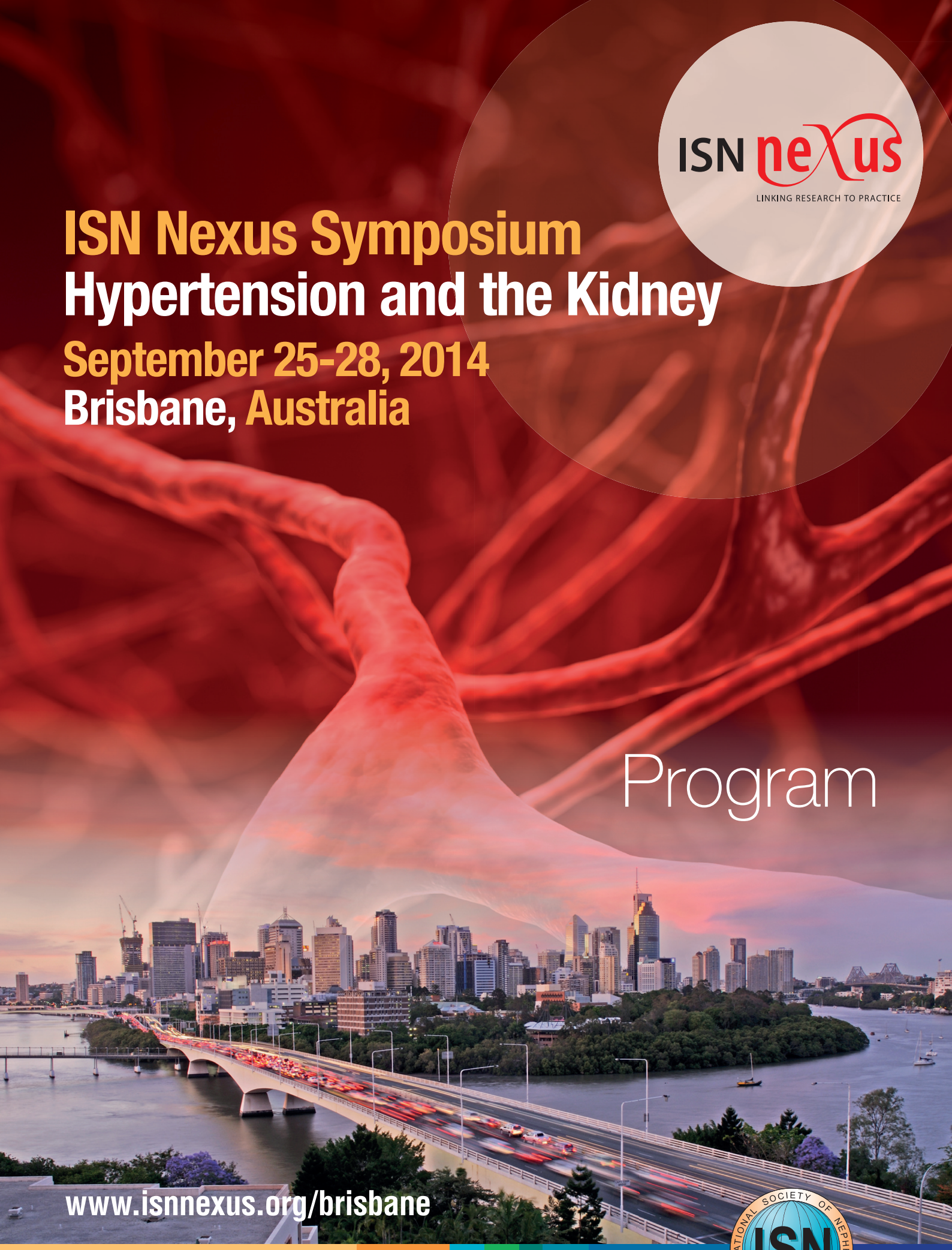
ISN nexus
LINKING RESEARCH TO PRACTICE

ISN Nexus Symposium
Hypertension and the Kidney

September 25-28, 2014
Brisbane, Australia

Program



www.isnnexus.org/brisbane

Advancing Nephrology Around the World

ISN
INTERNATIONAL SOCIETY OF NEPHROLOGY
1960

ISN nexus
LINKING RESEARCH TO PRACTICE

Program at a Glance

Thursday

Welcome & Keynote Lecture

17:00 - 17:30	Welcome Address: *Thomas Coffman, USA* *Toshiro Fujita, Japan* *Rob Walker, New Zealand*
17:30 - 18:30	Keynote Lecture 1: Salt, the Kidney and Hypertension *David Ellison, USA*
18:30 - 19:30	*Welcome & Networking Reception*

Thursday, September 25

Friday

Keynote Lecture

08:30 - 09:30 **Keynote Lecture 2:**
Mechanisms of salt sensitive hypertension
Toshiro Fujita, Japan

09:30 - 10:00 *Coffee Break & Poster Viewing*

Session 1:

Moderators: Thomas Coffman, USA and Nicole Isbel, Australia

Renal nerve ablation and the treatment of hypertension

10:00 - 10:30 Renal nerves and hypertension
Gerald DiBona, USA

10:30 - 11:00 Interactions of CNS G-protein signaling and renal nerve activity in hypertension
Richard Wainford, USA

11:00 - 11:30 Clinical studies of renal nerve ablation
Markus Schlaich, Australia

11:30 - 12:00 Endovascular renal denervation to reduce cardiovascular risk in dialysis patients
Rob Walker, New Zeland`

12:30 - 13:30 *Networking Lunch & Poster Viewing*

Session 2:

Moderators: David Ellison, USA and Rob Walker, New Zeland

Role of the kidney in salt handling and hypertension

13:30 - 14:00	Epidemiology of salt intake and blood pressure *Bruce Neal, Australia*
14:00 - 14:30	Salt handling by the kidney in hypertension *Alicia McDonough, USA*
14:30 - 15:00	Regulation of sodium excretion by inflammatory cells *Jens Titze, USA*
15:00 - 15:30	Salt and the immune response *Dominik Müller, Germany*

15:30 - 16:00 *Coffee Break & Poster Viewing*

Session 3:

Moderators: Dominik Müller, Germany and Toshiro Fujita, Japan

Mechanisms of kidney injury in Hypertension

16:00 - 16:30	Fetal programming, nephron number and hypertension *Karen Moritz, Australia*
16:30 - 17:00	Salt and the vasculature: Endothelial ENaC and vacular tone *Heather Drummond, USA*
17:00 - 17:30	Role of rac1 in podocyte injury and glomerulosclerosis *Miki Nagase, Japan*
17:30 - 18:00	Sodium restriction in patients with chronic kidney disease *K. Campbell, Australia*

ISN nexus
LINKING RESEARCH TO PRACTICE

Saturday

Keynote Lecture

08:15 - 09:15 Keynote Lecture 3:
RAS antagonists in diabetic nephropathy: What now?
Mark Cooper, Australia

09:15 - 09:45 Coffee Break & Poster Viewing

Session 4:

Moderators: Akira Nishiyama, Japan and Susan Gurley, USA

Hypertension, diabetes and diabetic nephropathy

09:45 - 10:15 Metabolomic insights in diabetic renal disease
Kumar Sharma, USA

10:15 - 10:45 Epigenetic modulation of diabetic nephropathy
Toshimi Marumo, Japan

10:45 - 11:15 Genetics of diabetic nephropathy
Karl Tryggvason, Singapore

11:15 - 11:45 ACE2 in diabetes
Merlin Thomas, Australia

11:45 - 12:30 Networking Lunch & Poster Viewing

Session 5:

Moderators: Mark Cooper, Australia and Kumar Sharma, USA

SGLT2 inhibitors-potential impact in hypertension and kidney disease

12:30 - 13:00	Physiology of SGLT2 inhibition *Volker Vallon, USA*
13:00 - 13:30	Effect of SGLT2 inhibitors on circadian blood pressure in metabolic sydrome *Akira Nishiyama, Japan*
13:30 - 14:00	Impact of SGLT2 inhibition in hypertension and diabetic nephropathy Carol Pollock, Singapore
14:00 - 14:30	*Coffee Break & Poster Viewing*

Keynote Lecture

14:30 - 15:30	Keynote Lecture 4: Primary hyperaldosteronism *Michael Stowasser, Australia*

Session 6:

Moderators: Merlin Thomas, Australia and Louise Burrell, Australia

The renin-angiotensin system in hypertension

15:30 - 16:00	ACE2 in hypertension *Susan Gurley, USA*
16:00 - 16:30	A modern view of renin regulation *Armin Kurtz, Germany*
16:30 - 17:00	Complex roles for AT1 receptors in hypertension *Thomas Coffman, USA*

Sunday

Keynote Lecture

08:30 - 09:30 **Keynote Lecture 5:**
A new genetic cause for hypertension
Friedrich Luft, Germany

09:30 - 10:00 *Coffee Break & Poster Viewing*

Session 7:

Moderators: Friedrich Luft, Germany and Karl Tryggvason, Singapore

Genetics

10:00 - 10:30 Epigenetics in vasculature regulation
Assam El-Osta, Australia

10:30 - 11:00 Genetic susceptibility in heart failure
Stuart Cook, Singapore

11:00 - 11:30 Regulation of sodium excretion by microRNAs
Thomas J. Wang, USA

11:30 - 12:00 Genetics of adrenal adenomas and primary hyperaldosteronism
Ute Scholl, German

Closing Remarks

12:00 - 12:30 *Thomas Coffman, USA*
Toshiro Fujita, Japan
Rob Walker, New Zealand

Sponsors

Boehringer Ingelheim and Eli Lilly and Company Alliance
Two companies. One commitment to diabetes. Boehringer Ingelheim and Eli Lilly and Company are working together, combining resources and focusing research and development to make a difference to those whose lives are impacted by diabetes. By partnering with the medical and healthcare community, together we are developing and bringing to market a broad range of new therapies to help improve patient outcomes in type 1 and type 2 diabetes. Boehringer Ingelheim and Eli Lilly and Company, two companies with one commitment to diabetes.

Boehringer Ingelheim Lilly

Supports Session 5 of the Program 'SGLT2 Inhibitors-Potential Impact in Hypertension and Kidney Disease' by an unrestricted educational grant.

Boehringer Ingelheim Pty Limited,
78 Waterloo Road
North Ryde, NSW 2113

Eli Lilly Australia Pty Limited
112 Wharf Road
West Ryde, NSW 2114

Amgen
Amgen is committed to unlocking the potential of biology for patients suffering from serious illnesses by discovering, developing, manufacturing and delivering innovative human therapeutics. A biotechnology pioneer since 1980, Amgen has reached millions of patients around the world and is developing a pipeline of medicines with breakaway potential.

Our corporate address is:
Amgen Australia Pty Ltd
Level 7, 123 Epping Road
North Ryde NSW 2113
Australia

www.amgen.com

AMGEN®

Ajinomoto Pharmaceuticals
We contribute to each individual's health and a better quality of life through development of unique new drugs that only the Ajinomoto Group can create.

Corporate address:
1-1, Irifune 2-chome,
Chuo-ku,
Tokyo 104-0042,
Japan

www.ajinomoto-seiyaku.co.jp/en/company/index.html

AJINOMOTO PHARMACEUTICALS CO., LTD.

The ISN would like to thank and acknowledge the following companies for their generous support

Symposium Platinum Sponsor

Boehringer Ingelheim Lilly

Symposium Contributors

AMGEN®

AJINOMOTO PHARMACEUTICALS CO., LTD.

Tourism and Events Queensland

brisbane
australia's new world city

ISN nexus
LINKING RESEARCH TO PRACTICE

Speaker Biographies

Biographies

Biographies

Katrina Campbell

Dr Katrina Campbell is an Advanced Accredited Practising Dietitian and Senior Research Fellow at Princess Alexandra Hospital, Brisbane. Her areas of expertise include clinical trials, lifestyle interventions and nutrition assessment where she is making an impact internationally in the specialty field of renal nutrition. Dr Campbell is a current recipient of a prestigious Lions Senior Medical Research Fellowship and Health Research Fellowship (Queensland Government) to support her post-doctoral research career and lead a program of research into nutrition interventions to improve cardiovascular disease outcomes in kidney disease. Through this fellowship she has led several clinical trials and multi-site observational studies. In 2013, Katrina was awarded the 'Young Achiever' award in recognition of her achievements in advancing dietetics research by the Dietitians Association of Australia.

Louise Burrell

Professor Burrell is a clinician–scientist at the University of Melbourne, Austin Health where she leads the Cardiovascular Research Group, heads General Medical Unit 4, and is an Honorary Consultant in Cardiology. She was the inaugural Coordinator of the Cardiovascular Domain, Faculty of Medicine, Dentistry & Health Sciences, and is the current Treasurer of the International Society of Hypertension. Her research encompasses basic and clinical research with the major aim to reduce the burden of cardiovascular disease. Her research interests include the renin angiotensin system and its role in regulating blood pressure and cardiac function, and the genetics of diabetic heart disease, with a focus on cardiac hypertrophy and diastolic dysfunction.

Thomas Coffman

Mark Cooper is the Chief Scientific Officer of the Baker IDI Heart & Diabetes Institute as well as the Director of the JDRF Centre for Diabetes Complications at the Baker IDI Heart & Diabetes Institute. He holds honorary appointments as a Professor of Medicine at both Monash University and University of Melbourne. He is a trained endocrinologist with an appointment at the co-located Alfred Hospital. Dr Cooper studied medicine at the University of Melbourne and then completed his physicians training at the Austin Hospital as well as his PhD under Dr George Jerums and Professor Austin Doyle in the University of Melbourne, Department of Medicine, Austin Hospital. Dr Cooper has successfully competed for a large number of peer reviewed grants over the last 15 years from a range of organizations including not only JDRF but also the National Health & Medical Research Council of Australia, National Institutes of Health, National Heart Foundation of Australia, Diabetes Australia and Kidney Health Australia. In 1999, Dr Cooper was awarded the Eric Susman prize from the Royal Australasian College of Physicians for his research in the field of renal and vascular complications of diabetes. In 2005, he was awarded the Australian Diabetes Society (ADS) Kelion Award for

outstanding contribution to diabetes research in Australia. In 1999, he was awarded a Centre Grant from JDRF which was subsequently renewed in 2003. He was recently awarded a five years scholars award by JDRF, one of only 2 awarded worldwide. He is the first non-North American to receive this highly prestigious award. This work has now been further supported by a 5 year Australia Fellowship awarded by NHMRC in 2009. Dr Cooper is currently Co-Chair of the JDRF Medical Science Review Committee (Complications Panel). He is regularly invited to international meetings and has over 500 peer reviewed publications.

Stuart Cook

Dr Cook grew up in Kenya, completed his schooling at St Edward's School, Oxford and studied medicine at St Bartholomew's hospital, London. He obtained his MRCP and then did a PhD. He undertook a Post Doctoral training post at Harvard funded by a Wellcome Trust International Prize Travelling Fellowship. He returned to the UK to complete his training in clinical cardiology and was awarded a Department of Health Clinical Scientist Award in 2004. In 2008 he was appointed as Group Head in Molecular Cardiology at the MRC Clinical Sciences Centre and Honorary Consultant at the Hammersmith Hospital. In 2009 he was appointed as Head of Genetics at the Cardiovascular Biomedical Research Unit at the Royal Brompton NHS Trust and Professor at Imperial College in 2010. In 2012 he was awarded a Singapore Translational Research Investigator (STaR) Award and appointed as Professor at Duke-National University of Singapore and senior consultant at the National Heart Centre Singapore. In 2014 he was appointed as founding Director of the National Heart Research Institute Singapore. He heads a cross-disciplinary research team, anchored in genetic discovery in humans and model systems, with the overarching goal of identifying new genes and pathways for heart disease.

Markus Cooper

Mark Cooper is the Chief Scientific Officer of the Baker IDI Heart & Diabetes Institute as well as the Director of the JDRF Centre for Diabetes Complications at the Baker IDI Heart & Diabetes Institute. He holds honorary appointments as a Professor of Medicine at both Monash University and University of Melbourne. He is a trained endocrinologist with an appointment at the co-located Alfred Hospital. Dr Cooper studied medicine at the University of Melbourne and then completed his physicians training at the Austin Hospital as well as his PhD under Dr George Jerums and Professor Austin Doyle in the University of Melbourne, Department of Medicine, Austin Hospital. Dr Cooper has successfully competed for a large number of peer reviewed grants over the last 15 years from a range of organizations including not only JDRF but also the National Health & Medical Research Council of Australia, National Institutes of Health, National Heart Foundation of Australia, Diabetes Australia and Kidney Health Australia. In 1999, Dr Cooper was awarded the Eric Susman prize from the Royal Australasian College of Physicians for his research in the field of renal and vascular complications of diabetes. In 2005, he was awarded the Australian Diabetes Society (ADS) Kelion Award for outstanding contribution to diabetes research in Australia. In 1999, he was awarded a Centre Grant from JDRF which was subsequently renewed in 2003. He was recently awarded a five years scholars award by JDRF, one of only 2 awarded worldwide. He is the first non-North American to receive this highly prestigious award. This work has now been further supported by a 5 year Australia Fellowship awarded by NHMRC in 2009. Dr Cooper is currently Co-Chair of the JDRF Medical Science Review Committee (Complications Panel). He is regularly invited to international meetings and has over 500 peer reviewed publications.

Gerald DiBona

Dr. DiBona received training in nephrology and renal physiology at the Peter Bent Brigham Hospital and Harvard Medical School. He joined the Department of Internal Medicine, University of Iowa College of Medicine in 1969. He advanced to Professor (1975) and was Vice Chairman of the Department of Internal Medicine and Chief, Medical Service, Iowa City Veterans Administration Medical Center from 1977-2001.

His research centered on the neural control of the kidney. Renal denervation was shown to prevent the development of hypertension in experimental animals. This led to the development of a technique for renal denervation in human subjects for the treatment of resistant hypertension.

Dr. DiBona served as President of the American Physiological Society. He is past Editor-in-Chief of Hypertension. He has received the Novartis Award for Hypertension Research of the American Heart Association and the Walter B. Cannon Memorial Award Lecture of the American Physiological Society.

Heather Drummond

Heather Drummond is an Associate Professor in the Department of Physiology and Biophysics at the University of Mississippi Medical Center in Jackson, Mississippi, USA. Her main research interest is understanding how vascular cells sense and transduce mechanical stimuli and the contribution of altered mechanotransduction to cardiovascular disease. She obtained her PhD in Physiology from the Medical College of Wisconsin in Milwaukee, Wisconsin in 1995 where she studied arterial baroreceptor function. She completed a post-doctoral fellowship at the University of Iowa, Iowa City, Iowa where she studied the role of Degenerin/Epithelial Sodium Channel (Deg/ENaC) proteins in baroreceptor mechanotransduction before joining UMMC. Her current research is focused on the role of Deg/ENaC proteins as mechanotransducers in renal and cerebral vascular smooth muscle cells, how the proteins are regulated in disease by inflammatory factors and their contribution to altered control of organ blood flow and end organ injury.

David Ellison

David H. Ellison, M.D. is Professor of Medicine and Physiology & Pharmacology and Associate Director of the Oregon Clinical and Translational Research Institute at Oregon Health & Science University and VA Medical Center. Prior to this, he was Head of Nephrology and Hypertension for 13 years. Dr. Ellison's research centers on mechanisms of salt transport by the kidney, the genetic basis of human blood pressure variation, and diuretic treatment of edema. A long-term focus is the protein target of thiazide diuretics, drugs recommended as first-line antihypertensive agents. His studies helped define the role of the thiazide-sensitive Na-Cl transporter (NCC) in health and disease. One of the major themes has been mechanisms of genetic distal tubule disease, such as Gitelman syndrome and Familial Hyperkalemic Hypertension. Another has been side effects of drugs, such as antibiotics or immunosuppressives, which mimic those diseases. He has also investigated mechanisms and treatment of diuretic resistance.

Dr. Ellison is board certified in Internal Medicine and Nephrology, serves as Chair of the Subspecialty Board in Nephrology for the American Board of Internal Medicine, and Past Chair of the American Heart Association's Council on the Kidney in Cardiovascular Disease. Dr. Ellison was also Program Chair for the ASN's Kidney Week in 2010. He is an elected member of the Association of American Physicians, and a standing member of the Kidney Molecular Biology and Genitourinary Organ Development (KMBD) study section for NIH. He recently completed service on the Renal Merit Review Study Section for the Department of Veterans Affairs.

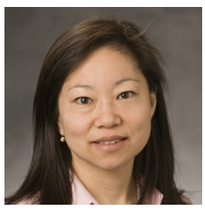
Assam El-Osta

Professor Assam El-Osta is head of the Human Epigenetics and Epigenomics Profiling Centre at the Baker IDI Heart & Diabetes Institute in Melbourne, Australia. He is an NHMRC Senior Research Fellow and his ongoing independent research is currently funded with international and national grants. He has contributed more than 150 articles and publishes research that is highly influential in the field of transcription and chromatin biology. His research is in the Faculty of 1000 Biology and Nature Milestones for transcription regulation as well as in Circulation Research most read articles for 2010-2011 honor roll. While, he frequently writes editorials, his research is also recognized as well as awarded in the "Anthology" of the most significant science published in Circulation Research for 2013. He has a reputation for excellence in training, research and technology and has international postdoctoral postings as well as multidisciplinary collaborative projects with the European Science Foundation and FP7-European Commission. He is a recipient of the JDRF Innovation Award for Type 1 Diabetes Research and serves on national panel committees as well international advisory appointments. His reputation for excellence in training, research and technology continues to rise at an international level. He is recognized by the AMGEN Society as the "Australian Medical Researcher of the Year".

Toshiro Fujita

Dr. Toshiro Fujita is the Director, Department of Clinical Epigenetics, RCAST, the University of Tokyo. His contribution to the study of hypertension and kidney diseases has been widely recognized. In 1980, Fujita and Bartter at NIH demonstrated the pathophysiology of salt-sensitive hypertension. Since then, he has been continuing research on renal and metabolic aspects of hypertension. His research interests include nephrology, endocrinology and metabolic science. Recently, Dr. Fujita's group found the two novel pathways in salt-sensitive hypertension. A renowned expert in his fields, Professor Fujita has been actively contributing to professional associations and scientific publications. Over the past 30 years, he has published over 600 scientific articles. He was awarded Arthur Corcoran Lecture Award, Council for High Blood Pressure Research, AHA and the Honorary Membership Award, ESH. He was past-President, the Japanese Societies of Nephrology, Endocrinology and Hypertension. He is currently serving as Editorial board member for Hypertension and Diabetes.

Susan Gurley



Dr. Susan Gurley is an Assistant Professor of Medicine/Nephrology at Duke University in Durham, NC, USA. Her clinical nephrology practice is at the Durham VAMC where she serves as Section Chief. Dr. Gurley's research interests are the renin-angiotensin system, specifically ACE2 and AT1a receptors in the proximal tubule, and pathogenesis of diabetic nephropathy.

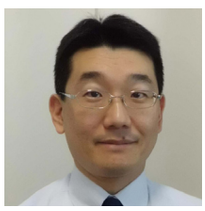
Armin Kurtz

Dr. Kurtz studied medicine and after the medical exam he received training in physiology at the universities of Regensburg, Germany, Zurich, Switzerland and the Max-Planck-Institute in Göttingen, Germany. In 1991 he was appointed as chair of physiology at the University of Regensburg, Germany. There he served also as the dean of the faculty of preclinical medicine and biology (1999-2001) and as the vice-president for research of the university (2004-2009).
In his research he focused on the endocrine functions of the kidney, in particular on the control of erythropoietin and renin synthesis and secretion. His group described the importance of gap junctional coupling for the correct control of renin secretion. Dysfunction of gap junctional coupling leads to inappropriate renin secretion and to hypertension. Recently, his group also described the conversion of renin producing into erythropoietin producing cells in vivo.
Dr. Kurtz served as President of the German Society of Physiology and the Germany Society of Nephrology. He has received the Volhard prize (1998) and the Volhard medal (2013) of the German Society of Nephrology and the Franz Gross prize (2010) of the German Society of Hypertension. He is member German Academy of Sciences (Leopoldina).

Friedrich Luft

Friedrich C. Luft, MD (FACP & FRCP Edin) is an aging country doctor from Brandenburg (formerly Prussia). He speaks English with a bit of an American twang and since he knows the rules to baseball and also who won the last super bowl, we can only conclude that he must spend lots of time at McDonalds. It is rumoured that he was employed earlier at a little-known (i.e. between Boston and San Francisco) Midwestern University in the USA; hence, the FACP. The University is said to be renowned for a foul-mouthed coach who directed five very tall men putting large balls into circular structures at either end of a wooden floor. The same men were failures at another sport involving curious egg-shaped objects, oddly termed “footballs”. Dr. Luft’s great uncle, Hugh Cameron Wilson, came from Edinburgh, Scotland and was elected to fellowship in the Collegium Regium Medicorum Edinburgense. Probably for nostalgic reasons, or perhaps because of his middle name, the college has bestowed the FRCP (Edin) on Dr. Luft. Dr. Luft is affiliated with a university hospital-holding company termed “Medical Faculty of the Charité”. The institution was founded as a pest house in 1709 by the Prussian king (Friedrich I). The hospital’s name is French (Charité) since the French-speaking Prussian kings spoke German only to their dogs. Dr. Luft was employed at a hospital on the outskirts of Berlin (the one in Germany). There, he was responsible for those internal medicine sections, Nephrology/Hypertension, Clinical Pharmacology, and Critical Care Medicine that apparently nobody else wanted. Dr. Luft’s hobbies are patient care, teaching, and research.

Takeshi Marumo



Dr. Marumo is Lecturer of Department of Clinical Epigenetics in the University of Tokyo. He receiving MD degree in 1990, and PhD degree in 1995 from Keio University School of Medicine in Tokyo. After receiving clinical training as a nephrologist in Keio University Hospital, he performed postdoctoral fellowship in Department of Physiology in Frankfurt University. He moved to Department of Nephrology and Endocrinology of the University of Tokyo in 2002. His research is aimed at understanding mechanisms of complications of diabetes and hypertension, and development of new therapeutics. His recent interest focuses on epigenetic mechanisms possibly involved in the progression of kidney disease.

Alicia McDonough

Alicia McDonough is Professor of Cell and Neurobiology at the Keck School of Medicine of the University of Southern California in Los Angeles, CA. She trained in Physiology at UC Berkeley, Univ. Hawaii, UC San Francisco and Columbia University under the outstanding mentorship PS Timiras, SK Hong and IS Edelman. The McDonough lab investigates the molecular mechanisms responsible for regulation of sodium, blood pressure and potassium balance, specifically, how homeostasis is disrupted in disease states and can be corrected therapeutically. By investigating ion transporters' phosphorylation, abundance, subcellular distribution and activity, the lab has defined how stimuli (AngII, injury, immune infiltration) increase renal sodium transport and how the resultant hypertension provokes renal responses to decrease sodium reabsorption (via pressure natriuresis). Dr. McDonough is recipient of the 2009 E.H. Starling Distinguished Lectureship from American Physiological Society, serves as Associate Editor of American Journal of Physiology as well as on numerous study sections and enjoys teaching Medical and PhD students.

Karen Moritz

Associate Professor Karen Moritz completed a PhD at the University of Melbourne before undertaking post-doctoral training at Monash University. She is currently a NHMRC Senior Research Fellow in the School of Biomedical Sciences at the University of Queensland, Brisbane, Australia. The aim of her work is to understand how prenatal perturbations contribute to an increased risk of developing cardiovascular, renal and metabolic disease in adulthood. Over the last 5-7 years, her research has focused on determining the pivotal role played by the kidney in the "developmental programming" of adult disease. Her research has shown a reduced nephron endowment is associated with hypertension and renal impairment in the adult following excess maternal glucocorticoid exposure, maternal low protein diet, placental insufficiency and most recently, prenatal alcohol exposure or hypoxia. Her work combines exploration of the molecular mechanisms altering renal development in utero, quantitative stereological methods to determine morphological outcomes and in vivo physiological measurements of blood pressure and renal function in offspring.

Dominik Müller

Not available at time of print.

Miki Nagase

Dr. Miki NAGASE is an Associate Professor in the Department of Anatomy and Life Structure at Juntendo University Graduate School of Medicine. She graduated from the University of Tokyo School of Medicine in 1990, and worked as an internist for several years. She completed her PhD course in 1998 (the title of her thesis is “Molecular mechanisms of salt-sensitive hypertension”). In 2004, she became Assistant Professor in the Division of Clinical and Molecular Epidemiology, 22nd century medical center, at the University of Tokyo. In 2009, she became Associate Professor in the Division of Chronic Kidney Disease, Department of Nephrology and Endocrinology at the University of Tokyo Graduate School of Medicine. She began her current position in 2014. Her major research interest is the molecular mechanisms of podocyte injury, especially the roles of Rho family proteins and steroid receptors.

Bruce Neal

Bruce Neal is a Senior Director at The George Institute for Global Health, Professor of Medicine at the University of Sydney and Chair of the Australian Division of World Action on Salt and Health. Bruce completed his medical training at Bristol University in the UK in 1990 and spent four years in clinical posts. Prior to taking up his position at the Institute in 1999, he worked as an epidemiologist at the Clinical Trials Research Unit in Auckland, New Zealand, where he completed his PhD in Medicine. Bruce leads a program of vascular research at the Institute and is supported in his work by the National Health and Medical Research Council and the Australian Research Council through Program Grant and Fellowship funding. Bruce has a longstanding interest in the environmental determinants of high blood pressure and the potential for changes in the food supply to deliver health gains.

Akira Nishiyama

Dr. Akira Nishiyama is a Chairman and Professor of Pharmacology at Kagawa University Medical School, Kagawa, Japan. His recent work has focused on the role of renin-angiotensin-aldosterone system in the pathophysiology of hypertension and renal injury. Dr. Nishiyama is the recipient of the Hoecht Marion Roussel Excellence in Renal Research Award from the American Physiological Society (1999), the Best Trainee Award from the American Federation for Medical Research/ Society for Clinical Investigation (2000), Bristol Squibb Recognition Awards for Young Investigators from the American Society of Hypertension (2001), The Harry Goldblatt Award in Cardiovascular Research Award Finalist from the American Heart Association, High Blood Pressure Council (2006), Oshima Award, Japanese Society of Nephrology (2012), etc. Dr. Nishiyama is also an Editor of Clin. Exp. Pharmacol. Physiol. (2007~) and editorial board member of Am J Physiol. Renal-Physiol., J. Hypertension, etc.

Carol Pollock

Professor Carol Pollock trained as a specialist in Renal Medicine, and gained her PhD in renal physiology in 1992. She was appointed to the Professorial Chair of Medicine, University of Sydney, Royal North Shore Hospital in 2000. She is inaugural Chairman of the Board of the Northern Sydney Local Health District, which has oversight of 6 hospitals and the health of 1.7 million people in New South Wales. She is immediate past Chair, and currently serves on the Boards of the NSW Clinical Excellence Commission and the NSW Agency for Clinical Innovation.
She has published over 220 papers in the scientific literature. She was twice awarded the Australian and New Zealand Society of Nephrology (ANZSN) Young Investigator Award and in 2001 was awarded the highest scientific recognition of the ANZSN, the TJ Neale award. She has previously been a member of the NSW Ministerial Advisory Council for Science and Medical Research and regularly serves on the National Health and Medical Research Council Committees, both as a member and panel Chairman. She has been a member of the Executive Committee of the International Society of Nephrology and is the Scientific Chairman of the World Congress of Nephrology meeting to be held in Hong Kong in 2013. She serves on the Board of several not-for-profit organisations in the Health and Medical Research sector.

Markus Schlaich

Professor Schlaich is a renal physician with specific interest in hypertension, its causes and consequences. He has a strong clinical research background in hypertension, nephrology and cardiovascular disease and is an author on more than 180 peer reviewed articles and book chapters. He has a specific interest in treatment modalities targeting the sympathetic nervous system. He currently heads the “Neurovascular Hypertension & Kidney Disease Laboratory” at the Baker IDI Heart and Diabetes Research Institute, holds an NHMRC Senior Research Fellowship and an academic appointment with the Department of Medicine of Monash University.

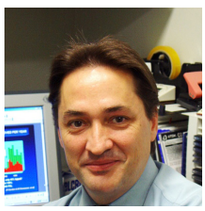
Ute Scholl

Ute Scholl is Assistant Professor of Experimental Nephrology and Hypertension at Heinrich Heine University Düsseldorf, Germany.
She received her MD from RWTH Aachen University in 2008. For postdoctoral training, she joined Dr. Richard Lifton’s laboratory at the Department of Genetics, Yale University (New Haven, CT, USA). In 2013, she was recruited back to Germany by a program of the State of North Rhine-Westphalia.
Dr. Scholl is interested in the genetics and physiology of renal salt homeostasis and blood pressure regulation. She has discovered mutations in the KCNJ10 gene as the cause of a novel syndrome (SeSAME) that features seizures, sensorineural deafness, ataxia and renal salt loss and contributed to the understanding of the role of somatic and germline KCNJ5 potassium and CACNA1D calcium channel mutations in aldosterone-producing adenomas and hereditary hypertension syndromes.

Kumar Sharma

Dr. Sharma is the Director of the Center for Renal Translational Medicine and Institute for Metabolomic Medicine and Professor of Medicine at UCSD in San Diego. He is Chair of the ISN Nexus Symposium, which is an international translational symposium, and previously served as Associate Editor of the American Journal of Physiology-Renal and the journal Diabetes. He completed his MD and Internal Medicine residency at the Albert Einstein College of Medicine in New York. His clinical and research nephrology fellowship was completed at the University of Pennsylvania. He was a past president of the San Diego American Diabetes Association and is a present member of the National Research Council of the American Diabetes Association and the American Society of Nephrology Research Advocacy Committee. Dr. Sharma has had a dedicated and consistent translational approach for diabetic complications for the past 15 years and has expertise in developing phenotype analysis using imaging, molecular and biochemical methods, genomics, microarray, proteomics and metabolomics. His group has had numerous studies linking clinical phenotypes of patients with genomics and biomarkers. His recent studies have employed novel imaging and systems biology approaches to understand novel mechanisms related to obesity-related complications, diabetic kidney disease and novel therapies. His work has had a major impact in the field with respect to novel anti-fibrotic therapies for chronic kidney disease and his group has completed a multi-center NIH funded clinical trial with an oral anti-fibrotic agent. His major focus in the past few years has been to develop novel biomarkers for chronic kidney disease and diabetic complications. In particular, recent metabolomic studies in humans have led to novel insights into the pathogenesis of diabetic complications and the role of the kidney in energy metabolism.

Michael Stowasser



Michael has 23 years clinical research experience in pathogenesis and management of hypertension and especially of endocrine varieties including primary aldosteronism, renovascular hypertension, pheochromocytoma and familial hyperkalemic hypertension. Working with mentor Richard Gordon, he helped to demonstrate that PA is at least 10 times more common than previously thought, and is the commonest specifically treatable and potentially curable form of hypertension. Ongoing studies are aimed at determining genetic bases for primary aldosteronism, examining non-blood pressure dependent effects of aldosterone excess, improving methods of detection, diagnostic workup and management of primary aldosteronism and exploring the pathogenesis and genetics of other salt sensitive forms of hypertension, including familial hyperkalemic hypertension.

Merlin Thomas

Professor Merlin Thomas is a clinician scientist working at the Baker IDI Heart and Diabetes Institute in Melbourne, Australia. His research has been widely published with two hundred and forty papers in peer-reviewed journals including Diabetes, The Lancet, and Diabetes Care. He is also author of the four best-selling books, including “Understanding Type 2 diabetes: fewer highs fewer lows, better health”. His work has also received a number of awards including the Victorian Premier’s Award for Medical Research. His ongoing research focuses on understanding the mechanisms of vascular damage in diabetes, with a particular focus on advanced glycation and its interaction with other pathogenic pathways, including metabolic memory and renin angiotensin system.

Jens Titze

The main goal of my preclinical research activity is to discover how immune cells regulate internal environment composition and control blood pressure. My main contributions to the field are the demonstration that Na+ is stored in the skin, and that macrophages regulate interstitial electrolyte homeostasis and thereby systemic blood pressure by modulating interstitial electrolyte clearance through cutaneous lymph capillaries. The main goal of my patient-oriented research activity is transfer of these findings into clinical practice. Through these studies, I have developed a strong expertise in interstitial physiology, immune cell and vascular biology, and quantitative approaches for innovative phenotyping of electrolyte storage in preclinical and clinical research. As a PI on grants of the NIH, the American Heart Association, the German Research Foundation (DFG), Federal Ministry for Education and Research (BMBF), and Federal Ministry of Economics and Technology (BMWi) of the Federal Republic of Germany, I have laid ground for a research program on extrarenal regulation of electrolyte homeostasis and blood pressure. We have successfully transferred our basic research findings into the clinical arena. The newly awarded Vanderbilt University Strategically Focused Prevention Research Center has a strong clinical focus on Na+ storage as a cardiovascular risk factor. Our clinical research projects, combined with our basic research program, promote research on lymphatic control of interstitial Na+ storage and its role in cardiovascular disease.

Karl Tryggvason

Karl Tryggvason, MD, PhD, is Professor of Medical Chemistry at Karolinska Institutet in Stockholm, and Tanoto Professor of Diabetes Research at Duke-NUS in Singapore. His research concerns the molecular nature, biology and diseases of basement membranes (BM). The main research foci are the composition, biology and diseases of basement membranes, particularly disorders of the kidney filtration system, as well as the biological roles of laminins. Tryggvason has published over 380 research articles. He is a member of the Finnish Academy of Sciences and the Swedish Royal Academy of Sciences, and member of the Nobel Assembly at the Karolinska Institute. He has received several international awards like the American Society of Nephrology Homer Smith Award, and the Louis-Jeantet and Anders Jahre awards. Tryggvason is founder of four companies including Nephrogenex, Inc. (USA) which is initiating a phase 3 clinical trial for a drug against diabetic nephropathy.

Volker Vallon

Dr. Vallon is a Professor of Medicine and Pharmacology at the University of California San Diego (UCSD) and a principal investigator at the VA San Diego Healthcare System. He is the co-director for pre-clinical studies of the UAB-UCSD O' Brien Center for Acute Kidney Injury Research. He received his M.D. from the University of Tübingen, Germany, and research training at the University of Tübingen, UCSD, and the NIH. His group has characterized the roles played by a variety of channels, transporters, receptors and signaling molecules in the physiology, pathophysiology, and pharmacology of the kidney. He aims to integrate aspects of vascular, glomerular and tubular function to gain a more complete understanding of the kidney and its role in body homeostasis and blood pressure regulation. Dr. Vallon uses gene-targeted mouse models to dissect contributions of specific genes (including in vivo renal micropuncture at the single nephron level). With regard to the diabetic kidney, his work is focusing on the tubular hypothesis of glomerular filtration and nephropathy, including the role of the sodium glucose cotransporter SGLT2 in the early proximal tubule in glucose homeostasis, glomerular hyperfiltration, blood pressure regulation, and kidney injury. His research is funded by the NIH and pharmaceutical industry.

Richard Wainford

I received my PhD in Molecular Pharmacology and Toxicology at the University of Aberdeen (UK) under the guidance of Professor Hawksworth. I conducted my post-doctoral training in the neural regulation of blood pressure in the laboratory of Professor Kapusta at Louisiana State University Health Sciences Center in the Department of Pharmacology. I joined Boston University School of Medicine as an Assistant Professor in the Department of Pharmacology and Experimental Therapeutics in 2011. Our research interests focus on the central neural control of fluid and electrolyte homeostasis and blood pressure regulation with the major goal of identifying the underlying pathophysiology of hypertension. Our recent studies have identified a novel brain G-alpha-i2 subunit protein-gaged pathway that is essential to mediate endogenous GPCR-activated pathways that regulate central sympathetic outflow, renal sympathetic nerve activity, fluid and electrolyte homeostasis, and systemic blood pressure regulation. Our work has led to my receipt of several research recognition awards including the 2013 American Heart Association Harry Goldblatt New Investigator Award and the 2014 American Physiological Society Arthur C Guyton Award for Excellence in Integrative Physiology. Further, I have recently been elected to the leadership council of the American Heart Association Council for High Blood Pressure Research and the Scientific Council of the International Society of Hypertension.

Robert Walker

Prof Walker is a clinical and academic nephrologist with extensive experience in the areas of clinical and experimental nephrology research with a particular emphasis on cardiovascular risk factors in chronic kidney disease and hypertension. Areas of research interest include cardiovascular risk factors associated with renal disease; hypertension, obesity and inflammation; the impact of insulin resistance on cardiovascular risk factors; drug induced nephrotoxicity; the impact of drugs and exercise on kidney function; mechanisms chronic kidney fibrosis and genetics in renal disease. This research has resulted in more than 198 refereed journal papers. He is the director of 'The Kidney in Health and Disease' Research group based at the University of Otago.

Thomas J. Wang

Dr. Thomas Wang graduated from Harvard Medical School, and completed his residency and cardiology fellowship training at the Massachusetts General Hospital (MGH). After a post-doctoral research fellowship at the Framingham Heart Study, he joined the faculty of the MGH and Harvard Medical School, where he was until last spring. He is currently the Chief of the Division of Cardiovascular Medicine and Physician-in-Chief of the Vanderbilt Heart and Vascular Institute. He is also the inaugural holder of the Gottlieb C. Friesinger II Chair in Cardiovascular Medicine. His research focuses on the role of the natriuretic peptide system in cardiovascular health, the identification of novel biomarkers, and mechanisms of obesity-related cardiac dysfunction. His group also coordinates several randomized controlled trials related to these topics. Dr. Wang is active on the leadership or program committees of several councils of the American Heart Association (AHA), and has chaired the AHA study section on Genomics, Translational Biology, and Observational Epidemiology. He is a Senior Associate Editor of the AHA's open source journal, JAHA. He participates in numerous NIH study sections and committees, including the Observational Safety Monitoring Board for the Atherosclerosis Risk in Communities (ARIC) study. In 2010, he was elected to the American Society of Clinical Investigation. He is also a fellow of the AHA and the ACC.