



**2020 TAAB  
VIRTUAL SYMPOSIUM  
TAIWANESE AMERICAN  
ASSOCIATION OF BIOTECHNOLOGY**

**DATES WEEKENDS  
FROM OCT.-DEC.**



**TAIWANESE  
AMERICAN  
ASSOCIATION OF  
BIOTECHNOLOGY**

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## ABOUT TAAB

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# 台美生技協會

**Taiwanese American Association of Biotechnology (TAAB)**

**P.O. Box 7864, Princeton, NJ 08543**

TAAB is a nonprofit association of scientists and professionals in academia, research institutions, biomedical industries, and government agencies. These members vary in stages of their careers, ranging from graduate students, junior and senior scientists, industry managements to corporate executives.

### *Our Missions*

To promote biotechnology exchanges and business cooperation between the United States and Taiwan.

To promote communication, coordination, and collaboration amongst scientists, policymakers, corporate leaders, and educators in the United States and Taiwan in the biotechnology space.

### *Our Objectives*

To provide a network for Taiwanese Americans in the biotech/pharma field where members can communicate and exchange information and ideas.



To provide expertise of the field to help solve problems for other members.



To support career development of members.



To promote and accelerate development of Taiwan's biotech/pharma industry.



To provide the expertise, consultation, and leadership to Taiwan's biotech/pharma industry.



To serve as a billboard for prospective biotech/pharma employers of Taiwan to announce current job opportunities in the USA.



## GREETINGS FROM SYMPOSIUM CHAIR

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Dear 2020 TAAB Symposium Participants,

On behalf of the Board of Directors of Taiwanese American Association of Pharmaceutical Sciences (TAAB), I sincerely welcome you to the 2020 TAAB Symposium. This is an important year for pharmaceuticals and biotechnology-related fields. Around the world, breakthroughs in gene and cell therapies and precision medicine offer unprecedented promises for unmet medical needs and enormous impacts on patients. In Taiwan, the government has designated biomedical industry as part of its industrial innovation plan to stimulate economic development. In the last few years, the Taiwanese government has invested significant efforts to improve necessary R&D infrastructure, created science parks, lowered regulatory hurdles and attracted new ideas and investments.

This year we will discuss breakthroughs in detection and treatment for COVID-19, innovative medicines in immunotherapy and medical devices. Speakers from academic, public, and private sectors in the US and Taiwan will share their experiences and knowledge. In particular, Shih-Chung Chen, Commander of Central Epidemic Command Center (CECC) and Minister of Health and Welfare, and Tsung-Yen Chen, Deputy commander of CECC and Deputy Minister of the Interior, will share their success stories of Taiwan's response to the COVID-19 pandemic. Of course, we won't forget the most popular Career Development Panels. Let's leave the comfort zone and advance our careers together!

Due to the global COVID-19 pandemic, the Symposium will be held virtually via WebEx on the weekends from October to the first weekend of December. I am looking forward to meeting you at the 2020 TAAB Symposium.

Sincerely,

Chun-Ping (Zoey) Chang



## SYMPOSIUM SCHEDULE

### 2020 Symposium Main Program (Parts 1&2) (Time Zone: ET)

#### Opening Remarks & Immunotherapies October 03 (Sat) 16:00-18:00

##### Opening Remarks

**Mark Kao, Ph.D.** President, TAAB

##### **Challenges and Opportunities in the Chemistry, Manufacturing & Control of Gene and Cell Therapies**

**David Y.H. Chang, Ph.D.**, Chief Executive Officer  
WuXi AppTec Advanced Therapies Business Unit

##### **The Establishment of Immuno-Oncology as the 4th Pillar of Cancer Treatment**

**Arvin Yang, M.D. Ph.D.**, Vice President and Head  
Hematology Clinical Development at Bristol-Myers Squibb

#### Medical Devices/Materials October 10 (Sat) 15:30-17:45

**From Patient Charts to Term Sheets: Building A Medtech Startup from An Idea**  
**Albert Huang, M.D.** Chief Executive Officer at Allotrope Medical Inc.

**AI Empowered Telehealth model**  
**KJ Yang, Ph.D.** Chief Executive Officer at KuraCare

**Rapid Generation of Production Cell Lines with Superior Titers and >99% Monoclonality for Complex Antibody Molecules**  
**Ke-Chih Lin, Ph.D.** Applications Engineer at Berkeley Lights

#### COVID-19 Overview and Virus-Host Interaction October 17 (Sat) 16:00-18:00

**COVID-19 Therapeutics and Vaccine Development Status Update**  
**Mark Kao, Ph.D.** President, TAAB

**COVID-19 Genomics and Beyond**  
**Sheng-Chih (Peter) Jin, Ph.D.** Assistant Professor, Washington University School of Medicine

**Pre-existing T Cells in Vaccination and Relevance to SARS-CoV-2**  
**Laura Su, MD. Ph.D.** Assistant Professor of Medicine, University of Pennsylvania



**COVID-19 Clinical Frontline**  
**October 24 (Sat) 16:00-18:00**

***NYC in the Time of COVID-19***

***Ee Tay, M.D.*** Clinical Site Chief for NYC Health+Hospital/Bellevue Pediatric Emergency Services, Assistant Professor of Emergency Medicine and Pediatrics at NYU School of Medicine

***Integrated Clinical Pathways: Bringing Evidence and Guidance to the Frontline in the COVID-19 Pandemic***

***Cheng-Kai Kao, M.D.*** Hospital Medicine Physician, Associate Chief Medical Information Officer, University of Chicago Medicine

**The Story of Taiwan National Health Command Center**  
**October 25 (Sun) 21:00-22:00**

**The Story of Taiwan National Health Command Center**

***Tsung-Yen Chen 陳宗彥***

*Deputy Commander of Central Epidemic Command Center & Deputy Minister of the Interior*

*Political Deputy Minister, Ministry of the Interior, Taiwan*

**COVID-19 Detection, Vaccination and Beyond**  
**October 31 (Sat) 20:00-22:00**

***Diagnosis of COVID-19: Can We Catch Them All?***

***Alex Hung, Ph.D.*** Head of Protein Science Department Mesa Biotech

***An Integrated Platform for Virus Detection and Vaccine Production: A novel Solution for COVID-19***

***Yu-Chan Chao 趙裕展, Ph.D.*** Research Fellow at Institute of Molecular Biology, Academia Sinica; Distinguished Research Fellow, Ministry of Science and Technology

**The Story of Taiwan National Health Command Center**  
**November 01 (Sun) 20:00-21:00**

**The Story of Taiwan National Health Command Center**

***Shih-Chung Chen 陳時中***

*Commander of Central Epidemic Command Center & Minister of Health and Welfare  
Minister of Health and Welfare, Taiwan*



## 2020 Career Development Panels (Part 3) (Time Zone: ET)

### Leaving Your Comfort Zone: First Industry Job November 07 (Sat) 16:00-17:30

#### Opening Remarks & Introduction

*Hsiao-Ling Hung, Ph.D. Senior Director, Regulatory Sciences at Bristol-Myers Squibb*

#### Panelists

*Chiamin Liao-Bullaughy, Ph.D. Scientific Expert at Century Therapeutics*

*Cheng-Han James Chung, Ph.D. Postdoctoral research fellow at Pfizer*

### Strategy for Career Advancement November 14 (Sat) 16:00-17:00

#### Panelists

*Xianglin (Alex) Zhai, Ph.D. Scientist at GlaxoSmithKline*

*Yu-Chih Jay Hsu, Ph.D. Director at WuXi Biologics*

### Alternative Career Paths: A World Outside the Lab November 21 (Sat) 16:00-17:30

#### Panelists

*Takashi Nakamura, Ph.D. Candidate, University of Pennsylvania*

*Brandon Chan, Ph.D. Patent Attorney, Duane Morris LLP*

*Shaoyu Chang, M.D. MPH, Associate Director, Innovation and External Research, Vertex Pharmaceuticals*

### Starting your Lab-Journey of Becoming A Principal Investigator December 05 (Sat) 16:00-17:00

#### Panelists

*Catherine Pei-Ju Lu, Ph.D. Assistant Professor Hansjorg Wyss Department of Plastic Surgery and Cell Biology, New York University School of Medicine*

*Stanley Chun-Wei Lee, Ph.D. Assistant Professor  
Fred Hutchinson Cancer Research Center*







## OPENING REMARKS

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**Mark Kao 高龍榮, Ph.D.**

PRESIDENT OF TAAB

Dear Colleagues,

On behalf of the Board of Directors of Taiwanese American Association of Biotechnology (TAAB), I sincerely invite you to join the 2020 TAAB Symposium, which will be held from October through December. Due to the global COVID-19 pandemic, the 2020 TAAB Symposium will be held via WebEx over several weekends.

With months of planning and unwavering dedications of the symposium planning team, we will discuss breakthroughs in the areas of detection, treatment and related subjects on COVID-19, innovative medicines in immunotherapy and medical devices. Speakers from academic, public, and private sectors in the US and Taiwan will share their experiences and knowledge on those topics. Taiwan's Minister of Health and Welfare, Shih-Chung Chen (陳時中), is also invited to share the success stories from the Taiwan Central Epidemic Command Center in response to the COVID-19 pandemic. Equally important, sessions dedicated to career development for young researchers will be held in November and December.

Earlier this Year, the TAAB Board decided to change our organization name from Taiwanese American Association of Pharmaceutical Sciences (TAAP) to Taiwanese American Association of Biotechnology (TAAB). The purpose of this change was to expand our scope and reflect our mission better so that our colleagues working in the medical device, diagnostics and biopharmaceutical related fields will also feel welcome at TAAB.



2020 TAAB Symposium

You can find symposium program, speakers, and brief descriptions in the following program summary. I am looking forward to meeting you virtually at the 2020 TAAB Symposium.

Sincerely yours,

Mark Long-Rong Kao, Ph.D.

President, TAAB



## PARTS 1&2- SYMPOSIUM MAIN PROGRAM

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### IMMUNOTHERAPIES

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#### CHALLENGES AND OPPORTUNITIES IN THE CHEMISTRY, MANUFACTURING & CONTROL OF GENE AND CELL THERAPIES.

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#### **David Y.H. Chang 張幼翔, Ph.D.**

*CHIEF EXECUTIVE OFFICER*

*WUXI APPTec ADVANCED THERAPIES BUSINESS UNIT*

Dr. David Y. H. Chang is currently CEO at WuXi AppTec Advanced Therapies Business Unit. Dr. Chang has more than 30 years' experience in the biotechnology industry, experienced in bioprocess R&D, manufacturing operations, facility engineering, global strategy, and CMC regulatory. Prior to current role, he was Corporate VP and Head of Cell Therapy Global Manufacturing, of Celgene Corporation; the Global Head of Engineering and Strategy at Roche based in Basel, Switzerland; the VP/Site Head of Roche Shanghai Technical Operations in China. Earlier in his career, Dr. David Chang worked at Genentech as the Senior Director of Global Manufacturing Science and Technology, and as the Director of Process Development in its Oceanside, CA site. He was also formerly at Biogen Idec as Director of cell culture R&D, at BASF Bioresearch as a cell culture group leader, and Schering-Plough Research Institute as a process development engineer.

Dr. Chang obtained his Bachelor's degree in Chemical Engineering from National Taiwan University and Master's and Ph. D. degrees in Biochemical Engineering from Massachusetts Institute of Technology.



ABSTRACT

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Cell and gene therapies (CGT) have evolved to become mainstream modality owing to recent breakthrough success in treating genetic disorders and blood cancers. However, the CMC (Chemistry, Manufacturing and Control) efforts have encountered significant challenges, limiting patients' access to these life-saving therapies. Dr. David Chang will provide the overview of current challenges and opportunities in the CMC development effort to ensure the effective control of critical quality attributes, manufacturability, and reduced cost of goods.



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## THE ESTABLISHMENT OF IMMUNO-ONCOLOGY AS THE 4TH PILLAR OF CANCER TREATMENT

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### **Arvin Yang, M.D., Ph.D.**

*VICE PRESIDENT AND HEAD*

*HEMATOLOGY CLINICAL DEVELOPMENT AT BRISTOL-MYERS SQUIBB (BMS)*

Arvin Yang is currently the Vice President, Head of Clinical Hematology at Bristol-Myers Squibb Company. Previously, he was the Development Lead for Melanoma/Genitourinary (GU) Cancers at Bristol-Myers Squibb Company. In this role, Arvin was responsible for the vision and growth strategy for Melanoma and Genitourinary (GU) cancers including Renal Cell Carcinoma, Bladder, and Prostate Cancer. He joined BMS in 2010 and with prior roles including Early Asset Oncology Development Lead, as well as the Nivolumab-Ipilimumab Life Cycle Management Medical Lead.

Arvin has spent over 17 years focused on the development of immuno-oncology agents and drug development. He received his M.D. and Ph.D. in Tumor immunology from the University of Medicine and Dentistry of New Jersey. He completed his residency in Internal Medicine Residency at Beth Israel Deaconess Medical Center/Harvard Medical School Teaching Hospital followed by a Medical Oncology Fellowship at Memorial Sloan Kettering Cancer Center.



ABSTRACT

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Checkpoint inhibitors are now established as the 4<sup>th</sup> pillar of cancer therapy applicable to a broad spectrum of malignancies. An overview will be provided of the clinical challenges associated with development including assessment of clinical benefit, safety management and biomarker strategies. In addition, we'll discuss the future opportunities within immuno-oncology.



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**FROM PATIENT CHARTS TO TERM SHEETS: BUILDING A MEDTECH  
STARTUP FROM AN IDEA**

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***Albert Huang, M.D.***

*CHIEF EXECUTIVE OFFICER AT ALLOTROPE MEDICAL INC.*

Dr. Albert Huang is a surgeon and medtech entrepreneur in Houston, Texas. He has trained at world-class institutions and under world-renowned surgeons during his career, including the University of Rochester, Harvard, University of Pennsylvania, and Cornell.

He moved to Houston for general surgery training at the largest medical center in the world before transitioning full time in the field of medtech innovation when he founded Allotrope Medical Inc., a medical device company, based on a need he identified in the operating room.

Through his medtech experience and as the CEO of Allotrope Medical Inc., Albert has been awarded the National Science Foundation grant funding, received accolades and awards both in the surgical (taking Top Innovation at SAGES 2017) as well as the medtech community. He is also the only physician in Houston to have his company accepted into the prestigious Y-Combinator.

Albert has over a decade of entrepreneurial and innovation experience both in and out of the medical field and is always excited and willing to share the lessons he's learned with others pursuing the path of innovation.



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## AI EMPOWERED TELEHEALTH MODEL

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### ***KJ Yang, Ph.D.***

*CHIEF EXECUTIVE OFFICER AT KURACARE*

Dr. Yang received a Ph.D. for his work on A.I. on mobile chip design from the UCSD Electrical Engineering program in 2007 with a full scholarship from Qualcomm. Subsequently, he successfully commercialized his Ph.D. research with Qualcomm and deployed on multiple product lines. He has more than ten years of experience in product commercialization and business development in Qualcomm, where he managed multiple teams across various countries. Meanwhile, he also represented Qualcomm investing in several research and startup projects and successfully integrated them into Qualcomm's product lines. After leaving Qualcomm, he became devoted on angel investment in the healthcare sector and eventually established KURA CARE LLC in 2017, focusing on precision care for heart failure patients. He is currently a board of director of ZoeTek Inc., a company that provides medical-grade wearables, and CEO/founder of KURA CARE LLC.





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## RAPID GENERATION OF PRODUCTION CELL LINES WITH SUPERIOR TITERS AND >99% MONOCLONALITY FOR COMPLEX ANTIBODY MOLECULES

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### *Ke-Chih Lin, Ph.D.*

*APPLICATIONS ENGINEER AT BERKELEY LIGHTS*

Dr. Ke-Chih Lin is a research professional with extensive knowledge and experiences in microfabrication, microfluidic system development, biotechnology, and condensed matter physics. Dr. Lin has been working at Berkeley Lights since 2019 as an Applications Engineer, responsible for research and end-to-end workflow development involving precious sample handling, microfluidic-based assay development, workflow automation, and the invention of core intellectual property.

Prior to joining Berkeley Lights, he completed his undergraduate degree and M.S. in Physics at National Taiwan University, where he joined Prof. Minn-Tsong Lin's Group and studied spintronics and condensed matter physics. He later joined Prof. James Sturm's and Prof. Robert Austin's Lab in 2014 at Princeton University to further develop his interests in biotechnology. His primary work during Ph.D. studies was designing micro-engineered cell culture platforms that generate an in vitro landscape of stress heterogeneity, which allows for the observation of accelerated adaptation and evolution dynamics of multiple cell phenotypes in the cancer population.



**COVID-19 THERAPEUTICS AND VACCINE DEVELOPMENT STATUS UPDATE**

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**Long Rong (Mark) Kao 高龍榮**

**Ph.D.**

*PRESIDENT, TAAB*

Mark Kao is a toxicologist who graduated with a Ph.D. from North Carolina State University. He then held various research positions at NIEHS, Cornell University, Bayer, American Cyanamid, and Wyeth. He was the Scientific Director and a preclinical development leader at Janssen Pharmaceutical for almost two decades before retirement in 2020. He is currently the Principal of Kao Preclinical Consulting Inc. and the President of Taiwanese American Association of Biotechnology (TAAB), formerly known as Taiwanese American Association of Pharmaceutical Sciences (TAAP).

He is also the President of Formosan Association for Public Relations (FAPR). Previously, he served as National President of Formosan Association for Public Affairs (FAPA), a nonprofit advocacy organization headquartered in Washington, D.C. In addition, he was the chapter President of Taiwanese Association of America (TAA) in NJ, Kansas City, MO and Ithaca, NY. He also served as the Chairman of the Board of Directors for Chen Wen-Chen Memorial Foundation (CWCMF) for 15 years.



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## COVID-19 GENOMICS AND BEYOND

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**Sheng-Chih (Peter) Jin** 金聖智

**Ph.D.**

ASSISTANT PROFESSOR

WASHINGTON UNIVERSITY SCHOOL OF MEDICINE

[\(HTTPS://SCJIN.GITHUB.IO/\)](https://scjin.github.io/)

I am a human geneticist with a passion for developing computational and statistical methods to analyze large-scale genomic studies. My prior scientific training includes my Ph.D. work with advisors Drs. Alison Goate and Carlos Cruchaga, in which I performed deep sequencing in candidate Alzheimer's disease (AD) genes, analyzed AD-related endophenotypes and performed *in vitro* cell-based experiments to identify and functionally characterize novel genetic variants affecting AD risk. As a postdoctoral associate in the lab of Richard Lifton, I developed novel statistical models and bioinformatics pipelines to reveal the significant contribution of rare transmitted and *de novo* mutations on congenital heart disease risk. I also led genomic analyses and methodology development in several genetic studies of complex diseases for the Yale Center for Mendelian Genomics. More recently, I shifted my focus to reveal genetic etiologies of neurodevelopmental disorders. After working with multi-site genomics consortia, we identified novel genes and biological pathways contributing to congenital hydrocephalus, idiopathic cerebral palsy, and Vein of Galen malformation. I was then recruited back to Washington University School of Medicine as faculty in 2020. My lab is currently focused on the development and application of human genetics, bioinformatics, and functional genomics to a better understanding of complex genetic models driving neurodevelopmental disorders and COVID-19.



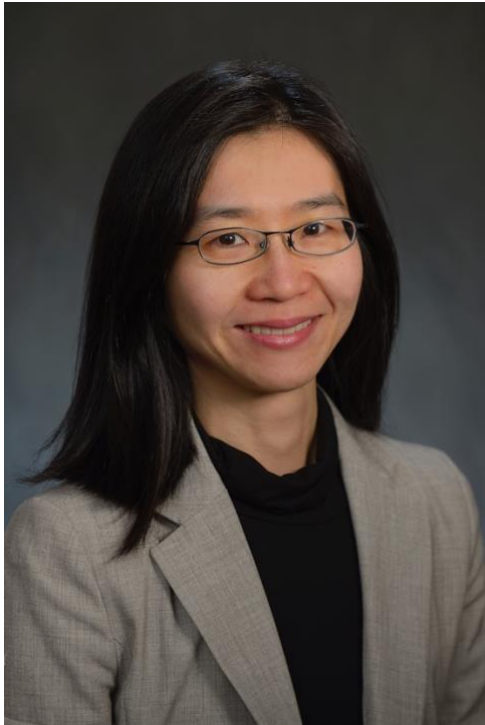
Individuals with COVID-19 have had a wide range of symptoms reported – ranging from mild symptoms to severe illness. Previous studies have shown that both host and viral genetics work together to influence the course of viral infections. Still, the mechanism and consequences of this interaction during COVID-19 infection remains unknown. It remains unclear why some people infected with COVID-19 are asymptomatic, whereas others require hospitalization. While comorbidities like asthma are known to influence the severity of symptoms during COVID-19 infection, medical comorbidities alone are insufficient to explain the spectrum of severity among COVID-19 patients. Therefore, several laboratories at Washington University (WashU) School of Medicine, including the Jin Lab, are working closely to understand the relative contribution of the host and viral genomes to the pathogenesis of COVID-19. We are utilizing an integrative genomics approach to study the genetic architecture and gene regulation network of SARS-CoV-2 and developing tools to support navigation, visualization, and interpretation of the viral omics data. In this webinar, Dr. Jin will give an overview of what we know about genetic susceptibility to COVID-19 and what our WashU Informatics team is working on to advance our understanding of the virus. Finally, Dr. Jin will share his firsthand experiences and observations from kicking off his lab in April 2020.



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## PRE-EXISTING T CELLS IN VACCINATION AND RELEVANCE TO SARS-COV-2

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### *Laura Su, M.D., Ph.D.*

ASSISTANT PROFESSOR OF MEDICINE  
UNIVERSITY OF PENNSYLVANIA

Dr. Laura Su is an Assistant Professor at the University of Pennsylvania. She has a long-standing interest in understanding how exposures to noninfectious microbes impact host response to pathogens. Her work showed for the first time that individuals have expanded and functional memory T cells to pathogens to which they have never been exposed. Studies from her lab use T cell receptor sequencing, mass cytometry, and tetramer-based T cell specificity analyses to delineate the complexity of human responses to vaccines, infections, and autoimmune diseases. She was born in Taiwan, received her bachelor's degree from Massachusetts Institute of Technology, MD. She then studied her Ph.D. from New York University, and followed by postdoctoral training from Stanford University. She is also a practicing physician with specialization in Rheumatology.

ABSTRACT

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The identification of memory T cells that can recognize SARS-CoV-2 before exposure has led to the speculation of pre-existing immunity, whereby memory T cells from past coronavirus infections would facilitate a faster and more robust response to SARS-CoV-2 to limit the severity of infection. However, how pre-exposure T cell characteristics impact human T cell response to a novel pathogen remains unknown. We have addressed this critical question by studying the CD4<sup>+</sup> T cell response in unexposed individuals to live attenuated yellow fever virus (YFV) vaccine. We quantified the virus-specific population dynamics over time using class II peptide-MHC tetramers. Our data revealed that, even in the absence of known viral exposure, clonally-expanded memory phenotype T cells were found in the majority of virus-specific precursors in healthy adults. Pre-existing memory T cells can be divided into cells that were abundant before vaccination but underwent limited overall expansion and ones that generated naïve-like responses and preferentially contributed to the memory repertoire after vaccination. Single-cell T cell receptor (TCR) sequencing was used to track the evolution of immune responses to different epitopes and showed an association between the preservation of unexpanded TCRs in the pre-exposure repertoire and the robustness of post-vaccine responses. Instead of a further increase in pre-established TCR clones, vaccination boosted the representation of rare TCRs.

Thus, vaccines restructure T cell epitope specificity and clonal hierarchy. Our results linked precursor states to post-exposure response, identifying peripheral education of virus-specific repertoire as a key component of effective vaccination.



NYC IN THE TIME OF COVID-19

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***Ee Tay, M.D.***

*CLINICAL SITE CHIEF FOR BELLEVUE HOSPITAL PEDIATRIC  
EMERGENCY MEDICINE*

*CLINICAL ASSISTANT PROFESSOR, RONALD O. PERELMAN  
DEPARTMENT OF EMERGENCY MEDICINE AT NYU*

*GROSSMAN SCHOOL OF MEDICINE*

*EMERGENCY MEDICINE ULTRASOUND*

*NEW YORK UNIVERSITY LANGONE MEDICAL CENTER*

Dr. Tay completed medical school at the University of Florida College of Medicine and completed her pediatric residency and fellowship in pediatric emergency medicine at the Albert Einstein College of Medicine and Children's Hospital at Montefiore in Bronx, New York. Dr. Tay continued her training in a pediatric emergency medicine ultrasound fellowship at the Icahn School of Medicine at Mount Sinai in New York City. Her current clinical research includes the use of ultrasound for appendicitis, pulmonary diseases, and soft tissue evaluations. Aside from her interests in ultrasound research and education, Dr. Tay has also amassed a large collection of medical photography from her patient contacts throughout her clinical career. She has been published in numerous research journals and books, and she has contributed numerous photographs and images for medical education. She is also an editor of *Pediatric Emergency Medicine Practice*.

During the COVID-19 pandemic, as a birthday plea, Dr. Tay organized and secured a donation of about 650 tablets to NYC Health + Hospitals/Bellevue so coronavirus patients can see and say goodbye to their loved ones at bedside.



ABSTRACT

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New York City was one of the first epicenters of the COVID-19 epidemic in the United States. Dr. Tay will speak to the unique roles of the New Year City public hospitals and set the context for their unique experiences and responses to the pandemic from the Emergency Room experience. She will also talk about how the New York Community bonded together to help battle the pandemic.

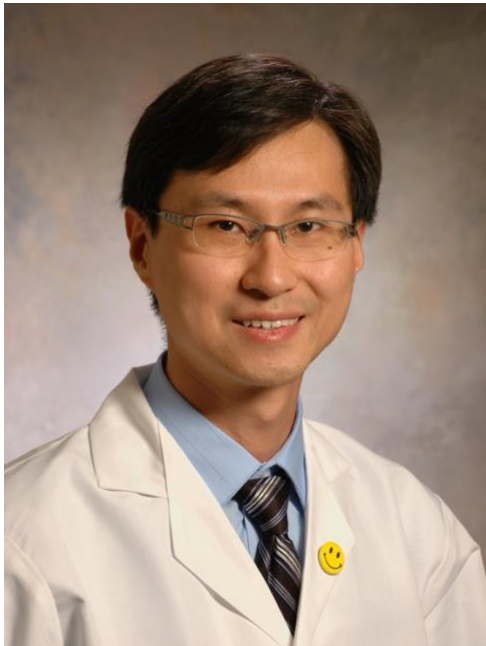




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## INTEGRATED CLINICAL PATHWAYS: BRINGING EVIDENCE AND GUIDANCE TO THE FRONTLINE IN THE COVID-19 PANDEMIC

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### *Cheng-Kai Kao, M.D., FACP, SFHM*

*ASSOCIATE PROFESSOR OF MEDICINE  
ASSOCIATE CHIEF MEDICAL INFORMATION OFFICER  
MEDICAL DIRECTOR, OFFICE OF INTERNATIONAL  
PROGRAMS  
UNIVERSITY OF CHICAGO MEDICINE*

Cheng-Kai Kao, MD, is an academic hospitalist board-certified in clinical informatics. In addition to clinical practice and residency education, his areas of interest in informatics include clinical decision support, mobile health, data analytics, and healthcare innovation. As associate chief medical information officer, he leads multiple initiatives that leverage information technology to provide decision support for the frontline clinicians to ensure patient safety, optimize clinical workflow to increase work efficiency, enhance usability of the electronic health record system to reduce screen time and make innovations to improve care quality and patient experience. He is the site co-principal investigator of a two-year AHRQ initiative to develop, implement, and evaluate electronic tools to promote shared decision-making between patients and their providers for managing chronic pain. He is the instructor at Pritzker School of Medicine and Graham School master program of biomedical informatics for clinical decision support systems, and healthcare innovation and entrepreneurship courses at the University of Chicago.

Dr. Kao also serves as the medical director in the office of international programs. He oversees the clinical course of international patients worldwide, optimizes their care quality and patient experience, promotes the knowledge transfer service, and fosters collaboration with overseas academic medical centers and healthcare organizations.

Dr. Kao is also the site principal investigator of several phase III clinical trials on novel oral anticoagulants, one of which led to the FDA approval of the new oral anticoagulant Betrixaban. Dr. Kao is named Top Hospitalist by the American College of Physicians Hospitalist magazine in 2017.



ABSTRACT

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COVID-19 has posed unprecedented challenges to the frontline healthcare providers and hospital leaders. In this talk, Dr. Kao will share the experience of treating COVID-19 patients at the bedside, discuss the clinical care and operational conundrums, and talk about how the integrated clinical pathway system helped the frontline providers at the University of Chicago Medicine overcome the hurdles in the battle against COVID-19.



## *Tsung-Yen Chen*

*陳宗彥*

*DEPUTY COMMANDER OF CENTRAL EPIDEMIC  
COMMAND CENTER  
POLITICAL DEPUTY MINISTER, MINISTRY OF THE  
INTERIOR, TAIWAN*

**Education:**

Master's Degree, Department of Urban Planning and Spatial Information, Feng Chia University

**Experience:**

Deputy Director, Frontier Taiwan Provincial Government Research Institute

Executive Secretary, Dali City Office

Committee Member, Dali City Urban Planning Committee

Senior Executive Officer and Spokesman, Governor's Office, Taiwan Provincial Government

Spokesperson, Hualien County Government

Council member, Tainan City Council

Central Review Committee Member, Democratic Progressive Party

Director, Department of Information International Relations, Tainan City Government

Director, Bureau of Civil Affairs Tainan City Government



## *Shih-Chung Chen*

*陳時中, D.D.S.*

*COMMANDER OF CENTRAL EPIDEMIC COMMAND CENTER*

*MINISTER OF HEALTH AND WELFARE, TAIWAN*

**Education:**

D.D.S, School of Dentistry, Taipei Medical College

**Experience:**

Minister of Health and Welfare

National Policy Advisor to the President

Director, Taipei Medical University

Consultant, Taiwan Dental Association

Consultant, Taipei City Dentists Association

Deputy Minister, Department of Health, Executive Yuan

Commissioner, National Health Insurance Medical Expenditure Negotiation Committee, DOH

Commissioner, National Health Insurance Supervisory Committee, DOH

Executive Director, Chief Executive Officer, Taiwan Dental Association

Commissioner, Dentist Advisory Committee, DOH

President, Taiwan Dental Association

Commissioner, Medical Review Committee, Taipei City Health Department

President, Taipei City Dentists Association

Executive Director, Taipei City Dentists Association

Director, Taipei City Dentists Association



**DIAGNOSIS OF COVID-19: CAN WE CATCH THEM ALL?**

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**Alex Hung, Ph.D.**

*HEAD OF PROTEIN SCIENCE DEPARTMENT  
MESA BIOTECH*

Dr. Hung currently serves as the Head of Protein Science Department of Mesa Biotech. He leads R&D projects and oversees the manufacturing process of protein enzymes for the development of rapid molecular tests. Mesa Biotech recently received EUA (Emergency Use Authorization) from FDA for their Accula SARS-CoV-2 Test for COVID-19 diagnosis. Mesa's Accula SARS-CoV-2 Test is one of the very few CLIA-waived Point-of-Care (POC) rapid molecular tests on FDA's COVID-19 in vitro diagnostics EUA list.

Prior to joining Mesa, Dr. Hung obtained his Ph.D. degree in Biology from UC San Diego (UCSD) and then did his postdoctoral training in Sanford Burnham Prebys Medical Discovery Institute (SBP) and San Diego State University (SDSU) studying non-coding RNA functions and stem cell biology. Dr. Hung received his B.S. degree from National Cheng-Kung University (NCKU) in Taiwan.



ABSTRACT

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The unprecedented COVID-19 pandemic has become a nightmare of all human beings on Earth. Among tools used to combat this invisible enemy, a reliable testing method has proven to be critical for controlling the spread of SARS-CoV-2, the virus that causes this pandemic, especially when the outbreak is still at an early stage or when regions transition to reopening. How to accurately identify infected persons in a timely manner thus has become one of the most challenging tasks in this battle.

In this talk, Dr. Hung will explain why a reliable testing method is important for controlling the pandemic. He will then go over what kind of testing methods can be used for this purpose and discuss their pros and cons. He will also talk about how we decide to choose which method to use according to the progress of the disease and phases of the outbreak.

Next, Dr. Hung will introduce several COVID-19 test methods that have been granted EUA (Emergency Use Authorization) from FDA in the U.S. and available for diagnostic use, and what the differences among those tests are. He will also talk on how testing has been done in the U.S. and suggest what more we can do to further improve the scale of testing and its efficiency.

Lastly, Dr. Hung will discuss what we have learned from the testing results in the U.S. and other countries. Combined with other medical data, we can then have a better understanding of the nature of this disease and the susceptibility to this disease for different groups of people and communities, whether the mitigation approaches work in specific regions and countries, and what phases we are in in this global pandemic.



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AN INTEGRATED PLATFORM FOR VIRUS DETECTION AND VACCINE  
PRODUCTION: APPLICATIONS FOR COVID-19

病毒檢測及疫苗同步產生平台：創造新冠肺炎新解方

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**Yu-Chan Chao 趙裕展, Ph.D.**

RESEARCH FELLOW AT INSTITUTE OF MOLECULAR  
BIOLOGY, ACADEMIA SINICA  
DISTINGUISHED RESEARCH FELLOW, MINISTRY OF  
SCIENCE AND TECHNOLOGY, TAIWAN

Dr. Yu-Chan Chao received his Ph.D. from the Department of Entomology, University of Arkansas, and completed his postdoctoral training at Cold Spring Harbor Laboratory and Cornell University. He is currently a Research Fellow at the Institute of Molecular Biology at Academia Sinica in Taipei, Taiwan, ROC. He is also a joint Chair professor of National Chung-Hsing University and was selected as an Outstanding Research Fellow by the Ministry of Science and Technology of Taiwan. Dr. Chao has been studying insect virology for long years, especially focusing on baculovirus gene regulation, protein engineering, and baculovirus-mediated membrane protein presentation. He has also published many papers in the *Journal of Virology* and other journals (including *Nature*). In addition to scientific activities, Dr. Chao served as the Deputy Director of the Institute of Molecular Biology from 2002 to 2005 and Dean of the College of Life Sciences at National Chung Hsing University from 2005 to 2007. He has served as an editor for several journals, including the *Journal of Virology* (2015-2021). He is currently a council member of the International Congress of Entomology.



ABSTRACT

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The severe coronavirus disease COVID-19 caused by SARS-CoV-2 has spread worldwide and significantly affects human lives. To tackle it, we have developed a combined detection and vaccination system. We displayed both spike (S) and nucleocapsid (N) proteins from SARS-CoV-2 either on the envelope of baculovirus or insect cell membranes. Insect cells displaying S or N proteins were then used to generate a cell-based ELISA (C-ELISA) that accurately detects COVID-19 in patient sera. Furthermore, baculovirus presenting S (S-Bac) or N (N-Bac) proteins represent immediate vector vaccines for disease prevention. Since this combined platform circumvents the protein purification process inherent to conventional ELISA and membrane-displayed proteins maintain appropriate conformations, our system provides superior serum detection and vaccine applications. We have also used baculovirus to construct an antigen library in which all major antigens from 29 human/animal-infecting virus families are displayed on insect cells. This antigen library can be used as a comprehensive detection system for various patient sera. Moreover, if our library detects an unknown disease, the corresponding viral antigen can be displayed on baculovirus as a vaccine. Thus, our comprehensive vaccine-ready detection system is an innovative breakthrough not only for the control of COVID-19 but also other emerging viral diseases.





TAAB Virtual Symposium Part 3

**2020**

**NOV. 07 –**

**DEC. 05** Sat.

**Career Development Panels**



Taiwanese American Association  
of Biotechnology (TAAB)



# PART 3-CAREER DEVELOPMENT PANELS

## OPENING REMARKS & INTRODUCTION



**Hsiao-Ling Hung, 洪筱玲, Ph.D.**

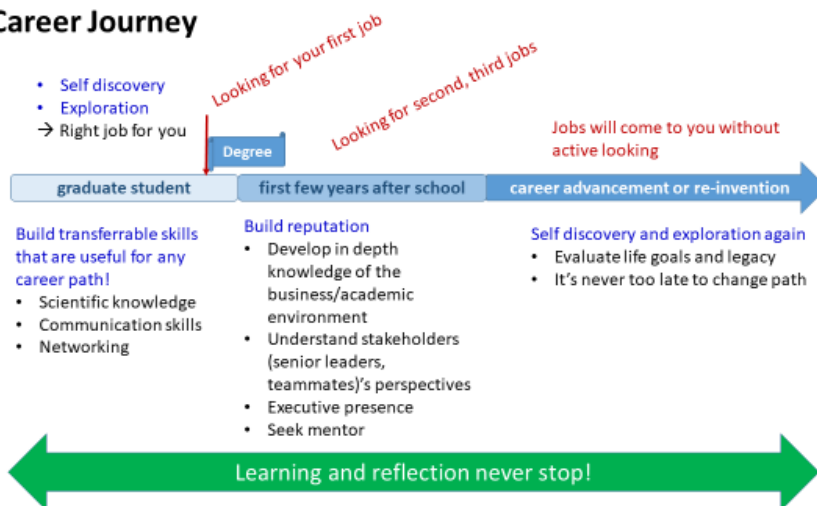
**RAC**

SENIOR DIRECTOR, GLOBAL REGULATORY SCIENCES AT BRISTOL-MYERS SQUIBB COMPANY

Hsiao-Ling is currently a Senior Director, Global Regulatory Team Leader in Immuno-Oncology at Bristol-Myers Squibb. Prior to joining BMS in May 2019, Hsiao-Ling spent ten years at Johnson & Johnson in Oncology Regulatory. Prior to J&J, Hsiao-Ling was a scientist conducting discovery and preclinical research in the biotech sector. She earned her Ph.D. in Pathology and Molecular Biology from the University of Pennsylvania and B.S. in Medical Technology from National Taiwan University.

Hsiao-Ling will kick off the career development forum using the framework below.

### Career Journey





## ***Chiamin Liao-Bullaughy***

***廖家敏, Ph.D.***

*SCIENTIFIC EXPERT AT CENTURY THERAPEUTICS*

Chiamin Liao Bullaughey is currently a scientific expert at Century Therapeutics, a company that focuses on using human iPSC derived immune effector cells for cell therapy treating human cancer diseases. Prior to Century Therapeutics, she obtained her postdoctoral fellowship at Children's Hospital of Philadelphia and Human Stem Cell Core Facility. She received her Ph.D. in Immunology at Northwestern University and University of Chicago.



## ***Cheng-Han James Chung***

***鍾承翰, Ph.D.***

*POSTDOCTORAL RESEARCH FELLOW AT PFIZER*

Cheng-Han Chung has long been interested in the studies of infectious disease and underlying mechanisms of chronic infection. He has also grown experience in bioinformatic research, including algorithmic and tool development, as well as high-throughput data analyses. James obtained his Ph.D. degree in Microbiology and Immunology at Drexel University College of Medicine, along with a Graduate Minor in Bioinformatics in early 2020. He joined the industrial postdoctoral program at Pfizer 3 days after his thesis defense.



**Xianglin (Alex) Zhai** 翟相林,

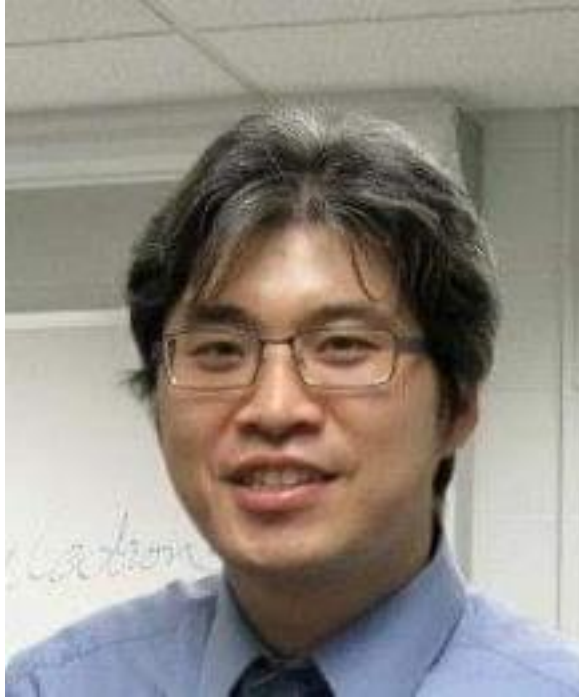
**Ph.D.**

SCIENTIST AT GLAXO SMITH KLINE (GSK)

Dr. Zhai is a scientist at GSK. His research focus is on biologics characterization using LC-MS/MS. He earned his Ph.D. in Chemistry from Louisiana State University (LSU) in 2016 and Master's degree in Material Science from Northeast Forestry University in 2009. He has 19 publications and received four honors and awards.

Before GSK, Dr. Zhai spent about five years in LSU to develop surface modification techniques and characterization by scanning probe techniques such as Atomic Force Microscope (AFM). After completing his Ph.D., he first started his industry career at Pochon Scientific LLC and studied proteomics using mass spectrometry. About two years later, he spent nearly a year at Bristol-Myers Squibb and focused on developing LC-MS/MS technologies for drug discovery and development.

Dr. Zhai graduated with a Chemistry Ph.D. in 2016 from LSU. Within the next four years, he managed to hop from job to job with three different companies. He will share his story on how he landed his first industry job and then worked his way up.



**Yu-Chih Jay Hsu 徐裕智,  
Ph.D.**

*DIRECTOR AT WUXI BIOLOGICS*

Jay is a director of potency assay at WuXi Biologics. His recent studies focused on vaccine analytic science and process development. Prior to joining WuXi Biologics,

Jay spent six years at GSK on multiple bioanalytical science projects, including cell-based assay development for small molecules and antibodies, automation, immunoassay, and GMP documentation. He completed his postdoc training at Eli Lilly and Company and received his Ph.D. in biochemistry at SUNY, Buffalo.



## ALTERNATIVE CAREER PATHS: A WORLD OUTSIDE THE LAB

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### **Shaoyu Chang 張劭聿 MD, MPH**

*ASSOCIATE DIRECTOR, INNOVATION AND EXTERNAL RESEARCH, VERTEX PHARMACEUTICALS*

With a passion for biomedical innovation, Dr. Shaoyu Chang builds and supports communities of innovators throughout Vertex Pharmaceuticals to generate new, value-adding solutions to organizational needs. Previously, Shaoyu served as Principal at FC Capital, where he took an active leadership role in the full life cycle of investment with portfolio companies in the US and EU. FC Capital is a cross-border venture capital fund specializing in early-stage healthcare and life sciences innovations. Prior to FC, Shaoyu was Investment Manager at VI Ventures, a Hong Kong-based healthcare VC firm, where he sourced and evaluated biotech and medtech opportunities across the United States. Shaoyu began his industry career at Life Science Nation. As Director of Investor Research, Shaoyu established an Asian investor network across Japan, Korea, Taiwan, Hong Kong, and China. In academia, Shaoyu served as Research Scholar at Sanford School of Public Policy at Duke University. His research was focused on global health and technology access. Shaoyu received Master of Public Health (MPH) from Harvard T.H. Chan School of Public Health and M.D. from National Taiwan University. Additionally, Shaoyu is US Regulatory Affairs Certified (RAC) with robust knowledge in clinical trials and pharmaceutical development.





## **Brandon Chan 陳浩傳, Ph.D.**

*PATENT ATTORNEY, DUANE MORRIS LLP*

Dr. Chan is a patent attorney at the New York office of Duane Morris LLP and represents clients in all aspects of intellectual property law. Dr. Chan assists in the preparation and prosecution of patent applications in technologies ranging from biotech and chemical to pharmaceuticals and design and counsels clients regarding freedom-to-operate. Dr. Chan also assists clients in obtaining trademark protection and in protecting their intellectual property rights against allegations of infringement. Dr. Chan is admitted to practice law in New York and New Jersey and is admitted to practice before the United States Patent and Trademark Office.

Prior to attending law school, Dr. Chan participated in research focusing on the synthesis and characterization of biopolymers, namely biomimetic polymers, including polypeptides and polypeptoids. Polypeptoids are structural mimics of naturally occurring peptides and proteins, which confer properties such as biocompatibility and biodegradability, rendering such polymers ideal candidates as scaffolds in biomedical applications. Dr. Chan's research focused on the small molecule synthesis of the corresponding monomers, new polymerization techniques to obtain a well-defined series of biomimetic polymers, and subsequent characterization of the polymers. Dr. Chan is a co-author of a number of peer-reviewed publications and is named as a co-inventor on US Patent No. 10,519,278 drawn to the polymerization of polypeptides.

Dr. Chan spent nearly a decade engaged in chemistry and chemical research and decided to attend law school following completion of his Ph.D. Dr. Chan received his B.S. in Chemistry from the University of Michigan in 2009 and received his Ph.D. in chemistry in 2016. While in law school, Dr. Chan served as Senior Managing Editor of the *Michigan State Law Review* and participated in the International Patent Drafting Competition. In the summer between his second and third year of law school, Dr. Chan worked as a summer associate at Duane Morris LLP. Dr. Chan received his J.D. in 2019 from Michigan State University College of Law and (re)joined the New York office of Duane Morris LLP in September 2019 as an associate attorney. He will share the story of his unconventional career transition from a bench scientist to an attorney at a national law firm.



**Takashi Nakamura** 中村昂,

**Ph.D. Candidate**

UNIVERSITY OF PENNSYLVANIA

Takashi Nakamura is an aspiring management consultant with scientist by training. Takashi completed the B.S. in Chemistry at the University of Tokyo in Japan. He is currently a 6th year Ph.D. candidate at the University of Pennsylvania in Philadelphia, where he studies the molecular mechanisms of breast cancer dormancy and metastasis using mouse models. While at Penn, he has been an active member of the Penn Biotech Group Healthcare Consulting club, where he discovered the broader potential of scientific thinking in business settings. He has also been an active member of Philly Open Soccer, a volunteer group teaching youth soccer in under-resourced schools in the West Philadelphia area. In his leisure time, he enjoys running, cooking, and making fresh coffee.





## STARTING YOUR LAB-JOURNEY OF BECOMING A PRINCIPAL INVESTIGATOR

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**Catherine Pei-Ju Lu 盧珮如,**

**Ph.D.**

*ASSISTANT PROFESSOR, HANSJORG WYSS DEPARTMENT  
OF PLASTIC SURGERY AND CELL BIOLOGY, NEW YORK  
UNIVERSITY SCHOOL OF MEDICINE*

Catherine Pei-Ju Lu is a stem cell biologist and currently an Assistant Professor at Hansjorg Wyss Department of Plastic Surgery and Cell Biology at New York University School of Medicine.

Catherine grew up in Taiwan and obtained her Bachelor's degree (Botany) at National Taiwan University in 2000. She then went to the U.S. to do her graduate study. Catherine joined Baylor College of Medicine first and then moved to New York University with her mentor and obtained a Ph.D. degree in Molecular Oncology and Immunology at New York University in 2008. Catherine then did postdoctoral training with Elaine Fuchs at Rockefeller University, where she demonstrated how skin decides to grow hairs or sweat glands. During her postdoctoral training, Catherine had her grant and published her first author papers on *Cell* (2012), *Science* (2016), and several co-author papers on *Cell* (3 *Cell* papers), and *Nature Cell Biology*. In July 2018, she established her lab at New York University School of Medicine. Her study is involved in the discovery of sweat gland stem cells, sweat gland regeneration, and glandular disorder.



## **Stanley Chun-Wei Lee 李俊緯,**

### **Ph.D.**

*ASSISTANT PROFESSOR, FRED HUTCHINSON CANCER RESEARCH CENTER*

Stanley Chun-Wei is a hematopoietic biologist and is currently an Assistant Professor in Clinical Research Division, Fred Hutchinson Cancer Research Center in Seattle. Stanley completed all his biomedical studies in either New Zealand or Australia, including a Bachelor's degree in Biomedical Science in 2005, a Master degree in Biomedical Science in 2007 at the University of Auckland, New Zealand, and a Ph.D. degree in Walter and Eliza Hall Institute of Medical Research, Melbourne, Australia in 2012. In 2014, he relocated to the U.S. to do his postdoctoral training with Omar Abdel-Wahab in Memorial Sloan Kettering Cancer Center in New York, where he demonstrated alterations spliceosomal gene change the susceptibility in hematologic malignancies. During his postdoctoral training, Stanley published his first author papers on *Blood* (2013, 2015, 2016), *Nature Medicine* (2016), *Cancer Cell* (2018) and several co-author papers and reviews. In October of 2019, he built his lab at Fred Hutch in Seattle. His study focuses on how disease-causing mutations impact the biology of hematopoietic stem and progenitor cells and how they drive disease progression and response to therapy. His ultimate goal is to translate this knowledge into novel treatments for patients with blood-related disorders.



# ORGANIZING COMMITTEE

## ADMINISTRATION

Symposium Chair- Chun-Ping (Zoey) Chang 張君平

## SYMPOSIUM MAIN PROGRAM

Chun-Ping Chang 張君平	Mark Kao 高龍榮	Allen Wang 王奕嵐	Hsiao-Ling Hung 洪筱玲	Tai-Yuan Yu 尤泰元
Su-Mei Kao 林素梅	Chen-Chao Wang 王震昭	Roger Luo 羅潔		

## CAREER DEVELOPMENT PANELS

Chunta Ho 何俊達	Hsiao-Ling Hung 洪筱玲	Chad Chiu 周家慶	Grace Huang 黃奕帷	Chun-Ping Chang 張君平
Albert Chao 趙品堯	Linda Peng 彭凱琳			

## PROMOTION

Chad Chou 周家慶	Shuling Cheng 鄭淑菱	Chunta Ho 何俊達	Grace Huang 黃奕帷	Yu-Han Lan 藍郁涵
Mandy Su 蘇楓琇	Scarlett Yang 楊雅晴			

## PLATFORM/LOGISTICS

Chun-Ping Chang 張君平	Roger Luo 羅潔	Tina Hou 侯婷譯
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## REGISTRATION

Chia-Hui Chen 陳家慧	Scarlett Yang 楊雅晴	Yu-Han Lan 藍郁涵
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## VISUAL COMMUNICATION/WEBSITE DESIGNERS

Annette Chiu 邱麗安	Nancy Lee 李維綸	Chad Chou 周家慶	Shuling Cheng 鄭淑菱
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## PROGRAM BOOK

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Chunta Ho  
何俊達

Hsiao-Ling Hung  
洪筱玲

Mandy Su  
蘇楓琇

Scarlett Yang  
楊雅晴

Albert Chao  
趙品堯

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## TREASURER

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Mandy Su  
蘇楓琇

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## FUNDRAISING

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Mark Kao  
高龍榮

Su-Mei Kao  
林素梅

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As the most experienced biopharmaceutical community, TAAB is the bridge for collaboration which promotes intellectual exchange, networking, and career development between the United States and Taiwan. TAAB membership connects you to a community of seasoned Taiwanese professionals serving in the industry, government, and academia worldwide. Our members work to facilitate intellectual conversation, share sound practices, inform public policies, and further contribute to the growth of Taiwan biotechnology industry.

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