Editorial

Nanostructured Surfaces, Coatings, and Films: Fabrication, Characterization, and Application

Mengnan Qu,¹ Jiamin Wu,² Guangyu Zhao,³ and Yuan Zhang⁴

¹ College of Chemistry and Chemical Engineering, Xi'an University of Science and Technology, Xi'an, China

² Department of Chemical and Petroleum Engineering, University of Pittsburgh, Pittsburgh, PA, USA

³ Academy of Fundamental and Interdisciplinary Sciences, Harbin Institute of Technology, Harbin, China

⁴ State Key Laboratory of Applied Organic Chemistry, Lanzhou University, Lanzhou, China

Correspondence should be addressed to Mengnan Qu; mnanqu@gmail.com

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A number of promising approaches to fabricate nanostructured surfaces, coatings, and films have been stimulated by opportunities to enhance the properties of surfaces and interfaces via the combination of surface structure, morphology, and physical and chemical properties. Such functional nanostructured surfaces, coatings, and films are playing an increasingly important part in a broad range of novel applications, such as energy, electronics, advanced materials, and biomedical applications. This special issue features one review article and twenty-seven research articles that cover a wide range of recent progress in design, fabrication, and characterization of innovative nanostructured surfaces with the aim of improving their surface properties and functional performance, as well as new insights on physical principles underlying their properties and enormous potential applications. Highlighted below are important contributions from this special issue.

In this issue, the review paper presented by C. Tang et al. thoroughly overviews recent advances in molecular design and potential applications of self-assembling surfactant-like peptides. A. Pogrebniak reports structures and properties of nanostructured (Ti-Hf-Zr-V-Nb)N coatings. X. Hou et al. report nanocomposite coatings co-deposited with nanoparticles using aerosol-assisted chemical vapour deposition. Y. C. Ching and N. Syaminie prepare nanosilica filled polyurethane composite coatings on polypropylene substrates. H. Li et al. fabricate a hierarchical superhydrophobic coating with aluminate coupling agent modified kaolin. V. C. Gonçalves et al. report effects of polymeric protective coatings on

the optical and electrical properties of poly(p-phenylene-vinylene) derivatives.

J. L. Tsai et al. report microstructures and magnetic properties of FeOx/Fe/FePt and FeOx/FePt films. K. Nadarajah et al. investigate the influence of annealing on properties of spray deposited ZnO thin films. M. Erkovan et al. study the resistivity of platinum and cobalt alloy thin films. İ. Kariper and Z. Liu deposit cobalt xanthate thin films by chemical bath deposition method. X. Huang and Z. J. Liu report a method to prepare TiO₂ nanotube array films (NAFs) decorated with Cu₂O nanoparticles, which shows more the photoactive than the undecorated TiO₂.

D. Yu et al. report preparation and photocatalytic properties of raspberry-like TiO₂/yeast-carbon hybrid composites. X. Zhang et al. study the photocatalytic and magnetic behaviors of BiFeO₃ nanofibers fabricated by electrospinning. Y. Yang et al. report the upconversion luminescence and photodegradation performances of Pr(III)-doped Y₂SiO₅ nanomaterials. B. Huang et al. evaluate the antitumor activities of verbascoside-coated Ni nanoparticles. S. Oh et al. investigate effects of RGD-peptide coated TiO₂ nanotubes on the cell attachment and proliferation. P. Slepíčka et al. report the cytocompatibility of plasma and thermally treated biopolymers. V. Q. Nguyen et al. develop a method to synthesize chitin/Ag NP composites, which exhibit antibacterial and antifungal activities.

C. K. Chen et al. fabricate free-standing ordered copper particles using an anodic aluminum oxide (AAO) template by a multielectrolyte-step process. S. Y. Yoon et al. present the

liquid-phase-deposition (LPD) of silica onto the hexagonally close-packed silica sphere monolayers. B. Liu et al. fabricate porous structures with subspot-size under the irradiation of picosecond laser pulses. Y. Han et al. report the fabrication of various pyramidal structures on monocrystalline silicon surface by wet etching techniques and investigated their applications to the solar cells. D. Ambrożewicz et al. prepare hydrophobic powders via surface modification of silica or magnesium silicate with selected fluoroalkylsilanes and alkylsilanes. X. Hou et al. synthesize polystyrene/detonation nanographite composite microspheres with the core/shell structure via Pickering emulsion polymerization. L. Klapiszewski et al. report the preparation and characterization of multifunctional chitin/lignin materials. J. Kavinchan et al. prepare antimony sulfide (Sb_2S_3) with different morphologies by a wet chemical method. M. Nowacka et al. prepare and characterize TiO_2 - SiO_2 /Ph-POSS functional hybrids.

As guest editors for this special issue, we hope that this special issue will stimulate further developments in the field of nanostructured surfaces, coatings, and films.

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*Mengnan Qu
Jiamin Wu
Guangyu Zhao
Yuan Zhang*