Danny Eckert, MD, PhD
University of New South Wales
Sydney, AUSTRALIA

Professor Danny Eckert has recently taken up the role of Matthew Flinders Fellow and Director of the Adelaide Institute for Sleep Health at Flinders University in South Australia. He also holds appointments as Professor of Medicine at the University of New South Wales and Principal Research Scientist at Neuroscience Research Australia (NeuRA) in Sydney where he established the clinical and sleep research programs.

Prior to returning to Australia in late 2011, he was an Assistant Professor at the Brigham and Women’s Hospital, Harvard Medical School in Boston.

His research program focuses on identification of the physiological causes of sleep apnea, optimization of existing therapies, and development of new tailored therapies using novel upper airway physiology and respiratory phenotyping techniques.

He has over 110 peer-reviewed publications and is a former recipient of the Anne E. Suratt Award.

Danny’s message to a young researcher

I love working in this field for many reasons including the fact that it is a relatively new area of medicine/science so there remains many interesting and important unanswered questions and therefore there is the potential to make a substantial impact. It also encompasses virtually all disciplines of medicine so the opportunity to be a part of and work and learn from a highly collegial community of people who have such a diverse range of skills, backgrounds, and expertise ensures that the work is always stimulating, exciting and fun!
Vsevolod (Seva) Polotsky, MD, PhD
Johns Hopkins University School of Medicine
Baltimore, Maryland, UNITED STATES

Seva Polotsky is a Professor of Medicine and the Director of Sleep Basic Research at the Johns Hopkins University School of Medicine. In collaboration with Chris O'Donnell and Alan Schwartz he developed several mouse models of sleep disordered breathing, which he used to study the molecular pathogenesis of sleep apnea and its metabolic complications. Dr. Polotsky laboratory published several high impact landmark papers establishing the role of intermittent hypoxia in the pathogenesis of insulin resistance, glucose intolerance, dyslipidemia, atherosclerosis and fatty liver disease. Seva Polotsky extensively studied the role of leptin and leptin resistance in the pathogenesis of sleep disordered breathing. He also pioneered the use of designer receptor exclusively activated by designer drugs in sleep disordered breathing.

Dr. Polotsky has been active in the American Thoracic Society and previously served as the Chair of the Sleep and Respiratory Neurobiology Assembly of the ATS. Dr. Polotsky trained many physician scientists, several of whom became well-known experts in the field.

He published over 110 peer-reviewed publications. His research endeavors have been continuously supported by the National Institutes of Health.

Seva´s message to a young researcher

Sleep and Breathing is an amazing field, which incorporates sleep, respiratory, metabolic and cardiovascular physiology, respiratory neurobiology and neuroscience. You will never get bored interacting and learning from experts in different areas. It is a young and rapidly developing field with a huge potential. The importance of healthy sleep for overall health has only recently been recognized. There is a plenty of opportunities to make a significant contribution to this field, which may have an impact on public health in general.
José López-Barneo, MD, PhD
Institute of Biomedicine of Seville, SPAIN

José López-Barneo is a professor of Medical Physiology and Biophysics at the University of Seville Medical School and Research Director of the University Hospital and the Institute of Biomedicine of Seville. He did postdoctoral stays at the CNRS (Paris), University of Pennsylvania Medical School and New York University Medical Center. He has been a visiting professor at Stanford University School of Medicine and Columbia University (New York). Dr. López-Barneo main research interests are related to the study of the mechanisms of acute oxygen sensing in mammals, specifically by the carotid body and other peripheral chemoreceptor organs, as well as the cellular adaptations to hypoxia. He also works on the modulation by hypoxia of the peripheral and central neurogenic centers and the molecular bases of dopaminergic neuroprotection and neurodegeneration. Dr. López-Barneo has served as an editor in the Journal of Physiology, Pflügers Archiv/European Journal of Physiology and Physiological Review.

Dr. López-Barneo has been past President of the Spanish Neuroscience Association and the Spanish Society for Gene and Cell Therapy. He is a member of the Academia Europea and the European Molecular Biology Organization. Dr. López-Barneo’s laboratory is currently funded by grants from the Spanish Ministry of Health and the European Research Council.

José’s message to young researchers

Biomedical research offers a great opportunity to young students, investigators, and physicians for the development of successful and challenging careers. Highly sophisticated and cutting edge technological developments are now permitting to address the solution of highly relevant, and so far unapproachable, medical problems. Research on hypoxia is a rapidly evolving field with significant contributions to the pathogenesis, diagnosis and therapeutics of highly prevalent diseases in the fields of respiratory medicine, cardiology, anesthesia, and oncology among others.
I trained at University of Melbourne (MBBS 1982, MD 1994) and FRACP 1992 and did clinical training at Royal Melbourne Hospital (1982-1987) then entered respiratory training at Heidelberg Repatriation Hospital 1988-1990 (which included two years clinical and one year research into sleep apnoea and systemic hypertension with Professor Rob Pierce). In 1991, I was appointed director of the Intensive Care Unit, Heidelberg Repatriation Hospital. In 1992-1994, I was appointed Clinical Research Fellow at the University of Toronto where I undertook research into sleep apnoea and heart failure with Professor Doug Bradley. This gave me a great understanding heart lung interaction and positive airway pressure. In 1994, I was appointed to the Alfred Hospital and Monash University where I have set up a clinical and research program. I am now the head of general respiratory and sleep medicine, Alfred Hospital and Adjunct Clinical Professor of Medicine, Monash University. I have been extremely fortunate to have a small but dedicated group, excellent collaborators and a supportive wife. In the past 25 years, our research has focused upon heart lung interaction under the states of sleep and exercise with variables of positive airway pressure and supplemental oxygen. The disease states we have pursued are heart failure, atrial fibrillation, cystic fibrosis, pulmonary fibrosis and COPD and mental health. Our group have published about 200 manuscripts. I was awarded the Australasian Sleep Association’s Distinguished Achiever Award in 2015.

**Matt’s message to a young researcher**

*Ask questions, don’t accept dogmatic statements, think independently and follow your passion. Seek to do your best and appreciate, in terms of publications, excellence is sometimes the enemy of good. Always put your hand up to speak in front of your peers: this is a most powerful way to learn!*
Clifford B. Saper, MD, PhD
Harvard Medical School
Boston, USA

Clifford B. Saper received his M.D. and Ph.D. degrees and did his internship in internal medicine at Washington University School of Medicine in St. Louis, before doing a neurology residency at Cornell University Medical Center- New York Hospital. He then joined the faculty of Washington University School of Medicine where he served from 1981-1985 as Assistant and then Associate Professor of Neurology and Anatomy and Neurobiology. He then moved to the University of Chicago, where from 1985-1992 he was an Associate Professor, then William D. Mabie Professor of Physiology and Neurology, and Chairman of the Committee on Neurobiology. In 1992, he moved to his present position at Harvard Medical School, where he is the James Jackson Putnam Professor of Neurology and Neuroscience and Chairman of the Harvard Department of Neurology at Beth Israel Deaconess Medical Center.

Dr. Saper served from 1994-2011 as the Editor-in-chief of the Journal of Comparative Neurology and is currently the Editor-in-Chief of Annals of Neurology. Dr. Saper has received a Javits Neuroscience Investigator Award from the National Institutes of Health, and was named one of the 100 most frequently cited neuroscientists by the Institute for Scientific Information. He has served as Vice President and Councilor of the American Neurological Association, and has served on the Publications Committee and has chaired the Program Committee of both that organization and the Society for Neuroscience. Dr. Saper was elected to the National Academy of Medicine, and has been named a Fellow of the American Academy of Neurology, the American Association for the Advancement of Science, and the Royal College of Physicians (London) and a member of the American Association of Physicians.

Dr. Saper’s research has explored circuitry of the brain that controls basic functions such as wake-sleep cycles, feeding, and immune response, and how these circuits are disrupted in neurological disorders, such as Parkinson’s disease, and in sleep disorders such as narcolepsy and sleep apnea, and during aging.

Some words for young scientists

Although science is often taught as a series of “facts”, it is important to go back to the original literature and assess for yourself the strength of the arguments on which the “facts” are based. Never be afraid to test those “facts” with more precise methods, or to draw your own conclusions, even when they challenge received wisdom.
Silvia Vilares Conde, PhD
Chronic Diseases Research Center (CEDOC), NOVA Medical School, New University of Lisbon, PORTUGAL

Silvia V. Conde is Professor of Pharmacology and Neuroscience at NOVA Medical School (NMS) and Principal Investigator at CEDOC (Chronic Disease Research Center) of NMS. She graduated in Biochemistry in 2000 and has an Advanced Specialization Diploma in Physiology in 2005. As a PhD student under supervision of Prof. C. Gonzalez in Valladolid (Spain), she tried to understand how cells and the body respond to the lack of O$_2$, through the study of the physiology of the autonomic nervous system, in particular the carotid body. She pursued her PhD in Pharmacology from both the New University of Lisbon (Portugal) and the University of Valladolid (Spain) in 2007. Afterwards, she realized that for her the most exciting research involves trying to understand the pathophysiological alterations in the carotid body and in autonomic nervous system function that are in the genesis of cardiometabolic and respiratory Human diseases. As a PI, she developed a new line of research on the carotid body (CB) and dysmetabolism, which is based on the pioneering idea that the CB controls glucose homeostasis. She is dedicated to the characterization of pathophysiological biosignals, disease signatures and fingerprints that will allow the identification of targets for therapy, particularly bioelectronic targets, as her group recently described that high frequency electrical stimulation of carotid sinus nerve restores insulin sensitivity and glucose homeostasis in type 2 diabetes models.

In 2009 she was awarded with the L’Oreal Medals Honor for Women in Science Portugal and since then her group won several prizes from the Portuguese Society of Diabetes and from the Pulido Valente Foundation. She belongs to the Directive board of the Portuguese Society of Pharmacology. Silvia V. Conde lab is currently funded by grants from the Portuguese Funding Agency (Fundação para a Ciência e Tecnologia) and from Galvani Bioelectronics.

Silvia’s message to a young researcher

*Science is curiosity. Is about asking questions and find ways to get the answers. Therefore, be curious, be inventive, ask questions, generate ideas (and write them down), think outside of the box. The best ideas, the ones that move forward Science, can be the most improbable and crazy ones. Also, Science is not a job is about passion. Be passionate on what you do.*
Key note speaker at the 16th Conference on Sleep and Breathing, 5-7th AUG 2019, Tampere, Finland

Nanduri R. Prabhakar, Ph.D., D.Sc.
The University of Chicago
Chicago, ILLINOIS, UNITED STATES

Nanduri R. Prabhakar is Harold H. Hines Professor and Director of the Institute for Integrative Physiology and Center for Systems Biology of Oxygen Sensing at the University of Chicago. Prabhakar’s research focuses on a) mechanisms of \( \text{O}_2 \) sensing the carotid body, b) chemo-reflex regulation of autonomic functions and c) carotid body chemo-reflex in the genesis and consequences of sleep apnea. His laboratory identified several novel signaling pathways and molecular mechanisms underlying the cardio-respiratory morbidities associated with chronic intermittent hypoxia, a hallmark manifestation of sleep apnea.

His research is supported by National Institutes of Health, Heart, Lung, and Blood Institute. Prabhakar was recipient of several honors/awards including Elected Fellow of the American Physiological Society, Foreign Fellow of The National Academy of Sciences of India, Michael De Burgh Daly Prize from Physiological Society of U.K., Julius Comroe Award from American Physiological Society, C von Euler Lecture, and Nobel Forum Lecture of the Karolinska Institute, Stockholm, Sweden.

Nanduri’s message to young researchers

The revolutionary advances in cell and molecular biology in the recent past have provided spectacular insights into our understanding of the structure and function of biological systems. Time is ripe for young researchers using these approaches to unravel the cause and consequences of sleep apnea, a devastating respiratory disorder affecting several million people all over the globe.
I was trained at Ecole Normale Superieure in Paris (BS), College de France (PhD) and Yale University (postdoc). My first interest was psychopharmacology. I learnt the ropes with two outstanding mentors Drs. Jacques Glowinski and George Aghajanian.

I dislike moving and administrative tasks about equally and have spent all my career happily in one spot, the beautiful University of Virginia in Charlottesville where I am currently Professor of Pharmacology.

My laboratory has been generously and continuously funded by the National Institutes of Health. My interest is integrative neuroscience, specifically the neural control of the cardiovascular system and the metabolic regulation of breathing. Pubmed would like you to believe that I have published 232 papers. A small number are in popular tabloids (Science, Nature Neuroscience etc.) and quoted well enough. My wife and I have also filed a few patents, some of which have unexpectedly made a buck or two. In a nutshell I had the rare privilege to pursue my interests in basic research with very few strings attached. Along the way, I have enjoyed wonderful colleagues, collaborators and students.

I have received no award of any national or international significance but those I received from students for my teaching are precious to me.

Patrice’s message to a young researcher

Read Ramon y Cajal’s "Advice for a Young Investigator" although you may want to skip the great man’s chapter on marital bliss. Value Esprit Critique (critical thinking, excuse my French) but remember that this does not mean ignoring or systematically rejecting the views and opinions of your scientific colleagues (and nevertheless friends).