

SYMPOSIUM ON INNOVATION & TECHNOLOGY 創新科技論壇 2020

A NEW CONNECTED WORLD BEYOND THE NEW NORMAL

互聯新世界 跨越新常態



: 16 / 11 / 2020 (Monday 星期一)

10:30am – 3:55pm / GMT+8



: English and Putonghua (With simultaneous interpretation service)

英語及普通話 (附設即時傳譯服務)

ONLINE Webinar

網上研討會

CPD Available\*

FREE REGISTRATION

**While the global citizens are adapting a new lifestyle with NEW NORMAL, how will the post pandemic world look like?**

當我們以科技融入社會，構築新的抗疫生活模式，未來世界將會是什麼新常態?

This Symposium will discuss how pivoting technologies will help combat the pandemic and create a better post pandemic world. Speakers will share their insights in different perspectives including the tech trends forecast, AI, 5G & Cloud Tech advancement, new consumer behaviour formation (e.g. work from home, e-learning, online shopping) and medical technology discovery.

Join us to find out more!

是次論壇將會就前瞻科技如何協助抗疫及提昇生活質素，邀請不同科技領域代表分享最新資訊。討論題目包括未來科技發展趨勢、人工智能、5G 及雲端技術應用、生活新常態(如在家工作、網上學習、網上購物)及藥用科技最新進展等。

請即登記以了解更多有關議題!

TIME 時間	PROGRAMME 程序表
<b>AM SESSION</b>	
10:30am – 10:40am	<b>Opening Remarks by Mr Alfred Sit Wing-hang, JP, Secretary for Innovation and Technology</b> 香港創新及科技局局長 薛永恒 JP 致開幕辭
10:40am – 11am <i>STAY INFORMED</i>	<b>The Agenda for the New Reality</b> Mr Marcos Chow, Partner & Head of Technology Enablement, KPMG China 畢馬威中國香港技術驅動主管合夥人周嗣良先生
11am – 11:20am <i>STAY HOME</i>	<b>From eCommerce to Digital Ecosystem</b> Mr Wong Wai Kay, Ricky, Vice Chairman and Chief Executive Officer, Hong Kong Television Network Limited 香港電視網絡有限公司副主席及行政總裁王維基先生
11:20am – 11:40am <i>STAY CONNECTED</i>	<b>A Technology Trifecta: Digital Transformation (DX), The Internet of Things (IoT), and Next Generation Communications (Beyond 5G)</b> Dr Adam T. Drobot, Chairman, OpenTechWorks, Inc., Wayne, PA USA/ Member of the US Federal Communication Commission (FCC) Technological Advisory Council and Co-Chair the Working Group on AI and Computing

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<p>11:40am – 12nn</p> <p><b>STAY HEALTHY</b></p> 	<p><b>Covid-19 virus -- its biological structure and worldwide approaches for prevention and cure of the disease</b></p> <p>Professor Yuen Kwok-yung, GBS, SBS, JP, Henry Fok Professor in Infectious Diseases, Chair of Infectious Diseases, Department of Microbiology, the University of Hong Kong                  香港大學李嘉誠醫學院微生物學系講座教授霍英東基金教授(傳染病學)                  袁國勇教授, GBS, SBS, JP</p>	
<p>12nn – 12:45pm</p>	<p><b>Panel Discussions with Speakers &amp; Panellists</b></p> <p>Moderator:                  Dr Nim Cheung, Chairman, Symposium on Innovation &amp; Technology Organising Committee</p> <p>Panellists:                  Mr Charles Mok, JP, Honorary President, Hong Kong Information Technology Federation                  香港資訊科技商會榮譽主席 莫乃光, JP                  Ir Dr Hon Lo Wai-kwok, SBS, MH, JP, Legislative Councillor (Engineering)                  香港特別行政區立法會議員(工程界) 盧偉國議員, SBS, MH, JP</p>	
<p><b>PM SESSION</b></p>		
<p>2:30pm – 2:55pm</p> <p><b>STAY CONNECTED</b></p> 	<p><b>Smarter Digital City - AI for Everyone Whitepaper</b></p> <p>Mr Timothy Tam, Head of Public Policy and Government Affairs (Hong Kong), Google                  Google 公共政策及政府事務總監(香港) 譚兩川先生</p>	
<p>2:55pm – 3:15pm</p> <p><b>STAY CONNECTED</b></p> 	<p><b>Reimagining the customer experience</b></p> <p>Mr Olivier Klein, Lead Technologist, Asia-Pacific, AWS Solutions Architecture, Amazon Web Services</p>	
<p>3:15pm – 3:35pm</p> <p><b>STAY CONNECTED</b></p> 	<p><b>Wireless AI: A New Sixth Sense to Deciphering our World</b></p> <p>Professor K. J. Ray Liu, 2021 IEEE President-Elect / Founder, Origin Wireless / Distinguished University Professor &amp; Distinguished Scholar-Teacher, Electrical and Computer Engineering Department, University of Maryland, College Park; and Origin Wireless</p>	
<p>3:35pm – 3:55pm</p> <p><b>STAY HOME</b></p> 	<p><b>2020: (En)vision Higher Education beyond COVID-19</b></p> <p>Dr Ruth Huard, PhD, Dean, College of Professional &amp; Global Education, San Jose State University and                  Dr Alan Wong, PhD, Director, Silicon Valley Center for Global Studies, San Jose State University</p>	

SYMPOSIUM ORGANISERS:



### CPD APPLICATIONS 持續進修專業學分申請

- 3.5 hours of CPD would be obtained for participants who have attended the event on time in both AM & PM sessions. 準時出席論壇上午及下午兩節之觀眾將可獲得 3.5 小時持續進修專業學分。
- The CPD credits are to be endorsed by the Hong Kong Electronics & Technologies Association (HKETA). Applicants agreed to share the name and email with the HKETA under such practice. 是次論壇之持續進修專業學分由香港電子科技商會頒發。申請者需同意其登記姓名及電郵資料將被分享至其會中資料庫。
- Upon the event completion, the CPD certificates will be distributed via email. Please ensure the name and email address used to access the webinar are correct as they will be served as the information to issue the certificate. 持續進修專業學分證書將於論壇完結後以電郵發送至各申請人。敬請 閣下確保在登入論壇時所輸入之姓名及電郵地址無誤，以便妥發證書。

### SUPPORTING ORGANISATIONS:

Business Environment Council  
City University of Hong Kong - Department of Electronic Engineering  
GS1 Hong Kong  
Hong Kong Applied Science and Technology Research Institute Company Limited  
Hong Kong Cyberport  
Hong Kong Electronics Industry Council  
Hong Kong IoT Alliance  
Hong Kong Medical and Healthcare Device Industries Association  
Hong Kong Productivity Council  
Hong Kong Science and Technology Parks Corporation  
Hong Kong Wireless Technology Industry Association  
IEEE Hong Kong Section  
IVE - Engineering Discipline  
Logistics and Supply Chain MultiTech R&D Centre  
Nano & Advanced Materials Institute Limited  
Smart City Consortium  
The Automotive Parts and Accessory Systems (APAS) R&D Centre  
The Chinese University of Hong Kong - Department of Electronic Engineering  
The Hong Kong Electronic Industries Association Limited  
The Hong Kong Information Technology Federation  
The Hong Kong Institution of Engineers (Electronics Division)  
The Hong Kong University of Science & Technology - Department of Electronic & Computer Engineering  
The Information and Software Industry Association  
The Institution of Engineering and Technology  
The Hong Kong Polytechnic University - Department of Electronic & Information Engineering  
The University of Hong Kong - Department of Electronic & Electrical Engineering  
The Hong Kong Research Institute of Textiles and Apparel

MR MARCOS CHOW

PARTNER & HEAD OF TECHNOLOGY ENABLEMENT, KPMG

#### ABOUT THE PRESENTATION

Marcos will be sharing insights from the KPMG 2020 CEO Outlook COVID-19 Special Edition, which finds the world's chief executives using this unparalleled moment in history to lead with increased purpose and impact, both societal and economic. They are protecting their people, building trusted relationships with customers and communities, and defining a new future of growth and success for their organizations.

KPMG's CEO Outlook survey provides an in-depth three-year outlook from thousands of global executives on enterprise and economic growth. This year's survey finds the world's most senior executives are using this unparalleled moment in history to shift and enhance relationships with their employees and society at large as businesses and governments continue to assess the long-term impact of the Covid-19 pandemic.

For the KPMG 2020 CEO Outlook report, our firm initially surveyed 1,300 CEOs in January and February this year, before many key markets were beginning to feel the full impact of the pandemic crisis. KPMG conducted a follow-up survey of 315 chief executives on 6 July – 5 August to understand how CEOs' thinking has evolved during the crisis. In both instances, all respondents have annual revenue over US\$500 million and a third of the companies surveyed have more than US\$10 billion in annual revenue.

The survey in January-February included leaders from 11 key markets – Australia, Canada, China, France, Germany, India, Italy, Japan, Spain, the United Kingdom and United States – and 11 key industry sectors – asset management, automotive, banking, consumer and retail, energy, infrastructure, insurance, life sciences, manufacturing, technology and telecommunications. The follow-up survey in July-August included CEOs across the same industry sectors as above and from eight key markets – Australia, Canada, China, France, Italy, Japan, the UK and the US.

#### ABOUT THE SPEAKER

Marcos is the Head of Technology Enablement practice and Head of Emerging Technology industry in Hong Kong. He and his team help organisations accelerate their digital transformation journey. He takes an interest in the development of China's Greater Bay Area and Smarter Cities.

He has over 19 years of experience in technology leadership roles across Australia, ASEAN, Greater China and USA. He was part of a Cloud/Software as a Service start-up in 2005, where the start-up raised USD 26M. His prior experience also includes being the General Manager of a Global Delivery Center in Shenzhen with over 2500 staff and responsible for the Greater China cloud consulting business for a leading consulting firm with over USD56M in revenue per year.

Marcos represents KPMG in a number of associations such as Asia Securities Industry & Financial Markets Association, Australian Chamber of Commerce (Hong Kong), Fintech Association of Hong Kong, and Malaysian Chamber of Commerce (Hong Kong & Macau)

#### Representative Clients

- Led an engagement to write a Innovation & Technology policy paper focusing on the next 10 to 20 years for the government
- Led the engagement for a Hong Kong Note issuing bank, where he and his team developed the bank's 3 year (2019- 2022) IT strategic plan for Hong Kong and South East Asia
- Led an engagement to help a luxury watch maker embrace the cloud as part of their global core systems replacement and had accountability for Mainland China, Hong Kong, Philippines and Taiwan markets.
- Helped a leading US investment bank to use a build-operate-transfer model instead of a joint venture (as the bank intended) to build front office equities trading capabilities. Successfully delivered this 6-year transformation program.
- Led a team of 220 consultants to deliver a wide range of projects in the areas of Big Data, Cloud Advisory, Cloud Development, Cloud Migration, Complex Systems Integration and Architecture, and Security.
- Led the creation of the digital & interactive experience studios in Shanghai (2015) and co-led the creation of the Dalian Studio (2017) which is 3x larger. Where Shanghai Studio is home to UX/UI designers, focused on the customer experience, Dalian Studio is the home to data scientists, agile engineers and coaches working on AI, Block-chain, Big Data, Cloud and Internet of Things.



MR WONG WAI KAY, RICKY  
VICE CHAIRMAN AND CHIEF EXECUTIVE OFFICER,  
HONG KONG TELEVISION NETWORK LIMITED

#### ABOUT THE PRESENTATION

eCommerce has been a trend globally, where traditional supermarket chains and retailers should look into and make their changes. With the day-to-day complexities of eCommerce operations and the advances in digitalization, how can we evolve to become into a digital ecosystem, to become an integral partner of the digital lives of Hong Kong people as well as the centre of all digital commercial activities. Furthermore, how will this digital ecosystem move beyond Hong Kong?

#### ABOUT THE SPEAKER

Mr Ricky Wong is the co-founder of the Group, possesses extensive and successful experience in telecom market liberalization, popularizing advanced technology and applications. Currently, Mr. Wong leads the Group to develop digital ecosystem for Hong Kong. As the largest online shopping mall in Hong Kong with 3,700 merchants and suppliers to offer 400,000 product items, HKTVMall possesses 5 logistics centres to provide one-stop shop services including online shopping, marketing promotion & digital advertising, logistics & fulfilment.



Running HKTVMall is not just a eCommerce business: in the long run, HKTVMall should build a digital ecosystem in Hong Kong, to transform all business operation, trading, retail, finance and daily life onto a single digital online platform. Therefore, Mr. Wong is leading the Group to explore new opportunities including open data bank, e-wallet, food takeaway function, opening landing page, and simplified HKTVMall app for golden agers.

Throughout the years, Mr Wong's life philosophy remains to be: Making Hong Kong a better place, with technology, innovation and persistence.

王維基是集團的聯合創辦人，以具出色創意見稱，在開放電訊市場、應用並普及創新科技發展上，擁有豐富及成功經驗。現時王先生正帶領集團發展香港的數碼生態系統，打造全港最大型的網上購物商場 HKTVMall，與約 3,700 家商戶及供應商合作出售超過 400,000 件貨品；同時自設 5 個物流中心，擁有自己的物流團隊及送貨車隊，提供網購、市場推廣及數碼營銷及物流配送服務等。

王先生冀帶領 HKTVMall 進軍海外及全球市場，把電子商貿的獨特知識、經驗和工程技術，包括商業模式、市場推廣、經營策略、大數據分析、系統發展、倉存設計、各種自動化系統的選擇和安裝、以至送貨車隊管理等項目，尤其是自行開發的整套軟件系統輸出全球，幫助各地傳統超市或零售商以最短時間成功進入網上零售世界。

王氏的商業管理哲學多年不變，致力透過科技、創意及堅持，令香港及世界變得更好。

DR ADAM T. DROBOT

CHAIRMAN, OPENTECHWORKS, INC., WAYNE, PA USA

#### ABOUT THE PRESENTATION

The last two decades have seen explosive growth of the Internet, Digital Media, Mobile and Broadband Communications, and dramatic shifts in the purchase and delivery of Retail goods. All have been fueled by consumers demand and accelerated by the current pandemic. Currently about four (4) billion people around the globe rely on connections to the Internet. A great portion of the economic and technological growth has been spurred by innovation in consumer-oriented applications and services accompanied by new business models.

At the same time the number of devices connected to the Internet is accelerating approaching thirty (30) billion and growing at a CAGR greater than 20%. We are at an inflection point where the technology drivers and opportunities for growth in the next two decades are likely to emphasize and favor the needs of industry and the public sector. What I will cover in the presentation are the three technology areas that are most likely to dominate the near-term future and the implications that they have for manufacturing, products, services, and processes.

The first of these is Digital Transformation (DX) where Data and analytics are exploiting the converged infrastructures of communications, computing, and storage to solve the complex problems that our current Information Technology (IT) and Operational Technology (OT) organizations were unable to address. The second is the Internet of Things (IoT) adding actuator, sensor, and human interface technologies to the mix, and reframing how industrial and public sector enterprises are organized, how they interact with each other, and how they deliver products and services to the consumer. The third is Next Generation Communications where developments beyond 5G, fiber based Broadband, and ubiquitous wide area networks enable low latency and high speed orchestrated microservices. The marriage of these technologies promises to drive the next wave of innovation in industrial manufacturing and in the business models for delivery and support of common, essential, and critical products and services.

In each of the three technology areas the common threads are artificial intelligence and machine learning to deal with complexity, the continued advances for miniaturization and energy efficiency in electronics, the widespread use of software defined control in electro-mechanical systems, and lastly the connectivity fabric that allows nomadic and mobile services with remote operations. The implications are that what we may think of as the new normal will be a transition to a very different world. We get a glimpse of that from how crucial technology is in managing the current pandemic when contrasted with sweeping epidemics that devastated society in the past.

#### ABOUT THE SPEAKER

Dr Adam Drobot is an experienced technologist and hands on manager. His activities are strategic consulting, start-ups, and industry associations. He is the Chairman of the Board of OpenTechWorks, Inc and serves on the boards of multiple other companies, including Advanced Green Computing Machines based in Hong Kong, Stealth Software Technologies Inc. based in Los Angeles, CA, and several no-profit organizations. In the past he was the President of Applied Technology Solutions and the CTO of Telcordia Technologies (Bellcore). Previous to that, he managed the Advanced Technology Group at Science Applications International (SAIC/Leidos) and was the Senior Vice President for Science and Technology.

Adam is a member of the US Federal Communications Commission Technological Advisory Council (FCC TAC) and this year he Co-Chairs the Working Group on Artificial Intelligence and Computing. In the past he was on the Board of the Telecommunications Industry Association (TIA) where he Chaired the Technology Committee; the US Department of Transportation Intelligent Transportation Systems Program Advisory Committee; and the University of Michigan Transportation Research Institute External Advisory Board. In 2017 and 2018 he chaired the IEEE Internet of Things Initiative Activities Board. He has published over 100 journal articles and holds 27 patents. In his professional career he was responsible for the development of several major multi-disciplinary scientific modeling codes and specialized in developing tools and techniques for the design, management, and operation of complex scientific facilities, discrete manufacturing systems, and large-scale platforms, for government and industry. He is a fellow of the American Physical Society. His degrees include a BA in Engineering Physics from Cornell University and a PhD. in Physics from the University of Texas at Austin.



**PROFESSOR YUEN KWOK-YUNG, GBS, SBS, JP, HENRY FOK PROFESSOR IN INFECTIOUS DISEASES, CHAIR OF INFECTIOUS DISEASES, DEPARTMENT OF MICROBIOLOGY, THE UNIVERSITY OF HONG KONG**

**ABOUT THE PRESENTATION**

The pandemic of Coronavirus Disease 2019 (COVID-19) caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) has affected more than 48 million people with over 1.2 million deaths in the last 10 months. Border control and social distancing measures have severely impacted on the global socioeconomic activities and mental health. We review the sequence of this pandemic from 2003 to 2020. The opportunities for intervention are highlighted based on the virus structure, its transmission, diagnosis, treatment and prevention so that the new normal societal activities can resume and another pandemic can be prevented in the future.

**ABOUT THE SPEAKER**

Professor Kwok-Yung Yuen

MBBS(HK), MD(HK), FRCS(Glas), FRCPath(UK), FRCP(Edin & Lond)

Henry Fok Professor in Infectious Diseases

Chair of Infectious Diseases, Department of Microbiology, Faculty of Medicine, HKU

Co-Director, State Key Laboratory of Emerging Infectious Diseases, HKU

Academician of the Chinese Academy of Engineering (Basic Medicine and Health) Founding Member of Hong Kong Academy of Sciences

Fellow of the American Academy of Microbiology



Yuen Kwok-yung graduated from the Medical School at the University of Hong Kong and was awarded State Scientific and Technological Progress Award (Special class), the Justice of Peace by the Hong Kong Special Administrative Region of China, and Gold & Silver Bauhinia Star Awardee of the HKSAR. He is also Fellow of the Royal College of Physicians (Lond, Edin), Surgeons(Glas) and Pathologists(UK). In the outbreak of avian influenza virus H5N1 in 1997 in Hong Kong, Professor KY Yuen was the first to report in Lancet about the unusual clinical severity and high mortality of infected patients which could be identified by the in-house designed molecular test at his laboratory. During the outbreak of SARS in 2003, he led his team in the discovery of the SARS coronavirus successfully and was honoured as Asian heroes of the year in April by Time Asia Magazine. He has also led his team in the discovery of over 60 novel disease agents, 10 bacteria, 4 fungi and 2 parasites. His 982 publications with over 42,000 citations are mainly related to the research of novel microbes or emerging infectious disease agents.

**袁國勇教授**

香港大學內外全科醫學士 / 香港大學醫學博士

英國格拉斯哥皇家醫學院外科榮授院士

英國皇家病理科醫學院榮授院士

英國愛丁堡皇家內科醫學院榮授院士

英國倫敦皇家內科醫學院榮授院士

霍英東基金教授(傳染病學)

香港大學李嘉誠醫學院微生物學系講座教授

香港大學新發傳染性疾病國家重點實驗室主任

中國工程院醫藥衛生學部院士

香港科學院創院院士

美國微生物科學院院士

袁國勇教授畢業於香港大學醫學院，曾獲委任為香港太平紳士、獲頒授國家科學技術進步獎(特等)和中國香港特別行政區金、銀紫荊星章。他也是英國格拉斯哥皇家醫學院外科榮授院士、英國皇家病理科醫學院榮授院士以及英國皇家內科醫學院榮授院士(愛丁堡及倫敦)。1997年，香港爆發H5N1禽流感病毒，袁教授最先在醫學雜誌《刺針》發表報告，指出受感染患者具有異常嚴重的臨床症狀而且死亡率高，而患者的樣本可在他的實驗室透過自行研製的分子檢測方法進行鑑定。2003年SARS爆發期間，袁教授領導團隊成功追查到SARS的病原冠狀病毒，被亞洲時代週刊譽為亞洲英雄。他在發現新型微生物方面成就卓著，在人類和動物體內發現逾60種新型病毒、10種細菌、四種真菌及兩種原蟲。袁教授發表的982篇學術論文被引用超過42,000次，論文內容主要是關於新型微生物或新發傳染病病原的研究。

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MR TIMOTHY TAM

HEAD OF PUBLIC POLICY AND GOVERNMENT AFFAIRS (HONG KONG), GOOGLE

GOOGLE 公共政策及政府事務總監(香港) 譚兩川先生

#### ABOUT THE PRESENTATION

How can Hong Kong become a Smarter Digital City? From 2017 to 2019, Google Hong Kong published a series of annual research reports, Smarter Digital City, to explore themes, provide recommendations, and track progress related to this question.

Starting from 2020, Google Hong Kong embarked on a new three-year program of longitudinal research discussing specifically the topic of AI adoption and readiness in Hong Kong. The latest Smarter Digital City - AI for Everyone whitepaper sets a new benchmark to help understand AI adoption, barriers and benefits across four key sectors - Finance, Retail, Travel & Logistics and Technology & Innovation. It has also examined the current level of understanding and adoption of AI, identified barriers to adoption, and uncovered future opportunities to accelerate AI development in Hong Kong post-COVID-19.

Timothy Tam, Head of Government Affairs and Public Policy, Google Hong Kong will share the findings and recommendations set out in the latest Smarter Digital City - AI for Everyone whitepaper.



#### ABOUT THE SPEAKER

Timothy Tam is a policy advocacy and stakeholder engagement professional with over a decade of managerial experience in the public, private and non-profit sectors. As the Head of Government Affairs and Public Policy of Google Hong Kong, Timothy coordinates Google's public policy efforts in Hong Kong and engages various stakeholders in driving the city's digitisation.

Timothy was an Administrative Officer in the Hong Kong government and later joined a couple of business associations in Hong Kong, responsible for policy advocacy and stakeholder engagement. Prior to joining Google, Timothy spearheaded the implementation of a multi-year advocacy campaign as a project manager at the Hong Kong Jockey Club Charities Trust.

Timothy is a Vice Chairman of the Digital, Information & Telecommunications Committee of the Hong Kong General Chamber of Commerce. He also sits on advisory committees of tech-related initiatives in Hong Kong. Timothy holds a Master's degree in Public Administration and a Bachelor's degree in International Business and Global Management from the University of Hong Kong.



MR OLIVIER KLEIN,

LEAD TECHNOLOGIST, ASIA-PACIFIC, AWS SOLUTIONS ARCHITECTURE, AMAZON WEB SERVICES

#### ABOUT THE PRESENTATION

Customers have experienced unprecedented changes over the past few months. Some businesses have adapted fast to deliver current services through new channels, and enable working from home (WFH) arrangements; others have pivoted their businesses to provide adjacent services that meet new customer demands driven by WFH and lock down rules; and some organisations have shifted 180 degrees to entirely new business models that support a rapidly changing economy. Core to this has been digital experiences delivered through online and cloud services. In this session we will explore how AWS and their customers have pivoted to a new normal and how AWS can help businesses across the world reimagining their customer experiences.

#### ABOUT THE SPEAKER

Olivier's expertise in IT architectures, Internet technologies, and software engineering paved the two decades for him helping businesses make the most of most out of technologies such as cloud computing to solve business struggles and adapt to a data-driven business model. Olivier has been working for AWS across Asia-Pacific and Europe to help customers implement architectural best practices and be successful in their digital transformation journey. In addition he advises how emerging technologies in the Artificial Intelligence (AI), ML, robotics and IoT space can help create new products, make existing processes more efficient and leverage new engagement channels for end-consumers. Prior to his AWS time, Olivier ran the digital product strategy for an American multinational publishing and education company across Asia and led engineering and R&D efforts to build a virtualised web service platform for a Luxembourgish Internet Service Provider pre-cloud era. Olivier has a bachelor of science degree in Computer Science from the University of Applied Sciences Trier, and a masters degree from the National University of Singapore majoring in Software Engineering.



PROFESSOR K. J. RAY LIU

2021 IEEE PRESIDENT-ELECT /

FOUNDER, ORIGIN WIRELESS / ELECTRICAL AND COMPUTER ENGINEERING DEPARTMENT, UNIVERSITY OF MARYLAND, COLLEGE PARK; AND ORIGIN WIRELESS

#### ABOUT THE PRESENTATION

What smart impact will future 5G and IoT bring to our lives? Many may wonder, and even speculate, but do we really know? With more and more bandwidth readily available for the next generation of wireless applications, many more smart applications/services unimaginable today may be possible. In this talk, we will show that with more bandwidth, one can see many multi-paths, which can serve as hundreds of virtual antennas that can be leveraged as new degrees of freedom for smart life. Together with the fundamental physical principle of time reversal to focus energy to some specific positions and the use of machine learning, a revolutionary wireless AI platform can be built to enable many cutting-edge IoT applications that have been envisioned for a long time, but have never been achieved.

We will show the world's first ever centimeter-accuracy wireless indoor positioning systems that can offer indoor GPS-like capability to track human or any indoor objects without any infrastructure, as long as WiFi/LTE/5G is available. Such a technology forms the core of a wireless AI platform that can be applied to device-free non-obtrusive home/office monitoring/security, radio human biometrics, vital signs detection, sleep monitoring, and fall detection. In essence, in the future of wireless world, communication, as we see it, will be just a small component of what's possible. There are many more magic-like smart applications that can be made possible by the emerging field of wireless AI, allowing us to decipher our surrounding world with a new "sixth sense". Some demo videos will be shown to illustrate the future of smart radios for smart life.



#### ABOUT THE SPEAKER

Dr K. J. Ray Liu is a Distinguished University Professor and a Distinguished Scholar-Teacher of University of Maryland, College Park, where he is Christine Kim Eminent Professor of Information Technology. He is the founder of Origin Wireless, Inc., a high-tech start-up pioneering wireless AI for smart life.

Dr Liu is a recipient of two IEEE Technical Field Awards: the 2021 IEEE Fourier Award for Signal Processing and the 2016 IEEE Leon K. Kirchmayer Graduate Teaching Award; IEEE Signal Processing Society 2014 Society Award for "influential technical contributions and profound leadership impact", IEEE Signal Processing Society 2009 Technical Achievement Award, and more than a dozen best paper awards. Recognized by Web of Science as a Highly Cited Researcher, he is a Fellow of IEEE, AAAS, and US National Academy of Inventors. As the founder of Origin Wireless, his inventions won 2017 CEATEC Grand Prix Award and CES 2020 Innovation Award, with products available over 150 countries worldwide.

He also received teaching and research recognitions from University of Maryland including university-level Invention of the Year Award (three times), and college-level Poole and Kent Senior Faculty Teaching Award, Outstanding Faculty Research Award, and Outstanding Faculty Service Award, all from A. James Clark School of Engineering (each award honors one faculty per year from the entire college).

Dr Liu has been elected as the 2022 IEEE President. He was IEEE Vice President, Technical Activities, Division IX Director of IEEE Board of Director, President of IEEE Signal Processing Society, where he has served as Vice President – Publications and Editor-in-Chief of IEEE Signal Processing Magazine.

DR RUTH HUARD, PHD, DEAN, COLLEGE OF PROFESSIONAL & GLOBAL EDUCATION  
DR ALAN WONG, PHD, DIRECTOR, SILICON VALLEY CENTER FOR GLOBAL STUDIES,  
SAN JOSE STATE UNIVERSITY

#### ABOUT THE PRESENTATION

2020 may come down as a watershed year in the history of higher education. The COVID-19 pandemic seriously impacted the learning modes as well as the operating models in the world of education. Many institutions scrambled to meet the needs of their students, as well as the faculty and staff communities. Business continuity became 'Job #1' and trumped many institutional hurdles and red tapes. At the same time, many digital transformation projects were implemented in months rather than years as originally scheduled on long term roadmaps.

San Jose State University (SJSU) is the public higher education institution in Silicon Valley. It has been supplying talent in the region for over 160 years. Early in the surge of COVID cases, SJSU was among the first US universities to transition the student body to remote learning in the Fall semester. The university, similar to many US institutions, was challenged to reorganize the learning arrangements of 33,000 students in a short period of time. Almost a thousand faculty members were certified for online teaching through a summer academy. Remote learning applications have been implemented across classrooms as well as throughout many student services. Tactical decisions were promptly made keeping students engaged and motivated, ensuring that students stay on track, offering a quality learning experience, and providing timely student support and services. The speakers will share examples from various units within the university in response to the pandemic driven conditions. With a mission in global education, the speakers will discuss their launch of a number of online initiatives to enhance learning and develop intercultural competency at a time when global mobility is untenable.

#### ABOUT THE SPEAKER

**DR RUTH HUARD, PHD, DEAN, COLLEGE OF PROFESSIONAL & GLOBAL EDUCATION, SAN JOSE STATE UNIVERSITY**

As the Dean of the College of Professional and Global Education at San Jose State University (SJSU), Dr Ruth Huard provides strategic vision and operational leadership across multiple areas including the academic departments in information and data science disciplines, professional and continuing education, global programs and services, and two research and centers - Silicon Valley Center for Global Studies and the Silicon Valley Center for Big Data and Cybersecurity.

With 20 years of professional experience in the areas of learning sciences and technology design, Dr Huard has facilitated the growth of online teaching and learning opportunities for the SJSU community through academic entrepreneurship and accessible technologies. She started her professional career in industry, applying her entrepreneurial skills at Silicon Valley startup companies with a global footprint. She received her Ph.D. from Stanford University where she conducted research in human-computer interaction and smart learning systems in the School of Education and in the Computer Science Department-Knowledge Systems AI Lab. While Dr Huard is excited about emerging technologies, her interests and focus continue to be on people, especially how lives and communities could be uplifted and positively transformed by these technologies.



**DR ALAN WONG, PHD, DIRECTOR, SILICON VALLEY CENTER FOR GLOBAL STUDIES, SAN JOSE STATE UNIVERSITY**

Dr Alan Wong is Director of Silicon Valley Center for Global Studies and Director of Business Development and External Relations for SJSU College of Professional and Global Education.

Dr Wong was a technologist and team manager at Intel Corporation. He led an engineering team in developing measurement technologies and oversaw a metrology R&D program for next generation silicon processing. He represented Intel to the Advanced Metrology Advisory Group of International SEMATECH, a semiconductor industry consortium. He had nine U.S. patents, in the area of overlay and critical dimension metrology. Dr Wong served as the President of the Corporate Asian American Employee Network (CAAEN), a collaborative network of Asian American employee groups including Intel, HP, Cisco, Google, AT&T, PG&E, AAA, VISA, Wells Fargo, Kaiser Permanente, GE, etc.



Dr Wong came from Hong Kong to start his college education at SJSU at the age of 16.

DR NIM CHEUNG,

CHAIRMAN, SYMPOSIUM ON INNOVATION & TECHNOLOGY ORGANISING COMMITTEE

#### ABOUT THE MODERATOR

Dr Nim Kwan Cheung is Managing Director of Alphotronics Limited, an innovative start-up company in Hong Kong Science Park specialized in 3D photography, LIDAR, and artificial intelligence. He is also director of several listed and start-up companies in Hong Kong. Dr Cheung was Chief Executive Officer of the Hong Kong Applied Science and Technology Research Institute (ASTRI), a 600-member R&D organization in the information and communications area established by the Hong Kong SAR Government. He has founded and served as inaugural director of the National Engineering Research Centre for Application Specific Integrated Circuit Systems, the first National Engineering Centre established in Hong Kong.

Prior to joining ASTRI, Dr Cheung has held different research and senior management positions at AT&T Bell Labs, Bellcore, and Telcordia Technologies. He is a Telcordia Fellow and a Fellow of IEEE. Dr Cheung served as the 18th President of the IEEE Communications Society, a global professional organization with 45,000 members in 180 chapters around the world. He was Editor-in-Chief of the IEEE Communications Magazine, and was appointed Chairman of the IEEE Fellow Committee in 2012-13, where he presided over the selection of all new IEEE Fellows worldwide. He has also chaired and served in different Awards Boards in IEEE.

Dr Cheung received the University of Hong Kong Distinguished Alumni Award in 2010. He is an Honorary Professor of the Chinese University of Hong Kong and served as a Consulting Professor at Stanford University from 2004 to 2009. He was a Council Member of the Hong Kong Research Grants Council from 2009 to 2015. Dr Cheung obtained his B.Sc. degree from the University of Hong Kong, and M.S. and Ph.D. degrees from the California Institute of Technology.



MR CHARLES MOK, JP

HONORARY PRESIDENT, HONG KONG INFORMATION TECHNOLOGY FEDERATION

#### ABOUT THE PANELIST

Charles Mok is the Legislative Councillor representing the Information Technology Functional Constituency in Hong Kong since 2012, and is a member of The Professionals Guild, a legislative caucus of pro-democracy functional constituency legislators. He is currently the Vice Chairman of the Professional Commons, a Hong Kong think tank. He is also the Honorary President of the Hong Kong Information Technology Federation and the Founding Chairman of the Internet Society Hong Kong.

Professionally, Charles has been served the ICT industry for over 30 years, in both multinationals and startups, including co-founding HKNet in 1994, one of the earliest Internet service providers in Hong Kong. He is dedicated in fostering the development of innovation & technology in Hong Kong, covering a wide array of issues including smart city, tech talent development, supports to start-ups, STEM education, open data, regulatory reforms, Internet freedom, and information privacy and security.

Charles graduated from Purdue University in the United States with a bachelor's degree in Computer and Electrical Engineering and a master's degree in Electrical Engineering.

現任資訊科技界立法會議員，專業議政成員之一，從事資訊科技及電訊業三十年。他積極為資訊及通訊科技界發聲，倡議在香港社會推動科技應用，是為人熟悉的資訊科技界領袖和互聯網先驅。他是公共專業聯盟副主席、香港資訊科技商會榮譽主席，以及香港互聯網協會創會主席。

莫乃光在議會內外致力推動創新科技發展，關注議題包括智慧城市、科技人才培育、支援初創企業、STEM 教育、更新過時法規、開放數據、私隱、網絡自由及安全等。莫乃光畢業於美國普度大學，擁電腦及電機工程學士與電機工程碩士學位。



IR DR HON LO WAI-KWOK, SBS, MH, JP,  
LEGISLATIVE COUNCILLOR (ENGINEERING)  
LEGISLATIVE COUNCIL, HKSAR

#### ABOUT THE PANELIST

Ir Dr the Hon LO Wai Kwok, SBS, MH, JP

BSc(Eng) MSc(Eng) MBA EngD CEng FHKIE FIET FIMechE FHKEng RPE

Ir Dr the Hon LO Wai Kwok, SBS, MH, JP, is Member of the Legislative Council of the Hong Kong Special Administrative Region, representing the Engineering Functional Constituency. He is Chairman of the Panel on Development and Deputy Chairman of the Public Works Subcommittee under the Finance Committee of the LegCo.

Dr Lo is very active in the community and has served many government organizations, professional bodies and trade associations. He is currently member of the Housing authority, the Hospital Authority, the West Kowloon Cultural District Authority and the Airport Authority. He is Chairman of the Business and Professionals Alliance for Hong Kong and Founding Chairman of the Hong Kong Green Strategy Alliance. He was President of the Hong Kong Institution of Engineers in the session 2007/08, Past President of the Hong Kong Professionals and Senior Executives Association, and was a Sha Tin District Councilor for many years.



Dr Lo holds an Engineering Doctorate degree of the University of Warwick. He is Honorary Fellow of the Hong Kong University of Science and Technology, Honorary Fellow of the City University of Hong Kong, Industrial Fellow of the University of Warwick, Honorary Fellow of the Hong Kong Vocational Training Council, and Adjunct Professor of both the City University of Hong Kong and the Technological and Higher Education Institute of Hong Kong. He was inducted a member of "The HKIE Hall of Fame" in 2015, the year that marked the 40th anniversary of The Hong Kong Institution of Engineers.