

## Contemporary Chemical Sciences and *JACS* Perspectives

Twenty-first century chemistry represents the forefront of the molecular sciences. New theories, concepts, and ideas facilitated by advances in analytical techniques and instrumentation revolutionized the practice of chemistry in the latter part of the 20th century. Advances in NMR spectroscopy, mass spectrometry, synchrotron and X-ray techniques, single-molecule spectroscopy, microscopy, computations, lasers, and others, along with tremendous strides in synthesis and coupled with tools of biology such as genetic engineering, allow us to examine complex chemical and biological phenomena, unimagined just a few decades ago, at the molecular, atomic, and even subatomic levels.

These unprecedented advances have opened up new frontiers not only in chemistry but also at the interface of chemistry and essentially every other scientific and engineering discipline, such as the convergence of chemistry with astronomy, biology, materials science, medicine, neuroscience, psychology, and so on. These advances mean that our understanding of matter and the material universe, from individual atoms to galaxies and complex living organisms, such as ourselves, will greatly increase as this century unfolds.

Since its start over 130 years ago, it has been a goal of the *Journal of the American Chemical Society (JACS)*, the flagship scientific journal of the American Chemical Society, to capture these cutting-edge, fundamental advances and to widely disseminate them to the chemical and scientific communities. However, as scientific and chemical research becomes more complex and interdisciplinary, it becomes ever more challenging to communicate and explain new results and advances, especially to non-experts and students. Therefore, in order to capture, describe, and explain these advances to our very diverse, contemporary readers, starting in 2009 with this issue, the *Journal of the American Chemical Society* is introducing a new feature called *JACS Perspectives*. These Perspectives will be “reviews” of a sub-area of the vast and changing chemical sciences by *invited*, well-recognized experts, but not in the traditional sense of the review. Rather, they will provide a summary of the current status of the discipline along with a forward-looking view of where the field is, where it is going, what “bottlenecks” may be delaying progress, and what nascent techniques, methods, and ideas could help to overcome the bottlenecks and advance the field. Ideally, *JACS Perspectives* will not only capture and explain advances in the field to experts and non-experts alike, but also inform on how to move these research areas forward. *JACS Perspectives* will also serve as a guide to young and new investigators either thinking of entering or already in the field and challenge them to advance the frontiers.

The first *JACS Perspective* is by Wu and Schultz on “Synthesis at the Interface of Chemistry and Biology”. We anticipate publishing several more during 2009 and on a regular basis thereafter.

We hope that these *JACS Perspectives* will provide both practitioners and novices, as well as the wider scientific community including students, with further insights into the excitement, significance, and progress of contemporary chemical and allied research. We welcome comments and feedback on this new feature, as well as suggestions for future topics and experts.

*Peter J. Stang, Editor*  
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