

NTUH Yunlin Branch

Education and Training

National Taiwan University College of Medicine MD

Switzerland Swiss Tropical and Public Health Institute Basel MSc

Univeristy of Antwerp, Antwerp, BelgiumGraduate Institute of Clinical Medicine PhD

Po-Wei Chu

Associate Researcher, Taiwan Centers for Disease Control

Education and Training

National Defense Medical Center · Tri-Service General Hospital: M.D.,Ph.D

Biography

Mr. Chu has been serving at TCDC for over 10 years, dedicating to TB prevention and control and the establishment of TB surveillance system, with a deep understanding of theTaiwan's TB epidemic.

Hsien-Ho Lin

Professor and Director, Institute of Epidemiology and Preventive Medicine

National Taiwan University

Education and Training

Education

Harvard School of Public Health

Experience

Professor, National Taiwan University (Aug 2018 – Present)

Biography

My research interest involves using epidemiological studies to assist control and prevention of tuberculosis. I have been studying risk factors of tuberculosis, including active smoking and passive smoking, indoor and ambient air pollution, alcohol use, and diabetes, using population-based cohort studies and meta-analysis. Building on evidence from these epidemiological studies and epidemic theory of infectious diseases, I am investigating population-level impact of changing risk factors on future tuberculosis epidemiology, the interaction between chronic disease epidemiology and tuberculosis epidemiology, and methodological issues when conducting such studies. I am also using epidemic models to assess the potential impact of tuberculosis interventions that are being considered by policy makers,

including new diagnostics (e.g., LED microscopy, Gene Xpert MTB/RIF) in developing countries and tuberculosis control programs (active case finding and treatment of latent tuberculosis infection) in Taiwan. Our team is currently conducting a large population-based tuberculosis cohort study combining whole genome sequencing, routine public health information (including contact investigation), and geographic information system to understand the transmission of drug-susceptible and drug-resistance tuberculosis in Taiwan. We also involved in investigating thetransmission dynamics of COVID-19 and evaluating the effectiveness of case-based and population-based interventions for COVID-19 in Taiwan.

I am also interested in applying the framework of Comparative Risk Assessment and have extended it to a time-based approach when we evaluated the impact of respirable pollutants

onmajor lung diseases in China.

Ming-Ju Tsai

Attending Physician, Professor,

Kaohsiung Medical University Hospital,

Kaohsiung Medical University

Education and Training

Education

PhD, Graduate Institute of Medicine, Kaohsiung Medical University (2010/09 -2015/11)
Bachelor, School of Medicine, Kaohsiung Medical University (2000/09 - 2007/06)

Experience

Visiting Staff, Division of Thoracic Medicine

Professor, Department of Internal Medicine (2022/08/01 -)

Associate Professor, Department of Internal Medicine (2019/08/01 -

2022/07/31)Assistant Professor, Department of Internal Medicine (2018/08/01

-2019/07/31) Assistant Professor, Department of Internal Medicine

(2016/08/01 -2018/07/31) **Biography**

Prof. Ming-Ju Tsai obtained his M.D. and Ph.D. degrees from Kaohsiung Medical University. He is currently an attending physician in Kaohsiung Medical University Hospital and professor in Kaohsiung Medical University. His study interests include criticalcare, airway diseases, sleep disorders, big-data analysis, and smart healthcare. He tries to figure out the pathophysiological mechanisms of airway diseases using multi-omics approach. He also devotes himself in improvement and innovation of hospital information system through establishing and deploying artificial intelligence models in clinical practice,in order to improve patient care, safety, and efficiency.

Wen-Cheng Chao

Chief of Medical Division, Department of Critical Care Medicine, Taichung Veterans General Hospital

Education and Training

Education

National Cheng Kung Univerity
Doctor of Philosophy - PhD Institute of Clinical Medicine (2011 - 2016)

National Yang Ming University
Doctor of Medicine - MD Medicine

Experience

Physician, Taichung Veterans General Hospital

Biography

I am an intensivist with a keen interest in critical databases and their application in medicalresearch. I have worked extensively with several critical databases, including the TCVGH database, Taiwan Severe Influenza Research Consortium (TSIRC), National Health Insurance Research Database in Taiwan, eICU, and MIMIC IV, to extract valuable insights into patient care and outcomes. I am also interested in the field of explainable machine learning and its potential to improve clinical decision-making. In addition, I has conducted research on the whole transcriptome in septic patients and to explore the molecular mechanisms, particularly immunological features, in patients with sepsis.

Wei-Cheng Chen

Attending Physician, Department of Thoracic Surgery, Department of Internal Medicine, China Medical University Hospital

Education and Training

Education

Bachelor of Medicine, Department of Medicine,Kaohsiung Medical University

Experience

Resident Physician, Department of Internal Medicine, Affiliated Hospital of China Medical University

Research Physician, Department of Thoracic and Critical Care, Affiliated Hospital of China Medical University

Attending Physician, Department of Chest and Critical Care, Affiliated Hospital of China Medical University

Attending Physician, Department of Internal Medicine, Intensive Care Unit, AffiliatedHospital of China Medical University

Biography

Dr. Wei-Cheng Chen is a specialist in internal medicine, thoracic and critical care medicine, critical care and lung cancer. He is also a member of the Society of Emergency and Intensive Care Medicine and the Society of Critical Care Medicine. Currently, he is a director of the Society of Critical Care Medicine and chairman of the Youth Innovation Committee. The clinic focuses on intensive care medicine and cross-disciplinary team care, especially in areassuch as drug-resistant pathogens, acute respiratory distress syndrome, sepsis and smart medical care. In addition to clinical services, he is also full of enthusiasm for teaching and

research, and has been selected as an outstanding physician many times.

Wei-Chang Huang

Attending physician, Department of ChestMedicine, Taichung Veterans General Hospital.

Education and Training

Education

1. Graduated from the doctoral program of the Department of Life Sciences, NationalChung Hsing University (2011/09-2020/06)

2. Graduated from the Department of Medicine, Sun Yat-sen Medical University(1993/09-2000/06)

Experience

1. Director of the Taiwan Medical Association for Tuberculosis and Pulmonary Diseases (2022/04~present)

2. Expert member of Taiwan Tuberculosis Personal Care Practitioner Education, Training and Certification Program (2018/05~present)

3. Advisory Committee of the Centers for Disease Control and Prevention of the Ministry of Health and Welfare (2016/01~present)

4. Editorial Member of Tuberculosis Medical News (2015/09~present)

5. Attending Physician, Department of Chest Medicine, Taichung Veterans General Hospital (2010/02~present)

Meng-Rui Lee

Attending Physician, National Taiwan UniversityHospital

Education and Training

Education

Department of Medicine, National Taiwan University

Experience

Chief Physician, Department of Chest, National Taiwan University School of Medicine Hospital

Adjunct attending physician, Department of Internal Medicine, National Taiwan University School of Medicine Hospital

Attending Physician, Department of Chest, Taoyuan Hospital

Attending Physician, Department of Internal Medicine, Kinmen Hospital

Clinical Assistant Professor, Department of Internal Medicine, National Taiwan University School of Medicine

Assistant Professor appointed by the Ministry of Education

Critical care specialist instructing physician

Thoracic Medicine Specialist Instructor

Po-Jui Chang

Attending physician, Chang Gung Memorial Hospital

Education and Training

Education

PhD, National Heart and Lung Institute, Imperial College London, UK

Medical School, Chang Gung University, Taoyuan County, Taiwan

Experience

Attending physician, Chang Gung Memorial Hospital (Sep 2001 - Present)

I-Lin Tsai

Associate Professor,Taipei Medical University

Education and Training

Education

2006-2011 PhD, Institute of Pharmacy, National Taiwan University

2002-2006 Bachelor of Pharmacy, National Taiwan University

Experience

2020.08- Associate Professor, Department of Biochemistry and Cell Molecular Biology, Department of Medicine, Taipei Medical University

2019.11- Assistant Professor, Department of Pharmaceutical Sciences, Department of Medicine,Taipei Medical University

2017.08- Assistant Professor, Master of Clinical Pharmacogenomics and Proteomics, Taipei Medical University

2017.08- Assistant Professor, International Doctorate in Cell Therapy and Regenerative Medicine, Taipei Medical University

2015.12-2020.07 Assistant Professor, Department of Biochemistry and Cell Molecular Biology, Taipei Medical University

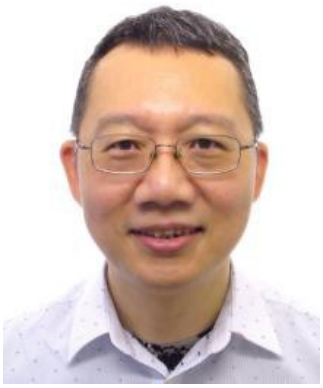
2013.11-2015.12 Postdoctoral Research Scholar, Genome Research Center, Academia Sinica

2011.09-2013.10 Postdoctoral Researcher, Genomic Medicine Research Center, National TaiwanUniversity

Biography

Dr. Tsai's academic journey began in 2006 when she earned her bachelor's degree in Pharmacy from National Taiwan University. Driven by a profound passion for pharmaceutical analysis, she pursued further studies at the Graduate Institute of Pharmaceutical Science at National Taiwan University, completing her Ph.D. in 2011.

Currently, Dr. Tsai holds the position of Associate Professor at Taipei Medical University. Her research focus encompasses the development of LC-MS-based methods for therapeutic drug monitoring, as well as the molecular characterization of human immunoglobulins. These innovative techniques are instrumental in analyzing clinical samples for dose adjustments anduncovering valuable bio-signatures.



Yu-Sen Lin

Chairman & Professor,National Kaohsiung Normal University

Education and Training

Education

Master of Business Administration, University of Pittsburgh, USA (86.08-88.12)

Ph.D., Department of Environmental Engineering, University of Pittsburgh, USA (84.06-88.08)

Master's degree, Department of Environmental Engineering, University of Pittsburgh, USA (81.09-84.06)

Bachelor of Environmental Engineering, National Cheng Kung University (75.09-79.06)

Experience

Professor, Institute of Human Knowledge, College of Education, National Kaohsiung Normal University (102.01-present)

Professor of Institute of Human Knowledge, National Kaohsiung Normal University (96.02-102.01)

Associate Professor, National Kaohsiung Normal University (93.02-96.02)

Assistant Professor, National Kaohsiung Normal University (90.08-93.02)

Biography

Dr. Yu-Sen Eason Lin is the Chairman and Professor at the Graduate Institute of Knowledge Management, National Kaohsiung Normal University, TAIWAN. His research includes applying High Magnification Imaging in Tuberculosis and Cytology microscopy, enabling AI algorithms and machine learning for the early detection of TB and Metastatic Cancers at the cellular level.

Jung-Yien Chien

Clinical Professor and Attending Physician,

Department of Thoracic Medicine,

Department of Internal Medicine, National

Taiwan University Hospital

Education and Training

Education

Bachelor of Medicine, National Taiwan University

Experience

Attending Physician, Department of Chest Medicine, Yunlin Branch, National Taiwan University Hospital (2004-2009)

Biography

I am pulmonologist from Taiwan and my interestings are pulmonary infection, airway disease and critical care.

Chia-Jung Liu

Physician, National Taiwan University Hospital, Hsin-chu Branch

Education and Training

Education

National Cheng Kung University Department of Medicine

Experience

Resident Physician, Department of Internal Medicine, National Taiwan University School of Medicine Hospital

Chief Physician, Department of Chest, National Taiwan University School of Medicine Hospital

Clinical Lecturer, Department of Internal Medicine, Department of Medicine, National Taiwan University School of Medicine

Thoracic Medicine Specialist Instructor

Attending physician, Department of Internal Medicine, National Taiwan University School of Medicine Hsinchu Branch

Lecturer appointed by the Ministry of Education

Biography

I completed the Doctor of Medicine program at National Cheng Kung University. Subsequently, I underwent resident training in internal medicine, pulmonary, and critical medicine at National Taiwan University Hospital. Presently, I serve as a chest physician and hold the position of Director at the Respiratory Care Center at National Taiwan University Hospital, Hsin-Chu Branch. My primary research interests lie in the field of pulmonary infections, with a particular focus on tuberculosis and non-tuberculous mycobacteria infections.

Chou-Jui Lin

Attending Physician, Taoyuan General Hospital, Ministry Of Health And Welfare

Education and Training

Education

National Cheng Kung University Department of Medicine

Experience

Chief Physician, Department of Chest Medicine, National Taiwan University
Tuberculosis Diagnosis and Treatment Advisory Committee, CDC
Multi-drug-resistant tuberculosis north zone team specialist physician
Director of Bu Tao Subacute Respiratory Ward
Director of Respiratory Therapy Department, Taoyuan Hospital, Ministry of Health and Welfare

Yi-Ming Chen

Division Director of Translational Medicine,

Taichung Veterans General Hospital, Taiwan

Education and Training

Education

Bachelor of Medicine, Department of Medicine, National Yang-Ming University

PhD, National Yang-Ming University Institute of Clinical Medicine

Experience

Director, Department of Translational Medicine, Department of Medical Research, Taichung Veterans General Hospital

Attending Physician, Department of Allergy, Immunology and Rheumatology, Taichung Veterans General Hospital

Supervisor of the Rheumatology Association of the Republic of China

Deputy Secretary-General of the Immunology Society of the Republic of China

Taiwan Representative of Young Physicians of the Asia-Pacific Rheumatology Association

Biography

Dr. Yi-Ming Chen is a medical professional in precision medicine and rheumatology. He currently holds multiple roles, including Director at the Division of Translational Medicine, CEO of the Precision Medicine Center at Taichung Veterans General Hospital, Taiwan, and Supervisor at The Chinese Society of Immunology since 2022. He has also been an Attending Physician at the Division of Allergy, Immunology, and Rheumatology at Taichung Veterans General Hospital since 2009.

Dr. Chen earned his MD in 2002 and his PhD in 2014, both from National Yang-Ming University in Taipei, Taiwan. His dedication to his field has been recognized with several appointments and awards, including the Taiwanese Representative of APLAR Young Rheumatologist Ambassador in 2017, the secretary-general of the Taiwan Rheumatology Association from 2016 to 2018, and an exchange scholar at the National Institutes of Health, USA from 2019 to 2020.

His clinical training includes geriatrics at Taipei Veterans General Hospital and rheumatology at Taichung Veteran General Hospital. He has also lectured in internal medicine at National Yang-Ming University and is currently an associate professor at National Chung Hsing University, Taiwan.

Publication list: scholar.google.com.tw/citations?user=0sDS8IsAAAAJ&hl=zh-TW

Chien-Chung Lin

Professor, National Chen Kung University

Education and Training

-Professor, Department of Internal Medicine, College of Medicine, National Cheng Kung University, Tainan, Taiwan.

-Institute of Clinical Medicine, College of Medicine, National Cheng Kung University (Part-Time Faculty).

- Institute of Molecular Medicine, College of Medicine, National Cheng Kung University (Part-Time Faculty

-Director, Taiwan Association for the Study of Lung Cancer

Chih-Hsing Hung

Vice President of Kaohsiung Municipal

Xiaogang Hospital

Education and Training

Education

1986/08-1993/07Bachelor of Medicine, Department of Medicine, National Defense Medical College

2002-2003Researcher, Asthma and Allergy Disease Center, Johns Hopkins University, USA

2006-2009PhD, Institute of Medicine, Kaohsiung Medical University

Experience

PhD, Institute of Medicine, Kaohsiung Medical University
Professor of Pediatrics, Kaohsiung Medical University
Attending Physician, Department of Pediatric Allergy and Immunology, Kaohsiung Medical University Hospital
Director of Taiwan Children's Allergy, Asthma and Immunology Society
Researcher, Johns Hopkins Asthma and Allergy Center

Shun-Mao Yang

Chief, Thoracic Surgery, National Taiwan University Hospital Hsin-chu

Education and Training

Education

Bachelor of Medicine, National Taiwan University
PhD, Institute of Medical Engineering, National Taiwan University

Experience

Resident Physician, Department of Surgery, National Taiwan University Hospital
Chief Physician, Thoracic Surgery, National Taiwan University Hospital
Researcher, Respiratory Surgery, University of Tokyo, Japan

Biography

Dr. Shun-Mao Yang received his Medical Degree from the National Taiwan University, school of medicine, and completed his General Surgery residency and Thoracic Surgery residency at National Taiwan University Hospital. He is currently working as Clinical Lecturer of School of Medicine, National Taiwan University and Attending Physician in the National Taiwan University Hospital, Hsin-Chu and Biomedical Branch.

Dr. Yang specializes in fields of minimally invasive thoracic surgery, image-guided thoracic surgery, quantitative analysis of thoracic image and interventional pulmonology.Dr. Yang also initiated augmented fluoroscopic bronchoscopy (AFB) localization for image-guided thoracic surgery. He is author of several publications in ATS,EJCTS, JTD
and Surgical Endoscopy.

Chi-Wei Tao

Director of Internal Medicine

Department,Zhenxing Hospital

Education andTraining

1988/08~1993/08
Resident and Chief Resident of Taipei Veterans General Hospital

1993/09~1994/08
Attending Physician, Department of Chest, Taipei Veterans General Hospital

1994/09~1995/08
Attending Physician, Penghu Naval Hospital

1995/08~1996/09
Director of the Intensive Care Unit of Chiayi Veterans Hospital

1997/07~1998/02
Attending Physician, Taipei Municipal Wanfang Hospital

1997/09~2020/01
Director of the Department of Respiratory Therapy, Zhenxing Hospital

2013/09 ~2016/08
Adjunct Assistant Professor, Department of Environmental Engineering and Health, Yuanpei University of Medical Science and Technology

2016/08~present
Assistant Professor, Department of Environmental Engineering and Health, Yuanpei University of Medical Science and Technology

2017/07~present
Director of the Department of Internal MedicineDepartment, Zhenxing Hospital

Ping-Hung Kuo

Senior Pulmonologist, National Taiwan University Hospital

Education andTraining

Dr. Ping-Hung Kuo earned his medical degree from the College of Medicine, National Taiwan University in 1988. He was subsequently trained in pulmonology and critical care medicine. In 2000, he was a research fellow at the Lung Biology Center, University of California, San Francisco, USA. He has been the director of the Department of Respiratory Care and Pulmonary Function Lab at NTUH. His research interests encompass airway pharmacology, interstitial lung disease, and pulmonary hypertension. He has published more than 110 papers in peer-reviewed journals.

Chin-Chung Shu

Doctor, National Taiwan University Hospital

Education andTraining

Education

Doctoral class at the Institute of Clinical Medicine, National Taiwan University School of Medicine

Bachelor of Medicine, Department of Medicine, Sun Yat-sen Medical University

Experience

Resident and Chief Physician, Department of Internal Medicine, National Taiwan University Hospital

Researcher, Department of Thoracic Medicine, National Taiwan University Hospital

Attending Physician, Department of Chest Medicine, Yunlin Branch, National Taiwan University Hospital

Visiting scholar at Denver Hospital and Mayo Medical Center in the United States

Sheng-Wei Pan

Attending Physician, Taipei Veterans General Hospial

Education andTraining

Education

Bachelor of Medicine, Department of Medicine, Sun Yat-sen Medical University

Ph.D., Institute of Public Health, YangmingJiaotong University

Experience

Researcher, Department of Thoracic and Critical Care Medicine, University of California, San Diego, USA

Secretary General, Taiwan Tuberculosis Medical Society

Biography

Dr. Pan is currently an attending physician at the department of chest medicine at Taipei Veterans General Hospital and an assistant professor of internal medicine at National Yang Ming Chiao Tung University in Taiwan. His research interests include (1) tuberculosis (TB) and nontuberculous mycobacterium-lung disease (NTM-LD) epidemiology, (2)host-pathogen determinants of latent TB infection, TB development, and NTM-LD disease progression, (3) critical care and respiratory therapy, and (4) airway disease including COPD and asthma.

Pin-Hui Lee

Medical Officer, Taiwan Centers For Disease Control

Education andTraining

Education

Master, Institute of Epidemiology and Preventive Medicine, School of Public Health, National Taiwan University (2012)
Taipei Medical University, Department of Medicine, Bachelor of Medicine (2003)

Experience

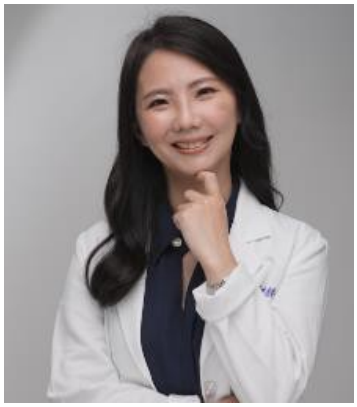
2007-present AIDS and Tuberculosis Section, Department of Disease Control and Prevention, Ministry of Health and Welfare, Epidemic Prevention Physician
2003- 2007 Resident Physician, Department of Internal Medicine and Department of Family Medicine, National Taiwan University Hospital

Biography

Pin-Hui Lee is the senior medical officer of Taiwan Centers for Disease Control(TCDC), Ministry of Health and Welfare. Pin-Hui has been in the division of chronic infectious disease for 14 years and devoted to the national tuberculosis(TB) control program and STI/HIV prevention and control. The research and operational projects lead by Pin-Hui included non-communicable disease and risk of TB, programmatic management of drug-resistant TB, effectiveness of latent TB infection treatment in long-term care facilities,and M-pox immunization and vaccine safety projects among prioritized populations in Taiwan. In addition, Pin-Hui also has the ISTM Certificate In Travel Health in 2009 after joining TCDC and well experienced it in education and service of travel medicine.

Before serving in TCDC, Pin-Hui received residency training in internal medicine andfamily medicine in National Taiwan University Hospital from 2003-2006. Pin-Hui graduated from

Taipei Medical University in 2003 and also earned the MS degree of Epidemiology and Preventive Medicine in Natio-nal Taiwan University in 2012.



Hung-Ling Huang

Assistant Professor, Kaohsiung Municipal Ta-Tung Hospital, Kaohsiung Medical University Hospital

Education andTraining

Education

Bachelor of Science, Department of Biotechnology, National Chiao Tung University

Kaohsiung Medical University, Post-Baccalaureate Department of Medicine, Master

PhD, Clinical Research Institute, Kaohsiung Medical University

Experience

Kaohsiung Chang Gung Memorial Hospital Intern Physician

Department of Internal Medicine, Chung Ho Memorial Hospital, Kaohsiung Medical University

Attending Physician, Department of Chest Medicine, Chung Ho Memorial Hospital, Kaohsiung Medical University

Attending Physician, Department of Chest Medicine, Hengchun Tourism Hospital, Ministry of Health and Welfare

Fu-Chang Tsai

Attending Physician, Department of Medical Research, National Taiwan University Hospital

Education andTraining

Education

PhD in Medical Ethics from the University of Manchester, UK

Experience

Attending Physician, Department of Medical Research, National Taiwan University Hospital

Chairman, National Taiwan University Hospital Research Ethics Committee

Leader of the Study Planning Group, Joint Education and Teacher Training Center, National Taiwan University School of Medicine

Chairman, Taiwan Society for Clinical Research Ethics Review

Kaohsiung Chang Gung Memorial Hospital Intern Physician

Department of Internal Medicine, Chung Ho Memorial Hospital, Kaohsiung Medical University

Attending Physician, Department of Chest Medicine, Chung Ho Memorial Hospital, Kaohsiung Medical University

Attending Physician, Department of Chest Medicine, Hengchun Tourism Hospital, Ministry of Health and Welfare

Diahn-Warng Perng

Professor, School of Medicine, National YNCT University/ Chief, General Chest Medicine, Taipei Veterans General Hospital

Education andTraining

Education

PhD in Respiratory Cell and Molecular Biology from the University of Southampton, UK
Bachelor of Medicine, Sun Yat-sen Medical College

Experience

- Convener of the Respiratory Disease Committee of the Asia-Pacific Society of Chest Medicine
- Professor at National Yang-Ming University
- Secretary General of Taiwan Society of Thoracic and Intensive Care Medicine

Biography

Diahn-Warng Perng is Chief of Clinical Chest Medicine at the Department of Chest Medicine, Taipei Veterans General Hospital, Taiwan. He is Professor of Medicine in National Yang Ming University, Taipei. He had been the Secretary General of Taiwan Society of Pulmonary and Critical Care Medicine. and the Head of COPD Assembly in Asia Pacific Society of Respirology.

Dr. Perng received his medical degree in 1990 and subsequently trained in internal medicine and chest medicine at the Taipei Veterans General Hospital. From 1997 to 2000 he held The Overseas Research Studentship at the University of Southampton, at the completion of which he was awarded a PhD for his thesis on 'The proinflammatory actions of mast cell tryptase and agonists of protease activated receptor 2 on the human airway epithelium.'

Dr. Perng's research is focused on understanding the inflammatory mechanisms and the repair process of chronic airway disorders, as well as their modulation associated with therapeutic intervention. He has published numerous papers in peer-reviewed journals, including the JACI-In Practice, Journal of Immunology, the American Journal of Respiratory Cell Biology, the American Journal of Physiology, Chest, Lung, European Respiratory Journal, Critical Care Medicine, Tissue Engineering, PulmPharmaco Ther, PLos One, Int J Chron Obstruct Pulmon Dis, Drug Des Devel Ther and Respirology.

Chia-Hung Chen

Attending Physician, Department of Chest andCritical Care, Department of Internal Medicine, China Medical University Affiliated Hospital

Education andTraining

Education

China Medical University, Bachelor of Traditional Chinese Medicine

Ph.D., Institute of Clinical Medicine, China Medical University

Experience

China Medical University Affiliated Hospital, Research Physician, Department of Chest and Intensive Care and Chief Physician, Department of Internal Medicine

Attending Physician, Department of Chest and Critical Care, Affiliated Hospital of China Medical University

Interventional Bronchoscopy Department Observer, MD Anderson Cancer Hospital and JohnsHopkins Hospital, Texas, USA

Horng-Chyuan Lin

Attending physician at associate professor level at Chang Gung Department of Thoracic Medicine, Linkou

Education andTraining

Education

Department of Medicine, Kaohsiung Medical University

Experience

Chairman of Asthma Consultation Association

Director, Department of Internal Medicine, Taoyuan Chang Gung Memorial Hospital

Director of the Department of Pulmonary Infection and Immune Diseases, Department of Chest Medicine, Linkou Chang Gung Memorial Hospital

Emiko Masaki

Pulmonologist, Department Pulmonology and Respiratory Medicine University of Indonesia Persahabatan Hospital Jakarta

Education and Training

Emiko Masaki is currently based in the Vientiane Office of the World Bank where she leads the analytical work and policy dialogues on health financing and Universal Health Coverage (UHC) in Lao PDR. She also supports the Cambodia Health, Nutrition and Population team with health financing analytics and advisory work. Emiko joined the World Bank in 2013 and her initial work focused on supporting governments to optimize their HIVresource allocations, improve their financial sustainability, and on measuring efficiency andeffectiveness of their programs.

Prior to joining the Bank, she was with the Asian Development Bank (ADB) responsible for lending operations, policy advisory, and knowledge management in social sector operations(health and social protection) in the Southeast Asia Department. She also engaged in various public-private partnership initiatives in the health sector involving joint operations with the ADB's private sector department. Emiko is a Japanese national and holds PhD and Master's degrees in the field of health economics and demography from the University of
California at Berkeley and is interested in aging issues in Asia.

Jia-Yih Feng

Attending Physician, Department of Chest,Taipei Veterans General Hospital

Education andTraining

Education

PhD, National Yang-Ming University, Institute of Clinical Medicine

Bachelor of Medicine, Department of Medicine, National Yang-Ming University

Experience

(-Present) Attending Physician, Department of Chest, Taipei Veterans General Hospital(-Present) Assistant Professor appointed by the Ministry of Education

(-Present) Supervisor of Taiwan Tuberculosis Medical Association

Researcher, Department of Thoracic and Critical Care Medicine, University of California, San Francisco, USA

Secretary General of Taiwan Tuberculosis Medical Association

Li-Kuo Kuo

Chief, MacKay Memorial Hospital

Education andTraining

Education

2018-2023 Chief, Department of Critical Care Medicine, MacKay Memorial Hospital, Taipei branch, Taiwan.

2008-2013 Institute of Clinical Medicine, Taipei Medical University (Master)

1984-1991 Bachelor of Medicine, Department of Medicine, China Medical University

Experience

1993-1995 Resident physician, Department of Internal Medicine, Taipei MacKay Memorial Hospital

1996-1998 Chief Physician, Department of Chest Medicine, MacKay Memorial Hospital, Taipei

1998-2004 Attending Physician, Department of Chest Medicine, Taitung Branch of Mackay Hospital

2004-2006 Attending Physician, Department of Chest Medicine, MacKay Tamsui Branch

2009-2013 Chief Physician, Internal Medicine Intensive Care Unit, Taipei MacKay Memorial Hospital

2009-2013 Attending Physician, Department of Pulmonology and Critical Care, Intensive Care Unit, Taipei Mackay Memorial Hospital 2013-2017 Attending Physician, Department of Critical Care Medicine, Taipei Mackay Memorial Hospital

2017-2019 Mackay Memorial Hospital, Director of the Department of Critical Care Medicine and Director of the Taipei Internal Medicine Intensive Care Unit

Ming-Cheng Chan

Director, Department of Critical Care Medicine, Taichung Veterans General Hospital

Education andTraining

Education

1. Graduated from the doctoral program of the Institute of Physiology, National Yang-MingUniversity School of Medicine (2010.9 - 2016.5)

2. Graduated from the Department of Medicine, National Yang-Ming Medical College (1988.6 - 1995.6)

Experience

1. Director of the Department of Critical Care Medicine, Taichung Veterans General Hospital (2022.05~)

2. Director of the Department of Respiratory Therapy, Taichung Veterans General Hospital(2018.1~)

3. Attending physician, Department of Chest Medicine, Taichung Veterans General Hospital (2005.07-present)

4. Chief Physician, Department of Internal Medicine, Taichung Veterans General Hospital (2002.07-2005.06)

5. Resident physician in the Department of Internal Medicine, Taichung Veterans General Hospital(1999.07-2002.06)

6. Chiayi Veterans Hospital (1997.06-1999.07)

Chao-Hua Chiu

Vice Superintendent, Taipei Cancer Center,

Taipei Medical University

Education andTraining

Dr. Chao-Hua Chiu is currently the Professor at the School of Medicine, the Vice Superintendent at Taipei Cancer Center, and the Chief of the Clinical Research Center at Taipei Medical University Hospital, Taipei Medical University, Taipei, Taiwan. He received his MD degree at Taipei Medical University and his specialty training in both Pulmonology and Medical Oncology at Taipei Veterans General Hospital during 1999-2003. Dr. Chiu was a visiting scientist at the Department of Molecular and Cellular Oncology, MD Anderson Cancer Center during 2006-2008. His main clinical and research interests include the low-dose CT lung cancer screening, as well as the management and new drug development for lung cancer, mesothelioma and thymic malignancies.

Po-Kuei Hsu

Attending Physician, Thoracic Surgery, Taipei Veterans General Hospital

Education andTraining

Education

Department of Medicine, National Yang-Ming Medical University

National Yang-Ming University Institute of Clinical Medicine

Experience

- (Present) Attending Physician, Department of Thoracic Surgery, Taipei Veterans General Hospital
- (Present) Associate Professor, Department of Medicine, National Yang-Ming University
- Resident Physician, Taipei Veterans General Hospital
- Chief Physician, Taipei Veterans General Hospital
- Researcher, Taipei Veterans General Hospital
- Attending Physician, Taipei Veterans General Hospital Hsinchu Branch
- Attending Physician, Taipei Veterans General Hospital
- Fellow, Toronto General Hospital

Tang-Hsiu Huang

Attending Physician and Clinical Assistant Professor, National Cheng Kung University Hospital

Education andTraining

Education

Doctoral program at National Cheng Kung University Institute of Clinical Medicine

Department of Medicine, National Cheng Kung University

Experience

Attending Physician, Department of Chest Medicine, National Cheng Kung University Hospital (2013~present)

Director of the Adult Intensive Care Unit of Tainan Xinlou Hospital (2012~2013) Attending

Physician, Adult Intensive Care Unit, Tainan Xinlou Hospital (2011~2013) Attending

Physician, Department of Intensive Care Center, Zhenxing Hospital (2010~2011)

Chief Physician and Research Physician, Department of Chest Medicine, National Cheng Kung University Hospital (2008~2010)

Resident physician in the Department of Internal Medicine at National Cheng Kung University Hospital (2005~2008)

Biography

Dr. Tang-Hsiu Huang is an attending physician and clinical assistant professor at National Cheng Kung University in Taiwan. His clinical and research interest focuses on interstitial and rare lung diseases and pulmonary fibrosis.

Li-Pang Chuang

Director of the Department of Pulmonary Infection and Immunity at Linkou Chang Gung Memorial Hospital

Education andTraining

Education

Graduated from the Department of Medicine, Chang Gung University

Ph.D., Institute of Clinical Medicine, Chang Gung Memorial University

Experience

Director of the Department of Pulmonary Infection and Immunity at Linkou Chang Gung Memorial Hospital

Attending physician at associate professor level at Chang Gung Department of Thoracic Medicine, Linkou

Chief Physician, Department of Chest Medicine, Linkou Chang Gung Memorial Hospital

Pei-Lin Lee

Associate Professor, National Taiwan UniversityHospital

Education andTraining

Pei-Lin Lee MD, PhD, FAASM short biography

Pei-Lin Lee is Clinical Associate professor in National Taiwan University, College of Medicine and attending physician, Center of Sleep Disorder, National Taiwan University Hospital . Her current academic positions included American Academy of Sleep Medicine Fellow and International Ambassador, International Assembly; Board member and Chairman of Sleep specialty certificate committee, Taiwan Society of Sleep Medicine; and Committee member, Taiwan Society of Pulmonary and Critical Care, Sleep Medicine Assembly. Her editorial positions are Associate Editor, Sleep Disorder, Frontier in Neurology and Frontier in in Psychiatry and Editors for PLOSONE; Sleep and Breath; and Thoracic Medicine. Her experience includes as a Director, Center of Sleep Disorder, National Taiwan University Hospital (2007/7-2023/7), research fellow in Royal Infirmary Hospital, Edinburgh University, UK (2010/1-2010/12). Her research focuses on clinical phenotyping, molecular mechanism, and therapeutic Intervention of obstructive sleep apnea. She is particularly interested in technology and big data in sleep medicine. Her other
works include sleep disordered breathing in pediatrics and pregnancy.

Chung-Liang Shih

Director General, National Health InsuranceAdministration

Education andTraining

Dr. Chung-Liang Shih has served as the Director General of the National Health Insurance Administration at the Ministry of Health and Welfare since February 2023. Committed to ensuring the sustainability of Taiwan's National Health Insurance, he promotes digital healthcare, emerging health technologies, and implements new payment projects. Considering financial, technological innovation, and the legal framework, Dr. Shih aims to enhance healthcare quality and improve people’s health by building a resilient healthcare system.

In his prior roles within the Ministry of Health and Welfare from 2008 to 2023, including Director General of the Department of Medical Affairs, Director General of the Department of Planning, Secretary General, and Vice Minister, Dr. Shih dedicated himself to patient safety and health quality, initiating reforms in system and regulation structures. He established mechanisms for reporting medical adverse events and mandated healthcare providers to implement quality and safety protocols. Dr. Shih also introduced the Tier System of Responsible Hospitals for Emergency Care, reducing emergency care congestion and establishing a well-connected healthcare network. Additionally, he implemented a post-graduate year training program (PGY) and successfully advocated for the inclusion of resident doctors in the Labor Standards Act, along with the implementation of telemedicine and regenerative medicine.

Dr. Shih earned his M.D. from Kaohsiung Medical University in 1991 and his Ph.D. from theInstitute of Health Policy and Management at National Taiwan University in 2006.

With over 10 years of clinical practice, Dr. Shih has been an adjunct assistant professor at both the College of Medicine and the College of Public Health at National Taiwan University since 2006. His expertise includes emergency medicine, patient safety, health quality, medical law, and public health policy.

Jeng-Sen Tseng

Attending Physician, Taichung Veterans General Hospital

Education andTraining

Education

Graduated from the doctoral program of the Institute of Biomedical Sciences, National Chung Hsing University
Graduated from the Department of Medicine, Private China Medical College

Experience

Attending Physician, Taichung Veterans General Hospital
Resident Physician, Department of Internal Medicine, Taichung Veterans General Hospital
Chief Physician, Department of Chest Medicine, Taichung Veterans General Hospital
Attending Physician, Department of Chest Medicine, Chiayi Veterans Hospital
Director, Intensive Care Center, Chiayi Veterans Hospital

Biography

Dr. Jeng-Sen Tseng graduated from China Medical University in Taiwan and completed his PHD program at Institute of Biomedical Sciences, National Chung Hsing University in Taiwan. Dr. Tseng, a pulmonologist, with dedication to the care of lung cancer patients, specializes in interventional pulmonology procedures, personalized lung cancer treatment, and lung cancer screening. In addition to the clinical practice, he delves into lung cancer studies including biomarker assessment, identification of drug resistant mechanisms, precision medicine, liquid biopsy, and basic lung cancer research. He has published more than 60 peer-reviewed articles in the fields of lung cancer and chest medicine. Dr. Tseng currently acts as the Associate Professor at Department of Post-Baccalaureate Medicine in National Chung Hsing University in Taichung and serves as the Director of Lung Cancer Comprehensive Care and Research Center at Taichung Veterans General Hospital.

Chiung-Zuei Chen

Member, Taiwan Society of pulmonary and critical care medicine

Education andTraining

Education

Department of Medicine, National Cheng Kung University

Experience

(Present)Clinical Associate Professor, Department of Internal Medicine, National Cheng Kung University School of Medicine

(Present)Attending Physician, Department of Thoracic Medicine, Department of Internal Medicine, National Cheng Kung University Hospital

National Jewish Health, Research associate, United States

Director of the Department of Internal Medicine, Douliu Branch, Chengdu Hospital

Biography

Dr. Chiung Zuei Chen is a Respirologist and Associate Professor at National Cheng Kung University (NCKU), and attending physician of the Division of Pulmonary Medicine, Department of Internal Medicine NCKU medical center, Tainan, Taiwan. The focus of his research is respiratory disease and main clinical interests on the management of chronic obstructive pulmonary disease (COPD). His research findings have published in the high impact journal such as European respiratory journal, Journal of the American Geriatrics Society, Respirology, Lung and Respiratory Medicine.

Tsai-Wang Huang

Professor, Tri-service General Hospital

Education andTraining

Current position

Professor, National Defense Medical Center (2021.08-)

Director of Management and Planning Office (2023.03.16-)

Education

1995-2002 M.D. : School of Medicine, National Defense Medical Center

2010-2017 Ph.D. : Institute of Medical Science, National Defense Medical Center

Professional Training and Employment

2004-2009 Residency train, Tri-Service General Hospital 2009-

present Attending surgeon, Division of Thoracic surgery

2004-2008 Assistant Professor, National Defense Medical Center

2008-2021 Associate Professor, National Defense Medical Center

2021-present Professor of Surgery, National Defense Medical Center

2013-2023 Chief of Thoracic Division, Tri-Service General Hospital

2022.11-2023.02 Temple University Hospital, Heart & Lung Transplantation center

Shuenn-Wen Kuo

Attending Physician, National Taiwan University Hospital

Education andTraining

Education

Thoracic and critical care researcher at Massachusetts General Hospital, Harvard Medical School, USA

PhD, Institute of Clinical Medicine, National Taiwan University School of Medicine

Department of Medicine, National Taiwan University School of Medicine **Experience**

(Present)Attending Physician, National Taiwan University Hospital

(Present)Adjunct Lecturer, Department of Surgery, National Taiwan University School of Medicine

Attending Physician, Department of Traumatology, National Taiwan University Hospital

Attending Physician, Surgical Intensive Care Unit, National Taiwan University Hospital Chief

Physician, Thoracic Surgery, National Taiwan University Hospital

Kuei-Pin Chung

Attending physician, Department of Laboratory Medicine, National Taiwan University Hospital

Education andTraining

Dr. Kuei-Pin Chung was graduated from Department of Medicine, National Taiwan University (1996-2003), and acquired the doctoral degree from Institute of Clinical Medicine, National Taiwan University (2012-2019). He received laboratory training in Dr. Augustine MK Choi's laboratory at Weill Cornell Medicine from 2015 through 2017. He is certificed as a pulmonary physician, a subspecialist of critical care medicine, and a clinical pathologist in Taiwan. Currently, he is an assistant professor at Laboratory Medicine, National Taiwan University Medical College. As for laboratory service, he signs the reports of protein electrophoresis and immunofixation electrophoresis, and develops the laboratory developed tests, including cell-free DNA mutation analysis, with his colleagues. His research focuses on exploration the mechanistic link between metabolic regulation and various human lung diseases, in particular acute respiratory distress syndrome and lung
fibrotic diseases.

Ching-Yao Yang

Attending Physician, Department of InternalMedicine, National Taiwan University Hospital

Education andTraining

Education

Graduated from Department of Medicine, National Taiwan University

Experience

(-present)Attending Physician, Department of Internal Medicine, National Taiwan University Hospital

Cheng-Yi Lee

Associate Researcher, Taiwan CDC, Ministry of Health and Welfare.

Education andTraining

Dr. Cheng-Yi LEE is an infectious disease epidemiologist and associate researcher with field experience in Tuberculosis, SARS, Dengue Fever, and COVID-19. Dr. Lee has servedin the Taiwan CDC for more than 20 years, and he is also a senior officer in Taiwan's WHO IHR (International Health Regulations) Focal Point Office. Dr. Lee's research interests are health policy evaluation, vaccine effectiveness, COVID-19, TB, excess mortality, and health economics.

Ta-Chien Chan

Research Fellow/Professor, Academia Sinica

Education andTraining

Dr. Ta-Chien Chan is an executive officer and research fellow at the Center for Geographic Information Science of Research Center for Humanities and Social Sciences (RCHSS) and currently serve as a deputy director of RCHSS in Academia Sinica since 2023. He graduated with a doctoral degree (Ph.D.) from the Institute of Epidemiology, National Taiwan University in 2010. Dr. Chan is an interdisciplinary scholar in both health and spatial science. He took advantage of these two specialties and devoted himself to interdisciplinary research. In recent years, Dr. Chan focused on infectious disease surveillance, health impacts from air pollution, noise and green space, and behavioral contagion through social networks. Starting from 2016, he has been building up a smart dengue surveillance system with epidemiological intelligences in seven cities of Taiwan to reduce the risk of dengue epidemics locally, and has won many prestigious information technology and smart city awards. He has also established community syndromic surveillance systems in Taipei City and Kaohsiung City since June 2018, playing a sentinel role in achieving the goal of precision public health. He has devoted his career not only to academic research but also to improving first-line public health systems.

Chuan-Chin Huang

Instructor, Brigham and Women's Hospital

Education andTraining

Education

2010 – 2014Harvard School of Public Health
Doctor of Science (D. Sc) Epidemiology

2012 – 2013Harvard School of Public Health
Master of Science (MS) Biostatistics

Experience

2014.10 –present Biostatistician, Brigham and Women's Hospital

2009.7 –2010.7Research Assistant, Academia Sinica, Taiwan

Biography

Chuan-Chin Huang, ScD initially trained in the fields of ecology and evolution before doing graduate work in epidemiology and biostatistics at the Harvard School of Public Health. His research focuses on understanding bacterial and host factors associated with the risk of TB infection and disease. His work integrates pathogen genomics, clinical and epidemiologic data from longitudinal field studies and spatial analysis. He is currently an instructor in the Division of Global Health Equity at Brigham and Women’s Hospital, Harvard Medical School.

Huyen Truong

Head Of The NTP Technical Division;

Deputy head of NTP steering department

/National Lung Hospital

Education and Training

I am the head of the NTP technical division . With the current position, I have contributed to develop technical guidelines, technical algorithms to standardize NTP activity implementation. Iam responsible to coordinate and supervise technical areas of the NTP to ensure quality and effectiveness of the technical activity performance. I am also a key contact person for LTBI management and implementation including National guideline for LTBI detection and treatmentdevelopment, training for lower levels, partners, Recording and reporting forms and supervision
checklist building, LTBI drug and commodity forecast, M&E.

Quynh Hoa Vu

Member of Strategy-Planning and Logistics Unit / Technical Unit, Vietnam National Lung Hospital / National Tb Control Program

Education and Training

Ms. Hoa has worked at Vietnam National Lung Hospital/ National Tuberculosis Control Program for 17 years. Previously, she had 3-year working experience as a project officer specializing in reproductive health at Vietnam Family Planning Association. Currently, Ms Hoa is a member of Strategy, Planning & Logistics Unit and Technical Unit of the National Tuberculosis Control Program. She has Master's degree in Public Health from Hanoi University of Public Health, Vietnam. Ms Hoa's areas of interest are planning for TB control activities, latent TB detection and treatment.

Ramon P. Basilio

Head, National Tuberculosis Reference Laboratory

Education and Training

Dr. Basilio, currently at the helm of the National Tuberculosis Reference Lab within the Research Institute for Tropical Medicine in the Philippines, brings a wealth of experience and expertise to his role. Prior to his leadership position, he served as the PMDT Medical Specialist in the Department of Health, where his responsibilities included coordinating operations for the TB Global Fund grant. Dr. Basilio has also contributed significantly as a PMDT Treatment Center Physician, showcasing his commitment to the field of tuberculosis management. His dedicated service spans various roles, reflecting a deep understanding of the intricacies involved in combating tuberculosis from a programmatic standpoint. With a strong background in TB management and TB diagnostics and a history of operational coordination and leadership, Dr. Basilio plays a pivotal role in advancing the research and initiatives aimed at addressing tuberculosis challenges in the Philippines.

Ya-Yen Yu

Director, Department Of Medical Laboratory, Changhua Hospital, Ministry Of Health And Welfare

Education and Training

Education

PhD, Institute of Medicine, Chung Shan Medical University, Taichung, Taiwan

Master, Institute of Biological Chemistry,National Yang-Ming University,Taipei, Taiwan

Bachelor, Medical Technology, National Yang-Ming University,Taipei, Taiwan Certification:Medical Technologist

Experience

Director of Clinical Laboratory, Ministry of Health and Welfare Changhua Hospital, Changhua ,Taiwan

Executive Director of Taiwan Society of Laboratory Medicine, New Taipei City, Taiwan

Chief technologist, Department of Laboratory medicine, Changhua Christian Hospital, Changhua,Taiwan

Yan Lin

Senior Advisor, International Union Against Tuberculosis and Lung Disease

Education and Training

Prof. Yan Lin is a medical doctor and professor of community health. Over the past decades, he worked with university teaching hospital, government and research institution. He had an assignment with the Stop TB Team in the WHO Western Pacific Region for 4-year before joining the International Union Against Tuberculosis and Lung Disease in 2005. Currently, he is senior advisor of the International Union Against Tuberculosis and Lung Disease and a consultant of TB Technical Advisory Group of WHO Western Pacific Region. His research focuses on risk factors and TB, quality assurance and program implementation. He has undertaken many researches in thefield of smoking cessation intervention for tuberculosis patients, diabetes related tuberculosis, infection control and post-TB health. Over 40 scientific paper in these field have been published in the peer reviewed journals.

Chia-Hsiang Li

Attending Physician, China Medical University, Taiwan

Education and Training

Education

Bachelor of Chinese Medicine, China University of Medical Sciences

Experience

China Medical University; Assistant Professor

Division of Pulmonary and Critical Care Medicine, Department of Internal Medicine, ChinaMedical University Hospital; Attending Physician

Division of Pulmonary and Critical Care Medicine, Department of Internal Medicine, ChinaMedical University Hospital; Chief Resident

Chinese Medicine, China Medical University; MD

Chih-Hsi Kuo

Attending physican of Department of Thoracic Medicine , Medicine Chang Gung University Hospital ,Taipei , Taiwan

Education and Training

Education

Taipei Medical University, Taiwan, MD in Medicine, 1999

Experience

2001-2004 Resident of Department of Internal , Medicine Chang Gung University Hospital ,Taipei , Taiwan

2004~2005 Fellow of Department of Thoracic Medicine, Medicine Chang Gung University Hospital ,Taipei , Taiwan

2006~now Attending doctor of Department of Thoracic Medicine , Medicine Chang Gung University Hospital ,Taipei , Taiwan

Yung-Hung Luo

Attending physican, Chest Medicine Department, Taipei Veterans GeneralHospital

Education and Training

Education

MD, National Yang-Ming University, Taiwan

Experience

- Now, Attending physician, Department of Chest medicine, Taipei Veterans General Hospital,
- Now, Secretary general, Taiwan lung cancer society, Taipei, Taiwan

Chien-Yueh Lee

Assistant Professor, National Taipei University of Technology

Education and Training

Education

National Taipei University of Technology · Department of Electrical Engineering

PhD**Experience**

My research directions focus on developing algorithms, analysis tools, and databases in bioinformatics. I have established several analysis tools and online systems for high-throughput technologies and completed the whole-genome maps of the indigenous pheasants in Taiwan. In addition, I used distributed computing technologies to develop tools and analyze massive whole-genome sequencing data. Currently, I am devoting considerable effort to developing methods for identifying tumor neoantigens and establishing a database of tumor neoantigens specific to the Taiwanese population, as wellas using deep-learning approaches to develop a novel method for predicting microRNA
targets and collaborating with clinical physicians on research related to metagenomics.

Chieh-Yin (Jenny) Wu

Research Associate, National Taiwan University

Education and Training

Education

NTU
Bachelor / Public Health (2009 - 2012)

NTU
Master / Epidemiology and Preventive Medicine (2013-2015)

Experience

Chieh-Yin (Jenny) Wu is a research associate at the Institute of Epidemiology and Preventive Medicine in National Taiwan University. Her research interest is mainly on infectious diseases, focusing on transmission of tuberculosis. She has been working onresearches related to risk factors of tuberculosis and is involved in a population-basedgenomic epidemiology project of tuberculosis in southern Taiwan.

Steven Su

Director Of Business Development, Unimed Healthcare Inc.

Education and Training

Education

PhD / University of Manchester (1996)

Experience

I received my PhD from the University of Manchester in the UK in 1996. Currently, I am Business Development Director of Unimed Healthcare Inc., mainly responsible for the Oxford Nanopore Technology plc Taiwan Distributor business.

I have been working for nearly 30 years, and I am very lucky to have the opportunity to follow my personal career plan. Ability to engage in work at different stages, including academic research (Academia Sinica, Taipei Medical University), production planning and management (Taiwan Sugar Research Institute), technology transfer and patent protection (Academia Sinica), administrative personnel management, factory construction application and planning, and foreign product agency Marketing planning and business promotion, international market business sales, marketing promotion, product and agent management (Affymetrix, USA), clinical testing laboratory management certification for over-the-counter biotech companies, clinical marketing, medical device industry entrepreneurship and other practical work experience. In the process of these inter-industry,government, academic and research work, I have accumulated personal experience of
failure, as well as successful examples.

MasahideOki

Chief, Department of Respiratory Medicine, Nagoya Medical Center

Education and Training

Education

2014: Shigeto Ikeda Memorial Award from the Japan Society for Respiratory Endoscopy
2016: WABIP Dumon Award from the World Association for Bronchology and Interventional Pulmonology Publication
2023: Kumagai Award from the Japanese Respiratory Society

The World Association for Bronchology and Interventional Pulmonology（WABIP）
American College of Clinical Pharmacy（ACCP）
American Thoracic Society（ATS） European
Respiratory Society（ERS） Editorial Board:
Journal of Thoracic Disease

Experience

Dr. Oki has been a chief of Department of Respiratory Medicine at National Hospital Organization Nagoya Medical Center since 2009. His main research interest is interventional pulmonology, and he has published a lot of papers in the field. He received Shigeto Ikeda Award from the Japan Society of Respiratory Endoscopy in 2014, the WABIP-Dumon Award from the World Association for Bronchology and Interventional Pulmonology in 2016, and Kumagai Award from the Japanese Respiratory Society in 2023.

Yuji Matsumoto

Chief Physician, National Cancer Center Hospital

Education and Training

Education

B.E. (Information Science) from Kyoto University in 1977.
M.E. (Information Science) from Kyoto University in 1979. Ph.D. (Information Science) from Kyoto University in 1990.

1979 to 1988 Researcher at Electrotechnical Laboratory, Machine Inference Section.
1984 to 1985: Academic Visitor at Imperial College of Science and Technology, Universityof London.
1985 to 1987: Deputy Chief of the First Section at the Institute of New GenerationComputer Technology.
1988 to 1989: Associate Professor at Data Processing Center, Kyoto University.
1989 to 1993: Associate Professor at Department of Electrical Engineering, Kyoto University.
1993 to date: Professor at Graduate School of Information Science, Nara Institute of Science and Technology

Experience

Yuji Matsumoto is a chief physician of Department of Endoscopy, Respiratory Endoscopy Division at National Cancer Center Hospital, Tokyo, Japan. He is involved in the largest number of respiratory endoscopic procedures in Japan each year and has reported many related publications. His recent major research topics include cryobiopsy for peripheral pulmonary lesions, for which he has received the APCB 2017 Travel Award, the APSR 2018 Young Investigator Award, and the APSR 2021 Assembly Education Award.

Lih-Yu Chang

Attending Physician, Internal Medicine Department, National Taiwan University Hospital, Hsinchu Branch

Education and Training

Education

Graduated from Department of Medicine, Taipei Medical UniversitySecond

Lieutenant Medical Officer, Coast Guard, Executive Yuan
Resident Physician, Department of Internal Medicine, National Taiwan University Schoolof Medicine Hospital
Chief Physician, Department of Chest, National Taiwan University School of Medicine Hospital
Short-term training in bronchoscopy at the National Cancer Center of Japan
Short-term training at the Thoracic Hospital of the University of Heidelberg, Germany
Hsinchu City Health Bureau Tuberculosis Disease Review Committee

Experience

I graduated from Taipei Medical University. My resident and fellow training was performed at National Taiwan University Hospital. Now, I work at Chest department, National Taiwan University Hospital, HsinChu branch. Besides, I am the current Secretary General of Taiwan Society of Tuberculosis and Lung Diseases (TSTLD), too. I received short-term training for interventional pulmonology at National Cancer Center, Japan and Thoraxklinik Heidelberg. As a chest physician, I focus on interventional pulmonology and tuberculosis. Introducing new technique for pulmonary disease diagnosis or treatment and managingdifficult-treated/ drug resistant tuberculosis are what I dedicated now.

Takehiro Izumo

Director, Japanese Red Cross Medical Center

Education and Training

Education

Kansai Medical University School of Medicine

Graduate School of Medicine Tokyo Women’s Medical University

Experience

Dr. Takeshiro Izumo, born in 1974, is a 49-year-old respiratory specialist and the Director of the Respiratory Medicine Department at the Japanese Red Cross Medical Center. Besideshis role as department head, he serves as Deputy Director of the Patient Support Room and Chairman of the Clinical Training Operations Committee. Graduating from Kansai MedicalUniversity in 2000, he completed his doctoral program at Tokyo Women's Medical University and held leadership roles at the National Cancer Center Hospital Japan before joining the Japanese Red Cross Medical Center in 2017. Dr. Izumo specializes in respiratory diseases, particularly lung cancer diagnosis and treatment, respiratory endoscopic interventions, asthma, and COPD. Recognized by organizations like the Japanese Respiratory Society, he is a certified specialist and instructor. His notable achievements include the American Thoracic Society Young Investigator Award, and he authored influential publications like "Respiratory Endoscopy" and "Pocket Guide for Lung Cancer Treatment," reflecting his dedication to respiratory medicine demonstrated through extensive involvement in medical societies and committees.

Shu-Min Lin

Director, Respiratory Therapy

Department,Taipei Chang Gung Memorial

Hospital

Education and Training

Education

Graduated from the Department of Medicine, Taipei Medical University

Experience

Professor at Tsinghua University

Attending physician at the associate professor level in the Department of Pulmonary Infection and Immune Pulmonary Diseases

Director of Respiratory Therapy Department