

Call for Papers: Special Issue on Organic–Inorganic Nanocomposite Materials

In recognition of the broad interest in the subject among the readership of this journal we have decided to devote one of the twelve regular issues of *Chemistry of Materials* during 2001 to papers in the area of Organic–Inorganic Nanocomposite Materials.

This issue will be the fifth in a continuing series of special topical issues which serve to highlight recent progress in areas of broad interest to the materials chemistry community. Past special issues have focused on the following subjects: Structure and Chemistry of the Organic Solid State (1994), Nanostructured Materials (1996), Sol–Gel Derived Materials (1997), and Frontiers in Inorganic Solid-State Chemistry (1998).

The materials that are the subject of the upcoming special issue, Organic–Inorganic Nanocomposite Materials, are perhaps best described as being organized into spatially identifiable domains of an organic and an inorganic component, respectively. Their production typically involves either direct covalent attachment via directed chemical synthesis, or self-assembly from solution or liquid crystalline media arising from a balance of intermolecular forces. Regardless of the manner by which “hybrid” materials are prepared, the spatial organization of typically dissimilar and commonly incompatible components in them produces a wealth of novel structural features, physical properties, and complex functions that cannot be realized with the individual components alone. To harness the potential offered by these new materials, one obviously seeks to gain control of the sizes, topologies, and the spatial assembly of the individual domains involved as well as of their interfaces. This goal is being pursued by perfecting chemical routes of covalent attachment (e.g., polymerization or sol–gel chemistry routes) and by developing a fundamental understanding of how to fine-tune the relevant intermolecular forces in self-assembling systems.

The special issue on Organic–Inorganic Nanocomposite Materials shall attempt to showcase the present state of the art in this area. Contributions are invited detailing the preparation, the structural and analytical characterization, the physical properties, as well as the technological applications of the following types of materials systems and processes: (1) epitaxial molecular films and self-assembled multilayers; self-assembled hybrid materials derived from inorganic nanoclusters and particles; (2) nucleation and growth of inorganic phases at the surfaces of organic monolayers, thin films, dendrimers, and nanospheres, including biomineralization as well as bio-inspired inorganic–organic hybrid material syntheses; (3) hybrid sol–gel-derived films and bulk porous materials as well as functionalized interphases; (4) nanocomposites based on layered inorganic structures, i.e., (a) exfoliation and reassembly and (b) intercalation of organic and polymeric guest materials; (5) block copolymers as nanostructured hosts for inorganic particle generation and other 3-D inorganic nanocluster–polymer assemblies; and (6) postsynthesis modification and sculpting of organic–inorganic nanocomposites.

† Short reviews are intended to be concise reports on recent progress in key areas that are currently at the forefront of research in materials chemistry. They are limited to 10 journal pages and yet should cover the chosen area in a comprehensive and objective manner. Several such reviews have already been solicited for this special issue and individuals interested in submitting such papers should contact Dr. Eckert or Dr. Ward before proceeding to insure that the chosen topic has not already been selected.

To avoid delaying the publication of the special issue as a result of late submissions, there will be a strict deadline for the receipt of papers for this special issue of **January 31, 2001**. Papers may be submitted anytime prior to this deadline and will be published on the WWW as soon as they are approved for publication, while the print version of the paper will be held for the special issue. In fact, early submission of papers for this issue is strongly encouraged as this will greatly facilitate the evaluation process, while allowing more time for revision of the paper, should that prove necessary.

All papers will be reviewed in the usual way by two or more experts (suggestions for potential reviewers are welcomed); in the event that revisions are needed, we will ask for a return of the revised manuscript within a few weeks of its receipt by the author. Papers that are excessively delayed due to revisions, late return of the proofs, or papers that are received after the indicated due date, if eventually accepted, will be included in a later issue of the Journal.

The format for the papers and the criteria for publication will be the same as for any other issue of this journal. We therefore welcome the submission of **short reviews**[†] and preliminary **communications** as well as full papers (**articles**) that are original contributions and which relate significant new results, concepts, and/or literature reviews. We will adhere to this journal's commitment to the publication of only the highest quality papers in materials chemistry and make no guarantee in advance of submission for the eventual acceptance and publication of papers received for this issue. Please refer to our Notice to Authors (in the January 2000 issue or available on the WWW at <http://pubs.acs.org/cgi-bin/dispinst?cmatext>) for details regarding manuscript preparation and the criteria for publication. In particular, **communications**, which must meet the special requirements of urgency and unusual significance to the materials chemistry community, must not exceed 1500 words (approximately 10 double-spaced manuscript pages) including figures, schemes, charts, or tables. (See Notice to Authors for more details.) Also, the stated limit of 10 journal pages (or 50 double-spaced manuscript pages) for **short reviews** will be strictly maintained in an effort to control the overall size for the issue. Clearly oversized manuscripts will be returned to the authors for shortening before submitting them for review and therefore carry the risk of exceeding the submission deadline. We also ask that **articles** be limited to a maximum of 7 journal pages (or 30 double-spaced manuscript pages) if at all possible, or else the need for additional page space should be adequately justified in the cover letter. *In addition to noting your intention in your cover letter, all papers submitted for consideration for this special issue should be clearly marked at the top of the first page of the manuscript copy in the following manner: “submitted for publication as part of the special issue on Organic–Inorganic Nanocomposite Materials”.* **All papers must be submitted to one of the following two editorial offices:**

Dr. Leonard V. Interrante, Department of Chemistry, Rensselaer Polytechnic Institute Troy, NY 12180-3590

Dr. Hellmut Eckert, Institut für Physikalische Chemie, WWU Münster, Schlossplatz 7, D48149 Münster, Germany

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Special Issue Coeditors