

PRESIDENT'S MESSAGE



Dear CASN members:

Spring is the season associated with new beginning, hope and aspiration. Thanks to the global effort of vaccination, after COVID-19 pandemic has raged the world for more than one year, we are finally seeing the light at the end of the long and dark tunnel. I am very excited on the perspective that our life will return to some kinds of normalcy very soon. I sincerely hope that we can reunite in

person, as in the good old days, at our CASN annual meeting in November of this year!

Due to the pandemic, our last CASN annual meeting was held virtually on October 23, 2020. It was a successful meeting under such an extraordinary circumstance. The keynote speaker Dr. Nieng Yan, Shirley M. Tilghman Professor of Molecular Biology at Princeton University, delivered an inspiring and brilliant lecture on structural biology of human voltage-gated sodium channels. Dr. Lin-li Lv of the Southeast University in Nanjing, China, delivered the CASN Young Investigator Award lecture on the role of exosomes in kidney disease. Despite the pandemic, our annual meeting attracted more participants ever before around the globe.

CASN has recently elected Dr. Yong Yu and Dr. Wei Chen as new members for Board of Directors. Dr. Yu is currently serving as the Secretary of CASN, and Dr. Chen is a co-editor of CASN Newsletter. We warmly welcome them to join the Board and look forward to their contribution in this new capacity. You can find their profiles in this issue of CASN Newsletter.

CASN has decided to expand its award program by re-launching Distinguished Scientist Award to recognize individuals with Chinese heritage who have made outstanding scientific contribution to the field of nephrology. Together with CASN Young Investigator award and Outstanding Trainee award, CASN now has a comprehensive award program that recognizes extraordinary individuals who profoundly advance the science of nephrology at different career stages. Solicitation of nomination for awardees will be sent out to CASN members via email at a later date.

Since last year, we have witnessed a sharp and troubling increase in anti-Asian hatred attacks in the US. These brutal attacks on

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members of our community are despicable and heartbreaking, and we strongly condemn these hate crimes against Asian Americans. We are grateful for the strong support of the American Society of Nephrology (ASN) and many other organizations and institutions for taking a stand to denounce Asian hate crimes.

Most of us are, perhaps, emotionally exhausted of face masks and social distancing due to

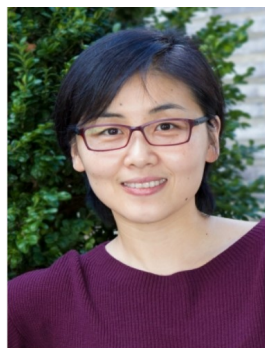
the COVID-19 pandemic. With the increased population who have been vaccinated and warm weather, I am optimistic that we can leave the pandemic behind us very soon and will be able to resume pre-pandemic activities such as international travel. I wish everyone a productive, enjoyable and splendid spring!

Youhua Liu, PhD
President

CASN Annual Meeting 2020



Due to the COVID-19 pandemic, CASN held a virtual annual meeting on October 23rd, 2020. More than 200 members from all over the world joined the meeting via Zoom. President Youhua Liu, Ph.D., welcomed the attendees to CASN's first virtual meeting and presented the annual report.



Nieng Yan, Ph.D

This year's keynote lecture, entitled "Targeting voltage-gated sodium channels for pain relief" was delivered by Nieng Yan, Ph.D., the Shirley M. Tilghman Professor of Molecular Biology at Princeton University. Dr. Yan is a leading structural biologist whose research focuses on under-

standing the governing principle of membrane transport of ions and solutes. She has solved structures of many functionally critical membrane proteins including human glucose transporters GLUT1 and GLUT3, eukaryotic voltage-gated sodium and calcium channels, and the ryanodine receptors RyR1 and RyR2. Dr. Yan has received numerous awards, including the 2015 Protein Society Young Investigator Award, the 2015 Beverley & Raymond Sackler International Prize in Biophysics, the Alexander M. Cruickshank Award at the GRC on membrane transport proteins in 2016, the 2018 FAOBMB Award for Research Excellence, and the 2019 Weizmann Women & Science Award. She was elected as a Foreign Associate of the US National Academy of Sciences in 2019.



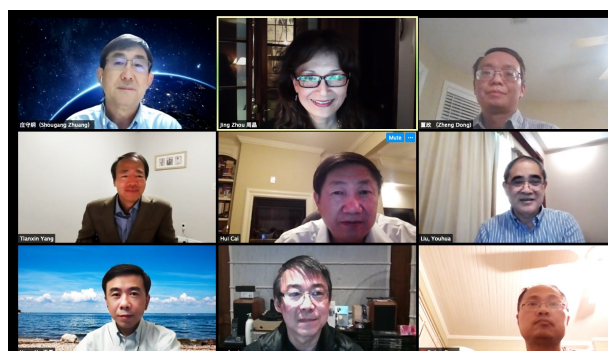
**Lin-Li Lv,
MD, PhD**

Dr. Lin-Li Lv, an Associate Professor of Medicine from the Institute of Nephrology, Southeast University, China, was awarded this year's CASN Young Investigator Award. Dr. Lv received MD. and Ph.D. degrees from the Southeast University, China in 2009. She had a joint Ph.D. training at Howard University during 2008-2009. Dr. Lv worked as a research associate at Li Ka Shing Institute of Health Science, the Chinese University of Hong Kong before she went back to the Southeast University and was promoted to associate professor in 2015. Dr. Lv's research is focused on urinary biomarkers of kidney disease and the roles of extracellular vesicles in renal inflammation and fibrosis. In her research, she has delineated a mechanism of tubulointerstitial inflammation mediated by extracellular vesicles, demonstrated that the expression of nucleic acid in urinary exosomes might represent novel biomarkers of chronic kidney disease, and established a novel drug delivery strategy based on extracellular vesicles for the treatment of kidney disease.

This year's CASN outstanding trainee award was given to Dr. Linda Xiaoyan Li, a postdoctoral research associate in Dr. Xiaogang Li's lab at Mayo Clinic. Dr. Linda X. Li received her Ph.D. from Peking Union Medical College, Chi-

nese Academy of Medical Sciences in 2011. She has worked as a senior scientist at Sino Biological Inc, Beijing, and a postdoctoral research associate at the University of Kansas Medical Center before moving to Mayo Clinic in 2019. Her long-term research interest is focused on understanding the roles of epigenetics and inflammation in polycystic kidney diseases. Currently, she is working on understanding the molecular mechanisms of cyst formation and discovering novel therapeutic strategies for autosomal dominant polycystic kidney disease (ADPKD). Dr. Linda X. Li had an outstanding publication record in APKD research.

The award sections were followed by a short period of social time. Attendees greeted each other and warmly discussed the challenging 2020. The CASN board meeting was held after the annual meeting. Everybody was looking forward to the ending of the pandemic and meeting in person at the next year's annual meeting.



CASN board meeting 2020

CASN Re-launches the Distinguished Scientist Award



At the recent meeting of the Board of Directors, CASN re-launched the Distinguished Scientist Award (DSA). Previously, CASN's DSA was presented to prominent scientists including Noble laureate with Chinese heritage in North America, regardless of his/her scientific discipline, for their monumental contribution to science. The relaunched DSA, however, will be limited to the scientists in the discipline of nephrology. This award represents the highest honor that CASN can bestow to an established scientist for recognizing his/her contribution to the understanding of kidney physiology and diseases. The recipient of this prestigious award should have made substantial and sustained scientific contribution that profoundly advance the science of nephrology. The recipient will present the award lecture at the CASN annual meeting and to share his/her inspiring stories of discovery and innovation. Solicitation for the nomination along with detailed eligibility criteria will be announced at a later date.

New Board Members



Yong Yu, PhD is an Associate Professor and the Director of Graduate Studies in the Department of Biological Sciences at St. John's University. He had his undergraduate education at the Ocean University of China, received his Ph.D. in Biochemistry and Biophysics from the Shanghai Institute of Plant Physiology and Ecology, Chinese Academy of Sciences, and had his postdoc training at Columbia University. He joined St. John's University as an Assistant Professor in 2012 and was promoted to Associate Professor with tenure in 2016.

One of the major focuses of Dr. Yu's research is the assembly and function of the polycystin (PC) protein complexes. Mutations in the two founding members of this family, PC1 and PC2, lead to autosomal dominant polycystic kidney disease (ADPKD). PC1 and PC2 form a re-



Wei Chen, MD, MSc is an Assistant Professor of Medicine and a physician-scientist from Albert Einstein College of Medicine in Bronx, New York. Dr. Chen graduated from St. John's University in New York with Summa Cum Laude and

obtained Medical Degree from the Renaissance School of Medicine at Stony Brook University in 2008. She then completed Internal Medicine residency and Nephrology fellowship training at Montefiore Medical Center, the University Hospital for Albert Einstein. In 2014, she earned a Master of Science Degree in Clinical Research Methods from Albert Einstein and successfully launched her research career.

As a nephrologist, the focus of Dr. Chen's research is to study vascular calcification in patients with chronic kidney disease using bench-to-bedside translational approach. Her research team developed a new microplate assay using

ceptor-ion channel complex on the primary cilia of epithelial cells. Dr. Yu found that the PC1/PC2 complex contains one PC1 and three PC2 subunits and uncovered the molecular mechanism of the assembly of this complex. He further showed that this stoichiometry is shared among the PC family members. Dr. Yu's lab generated the first gain-of-function (GOF) mutants of the homomeric PC2 and the heteromeric PC1/PC2 channels, which opened new avenues for the functional study of the PC complexes. With the GOF mutants, his lab recently showed that PC1 is directly involved in forming the ion-conducting pore with PC2. He is now aiming to understand the molecular mechanism of the gating and regulation of the PC channels, how pathogenic mutations affect the channel function, and the role of the PC1/PC2 channel in ADPKD. Dr. Yu's work is currently supported by grants from the National Institutes of Health (NIH), Baltimore PKD Center, and PKD Foundation.

dynamic light scattering to measure the properties of calcein particles in human serum. Using this assay, they found that larger secondary calcein particle size was associated with higher odds of having vascular calcification and with mortality in patients with chronic kidney disease. In addition, using metabolomic profiling, her research team identified novel pathways in the pathogenesis of vascular calcification. Her team has also investigated the relationship of vascular calcification with potentially modifiable risk factors including dietary zinc intake, magnesium, and metabolic acidosis. These findings provide an important framework for future studies that investigate the roles of these factors as biomarkers or therapeutic targets for vascular calcification. Dr. Chen has received supports from NIH, American Society of Nephrology and Renal Research Institute. Dr. Chen was the recipient of the CASN Young Investigator Award in 2020, and serves as a core member in a NIH study section for a special emphasis panel.

Renal Unit in Focus

Institute of Nephrology of Chongqing

Department of Nephrology, Xinqiao Hospital, Chongqing, China



Introduction

As one of the earliest established renal unit in China, the Department of Nephrology in Xinqiao Hospital was initially established in 1972. Then it grew up as Institute of Nephrology of Chongqing in 2000. In 2018, the institute was upgraded as the Key Laboratory for the Prevention and Treatment of Chronic Kidney Disease of Chongqing, and Chongqing Clinical Research Center of Kidney and Urology Diseases. The renal unit now consists of nephropathy ward, hemodialysis center, peritoneal dialysis center, CKD management center, kidney intensive care unit (KICU), pathological diagnosis center, and scientific research lab, with a total of 180 staff, including 41 nephrologists, 124 nurses, 3 clinical technicians and 12 scientific researchers. Based on the national and provincial platform, the renal unit has gradually established a characteristic for chronic kidney disease and its complications, and become one of the outstanding centers of nephrology for health care, medical education and scientific research in China. The current director of the institute is Prof. Jinghong Zhao, a competent nephrologist and scientist in China.

Health care

Both outpatient and inpatient divisions serve kidney disease patients with high-quality care. Inpatient services include two nephropathy wards (total 190 beds) and a 10-bed KICU. Outpatient services include hemodialysis center, peritoneal dialysis center and CKD management center. At present, there are more than 170000 outpatient visits per year. More than 8,300 patients are discharged annually. Patients with a variety of kidney diseases are treated in different wards. The blood purification division is equipped with 206 hemodialysis machines and 12 CRRT devices. Blood purification techniques provided include hemodialysis, hemofiltration, hemoperfusion, plasmapheresis and immunoadsorption. The annual dialysis visit is more than 90,000 and the 10-year survival rate is over 65%. In 2001, CRRT treatment was applied, and a number of combined blood purification technologies were successfully established, including clearance of PRA in highly sensitive renal transplant recipients by double membrane filtration, coupled plasma filtration adsorption combined with CRRT in the treatment of MODS. More than

150 children were treated with CRRT successfully, and the lowest body weight was only 2.3kg. Peritoneal dialysis was carried out since 1986, and automated peritoneal dialysis in 2018. A follow-up system for both hemodialysis and peritoneal dialysis patients has established, with a cohort of 600 and 730, respectively. Currently, there are 4 full-time pathologists and 3 technicians in pathological diagnosis center. The number of annual renal biopsy is over 2100 cases, with a total number of more than 20000 cases completed. Of note, a patient follow-up system for non-dialysis CKD patients has established since 2013. CKD patients were enrolled and managed by CKD Management Center. Totally, 9,600 patients have registered and obtain timely health advice including diet management, medication guidance, lifestyle and sports management, psychological care and so on.



Scientific research

The institute has an ambitious and energetic research team that dedicates to both basic and clinical research of various kidney diseases. The continuous research work is trying to interpret the key mechanisms of acute kidney injury, chronic kidney diseases and the complications, and to identify the early diagnosis and treatment targets by using various Omics in large cohort samples and clinical data, with the ultimate aim to transform the basic research results into clinical use. During the past 5 years, the institute has received more than 70 national and provincial scientific research projects, with a total funding in excess of ¥45 millions. Under supporting of

these funding, more than 100 papers in English have been published in international peer-review academic journals, including JASN, Blood, Nature Communications, Advanced Science, Gastroenterology and Acs Nano. Five books of kidney disease have also been published. Notably, this team focuses on CKD and its cardiovascular complications. Their work in JASN and Blood elucidated the molecular mechanism and shed light on the treatment of CKD-associated cardiovascular disease, which were extensively cited and positively commented by other well-known scholars.



Medical education

The institute has a complete medical training system for all kinds of applicants including undergraduate students, graduate students, residents and research fellows. At present, the institute has six doctoral supervisors and seven master supervisors. About 200 graduate students received medical training and academic degrees in the institute and many of these trainees have become outstanding young nephrologists and disciplines leaders. The institute also provides continuing medical education for nephrologists and specialty nurses. These activities were specifically designed to meet both institutional requirements and the individual needs of the trainees. Such activities include advances in the diagnosis of kidney disease, blood purification therapy training, CKD management training and renal pathology training. In addition, the institute

also holds the annual regional meeting and sub-speciality forums of renal disease. To reinforce the international academic exchanges, excellent nephrologists were supported by cooperation

and exchange programs, and dispatched to United States, Canada, Australia, Germany, Italy and other countries for many times.

Donation

Any amount of donation will be greatly appreciated. It will also be greatly appreciated if you can contribute time and efforts to the CASN. For membership dues, please follow this link <http://www.casn-online.org/join-casn--membership-renewal.html>. For donations, please follow the link (<http://www.casn-online.org/donation.html>).

Membership

Membership application and renewal: Please download the membership application and renewal form at <http://www.casn-online.org/join-casn--membership-renewal.html>. There will be an option of onsite application and renewal for membership at the CASN annual meeting. Check or cash will be accepted and receipts will be provided.

Acknowledgements

We thank the following sponsors for their generous support of the educational activities of CASN.

