

# Editorial: Launch of *ACS Applied Materials & Interfaces*

It is with great enthusiasm that I introduce the inaugural issue of *ACS Applied Materials & Interfaces*. This new journal is dedicated to the publication of interdisciplinary research papers integrating knowledge from the areas of materials science, engineering, biorelated sciences, and chemistry into important applications.

During the past 25 years, the physical sciences have witnessed an explosive growth of fundamental research directed toward understanding and controlling natural and synthetic materials at length scales ranging from the molecular level to the macroscale. This fundamental research has led to the remarkable development of entirely new classes of materials with properties that may be tuned with exquisite control. These new advanced materials, which have been developed through fundamental research, are now being applied in exceptional ways, enabling new devices and technologies that could not have been imagined only a few decades ago. A few of my favorite examples include (see Figure 1) the following: plastic electronics resulting from the development of semiconducting, conjugated polymers (1, 2); self-cleaning and highly transparent surfaces made possible through advances in the understanding of factors controlling surface wettability (3, 4); high-capacity gas storage materials made possible by the development of metal–organic framework materials (5); shape-controlled, nanocrystalline semiconductors and metals with applications ranging from sensors to nonlinear optics (6–10); advanced membranes and mesostructured materials made possible through template synthesis methods (11–13); and patterned and textured surfaces for control of biological cell adhesion and growth (14). *ACS Applied Materials & Interfaces* is devoted to the publication of forefront research focused on new and important applications of advanced materials like the examples listed above.

It is important that I point out the distinction between *ACS Applied Materials & Interfaces* and the other materials-oriented journals in the ACS family of publications: *Chemistry of Materials*, *Langmuir*, *Macromolecules*, and *Journal of Physical Chemistry*. In particular, the

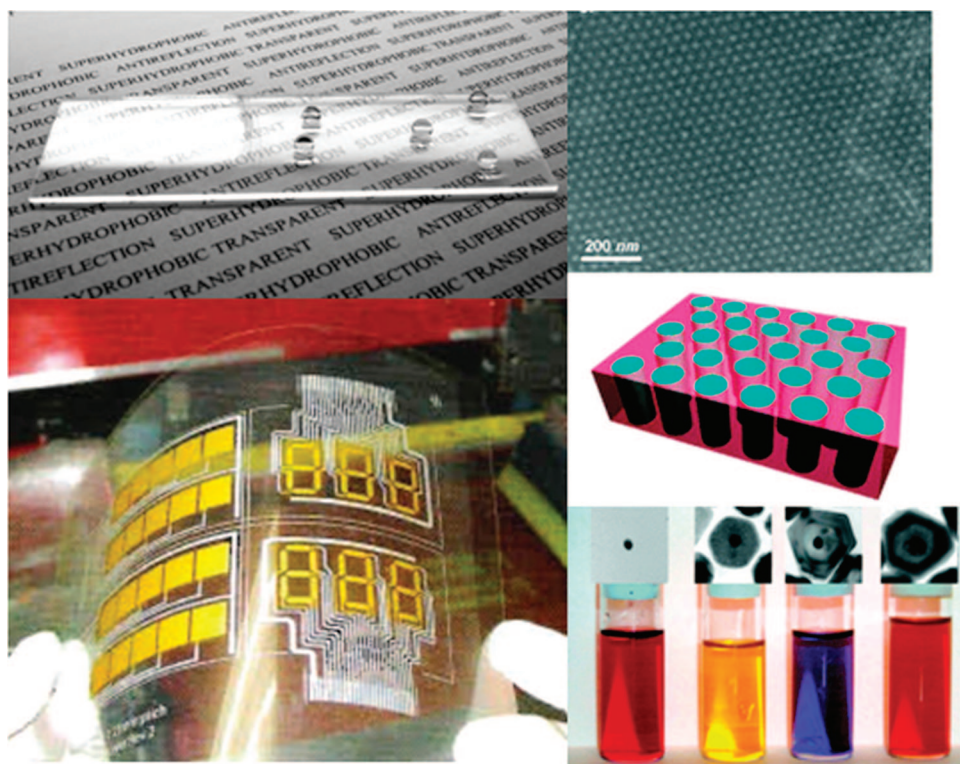


FIGURE 1. Clockwise from upper left: glass slide coated with a transparent, superhydrophobic multilayer with antireflection properties (4); transmission electron microscope image of a triblock copolymer thin film (13); core-shell polymetallic nanoparticles, transmission electron microscope image, and photograph of nanoparticle dispersions (9, 10); screen-printed plastic light-emitting device (2). Images are reprinted with permission.

latter journals are devoted primarily to the publication of fundamental discovery in the physical and materials sciences. By contrast, *ACS Applied Materials & Interfaces* is focused on the interplay between application and fundamental science and engineering, with emphasis placed on novel and significant applications made possible by advances in the synthesis, processing, or fabrication of new materials.

We have had a very positive response from the applied science and engineering community with the launch of the new journal, and I invite you to read through the inaugural issue, which is filled with a diverse set of exemplary papers. While I cannot mention all of the papers, I highlight a few that I believe are outstanding examples for the scope of the journal. The letter by James Wynne and co-workers entitled "Surface Self-Concentrating Amphiphilic Quaternary Ammonium Biocides as Coating Additives" explores structure–property relationships for quaternary ammonium surfactants as additives in polyurethane coatings for biocidal application (15). The paper demonstrates that the ammonium surfactants concentrate at the polymer–air interface, and the effective biocidal activity is related to the amphiphile structure and surface concentration. The article "Multiplex Lateral-Flow Test Strips Fabricated by Two-Dimensional Shaping" by Sibbett, López, and co-workers is featured on the cover of the inaugural issue (16). It describes a novel, low-cost method for fabricating lateral-flow assay devices from paper and nitrocellulose using a computer-controlled knife to create the shapes controlling fluid flow. Finally, the letter by Li and co-workers, "A New Approach to Fluorescence 'Turn-On' Sensing of  $\alpha$ -Amino Acids", describes a novel application of fluorescent conjugated polymers to sense amino acids in the micromolar concentration range (17).

While these few articles provide a snapshot of the types of discoveries that will be published, the scope of the journal will include many other topics and applications in the area of materials science, engineering, biorelated sciences, and chemistry. Among the basic topical areas the journal will cover include advanced active and passive electronic/optical materials, films, coatings, colloids, biomaterials and biointerfaces, polymer materials, hybrid and composite materials, wear, and degradation. Example applications might include electronic, optical, and electro-optical devices, sensors, diagnostics, coatings and adhesives, functional and active surfaces, patterning, energy conversion and storage, imaging, drug release and delivery, and information processing and storage.

The successful launch of *ACS Applied Materials & Interfaces* has been made possible by the efforts of many people working as a team. First, I thank Sarah Tegen of ACS Publications for her tireless, behind-the-scenes efforts to bring the journal online quickly, smoothly, and successfully. Second, John Linton's hard work to bring the new journal to the attention of the community has also been essential in making the launch successful. Additionally, Susan King, Donna Minton, Esther Ober, Bonnie Holderby, Elizabeth Windsor, Rhonda Saunders, Stephen Armah, and Charlie Trowbridge of ACS Publications have been incredibly supportive and helpful with the journal launch. So too, I must thank the Editorial Advisory Board for their efforts, both past and future. I expect that this group will play a very important role in establishing the tone of the journal over the upcoming few years. Finally, and especially I thank Dr. David Whitten for his guidance and advice.

Kirk S. Schanze  
Editor in Chief

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AM800242C