



科技創新 迎接美好未來

TECHNOLOGY INNOVATION
FOR A BETTER TOMORROW

美東華人學術聯誼會 
Chinese American Academic & Professional Society (C.A.A.P.S.)

美東華人學術聯誼會第四十五屆年會特刊紀念

群英匯聚
再創新局

科技部部長 吳政忠

中華民國一〇九年七月





GRACE MENG
HOUSE OF REPRESENTATIVES
Washington, D.C. 20515

August 8, 2020

Chinese American Academic & Professional Society
41-65 Main Street
Flushing, NY 11352

Dear Chinese American Academic & Professional Society:

I am pleased to extend my greetings to all gathered at the Chinese American Academic & Professional Society's 45th Annual Convention.

Since its establishment in 1975, the Chinese American Academic & Professional Society (CAAPS), has helped countless Chinese-American's and other groups develop and grow. As a nonprofit organization, CAAPS encourages education opportunities for professionals to continue to develop themselves in knowledge and skill. CAAPS serves as a home to many professionals to continue to learn about different expertise's, but also different cultures. CAAPS facilitates a cultural exchange between the Chinese-American community and other diverse groups.

At the CAAPS 45th Annual Convention, scholars and professionals will discuss the most pressing issues of our time. I commend CAAPS for its unwavering commitment to supporting the exchange of knowledge and promoting harmony between diverse groups.

Please accept my best wishes for a wonderful convention and much continued success!

Sincerely,

Grace Meng
Member of Congress





THE CITY OF NEW YORK
OFFICE OF THE MAYOR
NEW YORK, NY 10007



August 8, 2020

Dear Friends:

I am delighted to welcome everyone as the Chinese American Academic and Professional Society hosts its 45th Annual Convention Banquet.

New York has always been an inclusive place where people from around the world can come to study, launch careers, and pursue their goals. For more than four decades, CAAPS has exemplified this proud tradition by uniting Chinese American scholars and professionals from different fields and empowering them through networking, skills training, and knowledge sharing. Due to the COVID-19 pandemic, this year's convention is a virtual one, and guided by the theme "Technology Innovation for a Better Tomorrow," it will focus on education, finance, artificial intelligence, and biomedical technology for COVID-19 treatments and prevention. As you gather to address ways to foster positive change through interdisciplinary cooperation, I commend the Society for its commitment to strengthen our thriving Chinese community, advance our academic and business sectors, and improve quality of life in the five boroughs and beyond. I look forward to the continued contributions of its members as we work together to build a brighter future for our great city and ensure it remains a diverse and dynamic center of progress for all.

On behalf of the City of New York, I offer my best wishes for an informative and inspiring convention and continued success.

Sincerely,

A handwritten signature in black ink that reads "Bill de Blasio".

Bill de Blasio
Mayor

美東華人學術聯誼會

Chinese American Academic & Professional Society (CAAPS)

website: www.caaps.us <https://www.facebook.com/caaps.us>

Celebrating 45th Anniversary



Convention Program (Keynote Session)

August 8, 2020, Saturday, 1 ~ 4:30PM (Virtual Conference)

Master of Ceremony 主持人	Dr. George Chang 張至先博士 Kean University NJ, USA, 美國肯恩大學 自然, 應用與健康科學學院院長
Welcome Remarks 董事長及會長致歡迎詞	Dr. Ping-Tsai Chung Chairman 董事長鍾炳采博士 Dr. Jenghwa Chang President 會長張正華博士
Honorable Guests Greetings 貴賓致詞	Director General, James KJ Lee, TECO in NY 李光章大使 駐紐約臺北經濟文化辦事處處長
Video 宣導影片播放 Ministry of Science and Technology (MOST)	Dr. Jonathan Shieh 謝水龍博士 科技部波士頓組長

Keynote Speeches

主題演講

US Congresswoman Grace Meng 美國國會眾議員孟昭文

“An Inventor’s Journey”一位發明家的經歷- 美國工程學院院士蕭美琛博士

Dr. Margaret M. Wu, member of National Academy of Engineering (NAE)

“Reimagining Higher Education in a New Normal”

CUNY, Baruch College President, Dr. David Wu 吳思永博士

“Nanocellulose technologies to advance the nexus of food-energy-water system”

納米纖維素技術來促進食物-能源-水源的關係

Prof. Benjamin S. Hsiao, 蕭守道教授 Distinguished Professor of Chemistry,

Co-Founding Director, Innovative Global Energy Solutions Center, Stony Brook University

免費參加

主辦 美東華人學術聯誼會, website: www.caaps.us facebook: www.facebook.com/caaps.us

- ◆ Please register at <https://forms.gle/gShoUUPdR8ZVkGWL6> or if you have any questions, please contact Dr. Jenghwa Chang at jenghwachang@gmail.com, the Webinar Meeting link will be announced later.



Chinese American Academic
& Professional Society

Proceedings of CAAPS 45th Annual Convention

**Technological Innovation for a Better
Tomorrow**

科技創新迎接美好未來

Publisher: Chinese American Academic and Professional Society (CAAPS)

Editor: Ping-Tsai Chung, Jenghwa Chang, Sarah H. Chung

Cover designed by Jessica Chang

Address: 41-65 Main Street, P.O. Box 527496, Flushing, NY 11352, USA

Library of Congress Control Number: 2020911506

Web Site: <http://www.caaps.us> Facebook Site: <https://www.facebook.com/caaps.us>

CAAPS 2020 Distinguished Service Award in Public Affairs

傑出公共事務服務獎



U.S. Congresswoman Grace Meng 孟昭文 聯邦眾議員 is serving her fourth term in the United States House of Representatives. Grace represents the Sixth Congressional District of New York encompassing the New York City borough of Queens, including west, central and northeast Queens.

Grace is the first and only Asian American Member of Congress from New York State and the first female Congressman from Queens since former Vice Presidential nominee Geraldine Ferraro.

Grace is a member of the powerful House Appropriations Committee and its Subcommittees on State and Foreign Operations, Homeland Security, and Commerce, Justice, Science and Related Agencies. The Appropriations Committee is responsible for funding every federal agency, program, and project within the United States government. She also serves on the House Ethics Committee.

Grace is also a Senior Whip and Regional Whip for New York, and a founder and Co-Chair of the Kids' Safety Caucus, the first bipartisan coalition in the House that promotes child-safety issues. She helped create and serves as a founding member and former Co-Chair of the Quiet Skies Caucus which works to mitigate excessive aircraft noise that adversely affects communities.

Grace has passed several pieces of legislation in law. These include laws about religious freedom, making Queens historic sites part of the National Park Service, striking "Oriental" from federal law and protecting public housing residents from insufficient heat. Also signed into law were her measures to assist veterans and members of the military, and provisions to improve consumer protections and safeguards for children.

In addition, Grace has fought to expand opportunities for communities of color, young people and women, and she secured resources to help local small-businesses.

Born in Elmhurst, Queens, and raised in the Bayside and Flushing sections of the borough, Grace attended local schools, and graduated from Stuyvesant High School and the University of Michigan. She then earned a law degree from Yeshiva University's Benjamin Cardozo School of Law.

Prior to serving in Congress, Grace was a member of the New York State Assembly. Before entering public service, she worked as a public-interest lawyer.

Grace resides in Queens with her husband, Wayne, and two sons, Tyler and Brandon.



Margaret M. Wu (美國工程學院院士蕭美琛博士)

is a member of National Academy of Engineering (NAE) and an inductee to National Inventors Hall of Fame. In her professional career as research scientist with ExxonMobil Research & Engineering Co., she has more than 100 issued US patents and numerous foreign patents. Some of her patents are the foundation for many successful commercial products used in Mobil 1 Engine lubricant and other synthetic industrial lubricants. These new lubricants provide better energy efficiency, machine operating efficiency and reduced waste, making positive impact on society. In CAAPS 2020 Keynote talk, Dr. Wu will share her experiences as an inventor starting from searching for promising ideas to persevering to successful commercialization. She'll also share her experience of managing a productive industrial research career.

Dr. Wu is a member of National Academy of Engineering (NAE) and an inductee to National Inventors Hall of Fame. Prior to her retirement from ExxonMobil Research & Engineering Co in 2009, she held the title of Senior Scientific Advisor. She is a recognized expert in the field of petroleum-based processes and products, and a key inventor to a new class of molecules used in synthetic lubricants with positive impact on society and business. She has more than 100 issued US patents and numerous major awards.

Dr. Wu was born and raised in Taipei, Taiwan. She graduated from the Chemical Engineering Department at Taipei Institute of Technology (now National Taipei University of Technology, NTUT) in Taipei, Taiwan in 1970. She received her Ph.D. in Physical Organic Chemistry from the University of Rochester in New York in 1976.

Dr. Wu joined the Petrochemicals Division of Mobil Chemical Company in Edison in 1978 after 10 month as a process chemist in American Cyanamid Co., NJ. In her early career, she contributed in non-conventional petrochemical processes. Her work led to numerous patents and publications. She was awarded the North Jersey TWIN (Tribute to Woman in Industry) Award in 1982 for her leadership in technology advancement.

Dr. Wu progressed her career in Mobil and ExxonMobil research organizations with many successful assignments in diverse areas. Her experience in catalysis, process chemistry and lubricants laid the foundation for a continuing flow of major contributions in petrochemicals, polyolefins and synthetic lubricants. A major commercial success evolved from her discovery of a new class of synthetic base stock, SuperSynTM, and featured in a breakthrough new Mobil 1 lubricant – one of ExxonMobil's flagship product. In this discovery, she creatively combined the chemistry employed in different areas creating new molecules with superior performance features.

Dr. Wu was also a key participant in a team effort to bring SuperSyn™ toward successful commercialization. This new class of fluids used in lubricant contributes significantly to wear protection, improved energy efficiency, more reliable operation and reduced used oil generation by extending oil life. These products make positive impact on our society through reduced waste, lower emission and better energy efficiency.

Dr Wu was the recipient of the prestigious ExxonMobil Outstanding Patent Award for Commercial Success, the ExxonMobil Chemical Global Technology Award and numerous other internal awards. In 2005 and 2014, Dr. Wu was awarded Thomas Alva Edison Awards by New Jersey R&D Council. In 2007, Dr. Wu was awarded the prestigious ACS Industrial Chemistry Award “for her discovery and successful commercialization of new synthetic fluids with step-out performances and positive economic and environmental impact; and for her technical leadership role in ExxonMobil organizations.” **Dr. Wu was inducted as member of American Academy of Engineer in 2019. In the same year, she received the prestigious Life-Time-Achievement Award by ExxonMobil Research Council in 2019. Dr. Wu was inducted in National Inventors Hall of Fame in 2020 for her creative inventions and the impact on society.**

Dr. Wu is the author or co-author of more than 100 issued US patents and more than 200 published foreign patents. At the time of her retirement in 2009, Dr. Wu headed ExxonMobil's synthetic base stock development effort and was widely consulted by many business groups within the company. From 2010 to 2017, she held the title of Emeritus Senior Scientific Advisor at ExxonMobil Research & Engineering Co., conducting special projects and mentoring young scientists. Her expertise in synthetic fluids, petrochemicals and catalysis was recognized outside the company and was invited to write papers and presentations in these areas.

Dr. Wu is a strong supporter and mentor for younger technical staff and has a solid record for supporting woman scientists at work. She is a founding member and champion of the Clinton Woman's Interest Network (CLNWIN). She has been active in many professional organizations, including American Chemical Society, Petroleum Chemistry and Polymer Science sections, Chinese American Chemical Society, Society of Automotive Engineers and Society of Tribological Lubrication Engineers.

CAAPS 2020 Distinguished Leadership Achievement Award 傑出領導成就獎



Dr. S. David Wu, 吳思永博士 was appointed Baruch College's eighth president on February 3, 2020, becoming the first Asian American to lead a CUNY college. From 2014 until his appointment at Baruch, Dr. Wu served as provost and executive vice president of George Mason University. Under his leadership, Virginia's largest public research university emerged as a top-tier national research institution—the youngest university to earn Carnegie research-one (R1) designation. Prior to Mason, Dr. Wu was dean and Iacocca Professor of the Rossin College of Engineering and Applied Science at Lehigh University where he had been a member of the faculty since 1987. He has served on numerous boards including Dartmouth College's Thayer School of Engineering, the National Science Foundation, the Science Foundation of Ireland, the Research Grant Council of Hong Kong, and the Science & Engineering Research Council of Singapore. Dr. Wu is an accomplished scholar in systems engineering and operations research and has published extensively in areas such as game theory, optimization, and econometrics.

Reimagining Higher Education in a New Normal

by
S. David Wu
President, Baruch College

Appointed in February 2020 and took office in July, I assumed Baruch presidency as the nation grapples with Covid-19, its resulting economic damage, and the reckoning to end systemic racism. We are at the onset of a potential paradigm shift in higher education, and in society. The pandemic has forced higher education institutions to reassess the way we deliver education,

research, and creative work, while maintaining the health and safety of the campus community. This is an unprecedented disruption for higher education institutions. The road to recovery will be bumpy, but it is likely to take us to a new normal, which could lead to a fundamental paradigm shift in higher education. As an academic for almost 40 years, I want to first offer explanations why it is necessary to reimagine and reinvent higher education in the U.S., and I will discuss the notion of higher education isomorphism—the gravitational pull toward status quo and stagnation, rather than change and innovation. As this is a moment for all of us to contemplate our place in the new normal, I will offer a few ideas for reform and how do we play our role in leading the paradigm shift through creativity and innovation.



Dr. Benjamin S. Hsiao 蕭守道教授 is a Distinguished Professor in Chemistry at Stony Brook University. He received his B.S. degree from National Taiwan University in 1980, Ph.D. from University of Connecticut, and post-doctorate training at University of Massachusetts. He joined DuPont Company as a staff scientist and spent 8 years in R&D before coming to Stony Brook University. **He served as Chair of Chemistry Department and Vice President for Research at Stony Brook University. Currently, Hsiao is a Founding Co-Director of Innovative Global Energy Solutions Center, aiming to prototype ‘sustainability for off-grid communities of tomorrow’, using the Turkana Basin Institute in northern Kenya as a living laboratory. He is also the Founding Director of Center for Advanced Technology in Integrated Electric Energy Systems, with the mission to enhance the development and integration of advanced technologies for the nexus of food, energy and water.**

Hsiao’s current research interests are mainly focused on the development of sustainable nanomaterials from underutilized biomasses for water purification.
<https://www.hsiaoglobal.org/>

He published over 519 peer-reviewed scientific papers, 50 reviews and chapters in books and encyclopedias, 228 conference proceedings, obtained 51 issued patents (including 31 US patents) and 21 pending patent applications, and edited 2 books. He was elected as Fellow of American Association for the Advancement of Science (AAAS), Fellow of American Chemical Society, Fellow of American Physical Society, Fellow of Materials Research Society, Fellow of National Academy of Inventors, AAAS-Lemelson Invention Ambassador. He received CAAPS Distinguished Professional Achievement Award in 2014.

Nanocellulose technologies to advance the nexus of food-energy-water systems

以納米纖維素技術來促進食物-能源-水源的關係

Benjamin S. Hsiao 蕭守道教授

Distinguished Professor of Chemistry

Director of Center for Integrated Electric Energy Systems

Stony Brook University

Nanoscale cellulose fibrous materials obtained from the chemical treatment of biomass are very effective agents for the removal of toxic species from water, including heavy metal ions. Our team at Stony Brook University has developed a simple, inexpensive and environmentally friendly approach to preparing nanostructured cellulose fibers for water purification, based on a nitro-oxidation reaction carried out on biomasses of diverse origins. There are three key advantages of the nitro-oxidation method. First, the method greatly reduces the consumption of chemicals, energy and water. Second, the processing effluent can be efficaciously neutralized to produce plant fertilizers. Third, the method is effective to extract nanostructured cellulose from underutilized raw biomass such as agriculture residues. The resulting nanocellulose is proven to be an efficient water purification material (membrane or adsorbent) that can treat a wide range of water pollution problems. The demonstrated technology represents an innovative means to

enhance the nexus of food, energy, and water systems, and has many far-reaching impacts to improve quality of life.