

2016—Leaping (and looking) ahead

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Dictionary.com defines physiology as “the branch of biology dealing with the functions and activities of living organisms and their parts, including all physical and chemical processes.” This definition matches well with the vision articulated by the *JGP* founders in their announcement of the new journal in 1918, “*The Journal of General Physiology* is intended to serve as an organ of publication for papers devoted to the investigation of life processes from a physico-chemical view-point....As the constitution of matter is the main problem of physics and physical chemistry so the constitution of living matter is the main problem of general physiology, and in both cases the method of quantitative experimentation is needed” (emphasis added). In other words, physiology includes what life is made of, how the components of life function, and the physical and chemical mechanisms by which they function.

Almost a century later, the scope of *JGP* still mirrors the scope of the field of physiology, which is by necessity a moving target as technology advances and subfields emerge and mature. We focus on work that provides mechanistic insight, but that may look very different in a subfield in which very little is known compared with one in which a high level of understanding has already been achieved. It is a challenge for the *JGP* Editors to evaluate each paper within the appropriate context given that even our diverse expertise cannot cover all areas. We expand our expertise by relying on members of our Editorial Advisory Board, with whom we partner to identify reviewers and ensure consistency in the review process (<http://jgp.rupress.org/site/bios/index.xhtml>).

Last year, we underwent a major expansion to the Editorial Advisory Board, consolidating strengths in muscle physiology and calcium signaling and expanding our expertise in computational biology, membrane trafficking, and membrane protein structure. It has been gratifying to already see payoff from these efforts in the forms of new submissions in these areas. This year, we add four new members, Jianmin Cui, León D. Islas, Meyer B. Jackson, and Karin Sipido, whose scientific backgrounds and biographical information are described below. We are delighted to have these eminent scientists on board and

look forward to their contributions as authors, reviewers, and readers next year and beyond.

2015 brought other changes as well. We introduced Tutorials as a new publication format. Unlike Review Articles, Tutorials need not provide an in-depth evaluation of a field. Rather, they take a didactic approach to solving an experimental or analytical problem. We added an Altmetric link for each published article, to help authors and readers understand the impact of their work (<http://www.rupress.org/site/announce/altmetrics.xhtml>). Most importantly, we implemented a policy change to welcome submission of manuscripts that have been previously posted to preprint servers such as bioRxiv (<http://biorxiv.org/>). We hope these changes will serve our community well, and we encourage feedback on how to serve you even better.

For 2016, we bring aboard Lesley Anson as Consulting Editor. Lesley completed her PhD in Physiology with Jonathan Ashmore and her postdoctoral work with David Colquhoun (a member of our Editorial Advisory Board) and Ralf Schoepfer. With her background in physiology, neuroscience, and biophysics, Lesley brings keen scientific judgment to help recruit papers across the spectrum of physiology. In addition to advising *JGP* on streamlining manuscript review and publication, Lesley will use her experience from roles as Chief Editor of *Nature Communications* and Senior Editor at *Nature* to develop improved strategies for increasing visibility of work published in *JGP* and helping authors attract broader audiences. We are very excited about the many ways in which Lesley’s strengths and vision will contribute to our mission of serving the physiology community.

Jianmin Cui

Jianmin is a Professor of Biomedical Engineering at Washington University in St. Louis. He received his PhD in Physiology and Biophysics from the State University of New York at Stony Brook and did his postdoctoral training at Stanford



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University. He was an Assistant Professor of Biomedical Engineering at Case Western Reserve University before moving to St. Louis. His research interests are membrane permeation of ions, drugs, and genes, including the molecular mechanisms of ion channel function and ultrasound-mediated ion channel activation and drug/gene delivery. PHOTO COURTESY OF J. CUI.



León D. Islas

León received a Bachelor's Degree in Biology from the School of Sciences of the National Autonomous University of Mexico (UNAM) in Mexico City in 1992. His original intention of becoming a marine biologist was derailed by an introductory biophysics class and by frequent conversations with his electrical engineer father. He left Mexico and enrolled in the PhD program in Cellular and Molecular Physiology at Yale, where he received a PhD degree in 2000, under the supervision of Fred Sigworth.

Then, he went on to postdoctoral fellowships at the University of Washington, first working on single-molecule imaging with Viola Vogel and then applying fluorescence methods to the study of cyclic nucleotide-gated channels with William Zagotta.

León established himself as an independent researcher at the Department of Physiology of the School of Medicine at UNAM in 2006, where his laboratory continues to be interested in the biophysics of voltage-gated and TRP family ion channels as well as working with optical methods to reveal the molecular mechanisms of their function. PHOTO COURTESY OF L.D. ISLAS.



Meyer B. Jackson

Meyer did his graduate work on the thermodynamic properties of biological membranes with Julian Sturtevant at Yale. He did postdoctoral work on ion channels with Harold Lecar at the National Institutes of Health, after which he held a

faculty position in the Biology Department at the University of California, Los Angeles. He moved to the Physiology Department at the University of Wisconsin

in 1990 and is currently the Kenneth S. Cole Professor in the Department of Neuroscience at Wisconsin. He has worked on ion channel gating mechanisms, mechanisms of action of neuromodulators, regulation of cellular calcium, and the membrane excitability of nerve terminals. His current efforts are divided between elucidating the molecular mechanisms of calcium-triggered exocytosis and understanding circuit mechanisms in the brain using voltage imaging. PHOTO COURTESY OF M.B. JACKSON.

Karin Sipido

Karin is Professor of Medicine and Head of Experimental Cardiology at the KU Leuven, the University of Leuven, Belgium. She received her MD degree and trained in internal medicine and cardiology. Between 1988 and 1990, she was research fellow at the University of Maryland (with Gil Wier) and Johns Hopkins University (with Eduardo Marban). She obtained a PhD in Physiology with Edward Carmeliet at KU Leuven. She started her own laboratory in experimental cardiology and became Full Professor in 2002. In addition, she has worked as a clinical consultant in cardiology in Leuven and was visiting professor in the Netherlands (Maastricht, Utrecht). She is a Fellow of the American Heart Association (AHA) and was a member of the AHA Basic Science Council (2009–2011). She was elected Fellow of the International Society for Heart Research in 2010 and became member of the Academia Europaea in 2012.



Her main field of interest is cardiac cellular electrophysiology and calcium homeostasis and the changes that occur with cardiac hypertrophy and heart failure. Her overall aim is to link clinical findings to cellular mechanisms. She is particularly interested in the role of altered $[Ca^{2+}]_i$ regulation in arrhythmogenesis and the potential for targeting the Na/Ca exchanger as therapy. From her early work with Gil Wier, she has been interested in quantifying calcium fluxes and more recently, microdomain calcium in the dyadic cleft. This work was linked to the generation of afterdepolarizations, in particular in cardiac hypertrophy. Her work on ischemic heart disease started ~10 yr ago and has stimulated further work on T-tubule reorganization and alterations in calcium microdomains around ryanodine receptors. PHOTO COURTESY OF K. SIPIDO.