**AJP-Cell Theme on “Cell Signaling: Proteins, Pathways and Mechanisms”**

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THIS MONTH, *AJP-Cells Physiology* begins publication of a new series of invited Reviews that address the theme of “Cell Signaling: Proteins, Pathways and Mechanisms.” These articles will complement an ongoing Call for Research Papers of the same title and also the CaMPS/AJP-Cells Physiology-sponsored Symposium at EB2015, which will focus on “Morphogen Signaling Pathways in Tissue Patterning and Disease Processes.”

Cell signaling, the transfer of information between subcellular compartments, or between cells, is a fundamental property of living organisms. In animals, that include the most complex multicellular organisms, cell signaling is vital for the interactions of cells with their local environments and also underpins communications and homeostatic balance between different tissues and organs. Signal propagation may depend on chemical changes, mechanical forces, or a combination of both. A multiplicity of extracellular cues and cell surface proteins activate a more limited number of intracellular pathways with consequences for cell life, death, proliferation, migration, differentiation, and tissue-specific behaviors such as muscle contraction, synaptic function, or platelet activation. Many signaling pathways that are important for normal development or stem cell maintenance also contribute to disease pathologies. Examples are the chronic activation of TGF-β signaling in tissue fibrosis (4) or the hyperactivation of Ras pathway signaling in many carcinomas (1). Intensive study of cell signaling pathways over the past 30 years has led to the development of biologically based therapeutic agents; complexities revealed by agents in clinical use are now leading to further discoveries on the scope of interplay between signaling networks (as an example, 3).

This series of Reviews aims to capture some of the diversity of cell signaling processes. In addition to communicating recent advances in knowledge on a specific pathway or process, a further aim of the Reviews is to provide insight into remaining knowledge gaps. The first Review in the series, written by Helle Praetorius of Aarhus University, Denmark, is entitled “The primary cilium as sensor of fluid flow: new building blocks to the model” (2). The Review discusses the role of the primary cilium in many epithelial cell types as a sensor of fluid flow. The article provides a historical perspective on the development of this research field, along with personal reminiscences and reflections.

On behalf of the senior Editors team, I thank the authors of the Reviews for their contributions. I hope that readers of *AJP-Cells Physiology* will find interest and stimulation in this collection of Reviews. We also welcome research paper submissions under the related Call for Papers.

**DISCLOSURES**

No conflicts of interest, financial or otherwise, are declared by the author.

**AUTHOR CONTRIBUTIONS**

J.C.A. drafted, revised, and approved final version of manuscript.

**REFERENCES**