Materials Chemistry: a Stronger Role within IUPAC

In the wake of the reorganization of IUPAC in 2000, the most far-reaching consequences of which were the abolition of commissions and the removal of all nomenclature activities to a new nomenclature division, it was soon evident that many of the remaining activities of the subject divisions related to the chemistry underlying the structures, properties, and applications of materials. Recognizing that the world of scientific publication and external bodies such as the Royal Society of Chemistry (UK) had already identified the burgeoning importance of materials chemistry, a subcommittee composed mainly of members of the Inorganic Division but with representation from the Physical and Biophysical and Polymer Divisions has devoted itself for almost a decade to giving structure and definition to the pursuits of those who would identify as materials chemists, and to advancing their interests within the divisional structures of IUPAC.

Participants at the October 2009 materials chemistry meeting at Cornell (from left): Chris Ober, Angela Wilson, Len Interrante, Dick Jones, Tony West, and Michel Rossi.

A working definition for Materials Chemistry as comprising "the application of chemistry to the design, synthesis, characterization, processing, understanding and utilization of materials, particularly those with useful, or potentially useful, physical properties" has recently been advanced in an IUPAC Project report [*Pure Appl. Chem*. 1707–1717 (2009); see also May-June 2009 *CI*, pp. 4–8]. Furthermore, a number of interdivisional projects that fall within this definition have been or are being advanced by various IUPAC task groups, such that, at the meeting of the subcommittee that took place during the recent General Assembly in Glasgow, it was agreed that representatives of divisions with obvious concerns in the area of materials chemistry should meet to discuss the way forward. This meeting took place at Cornell University on 17 October 2009, hosted by Chris Ober, the president of the Polymer Division, with two representatives each from the Inorganic (Len Interrante and Tony West), Physical and Biophysical (Michel Rossi and Angela Wilson), and Polymer (Dick Jones and Chris Ober) Divisions.

Although the Inorganic Division's Subcommittee on Materials Chemistry has served its purpose well, it is a loosely structured group which lacks the authority to coordinate future activities or to position IUPAC for leadership in the area of materials chemistry. This arrangement does not respond adequately to the size and reach of the materials chemistry community, which is presently far in advance of the current situation in IUPAC. At the Cornell meeting it was agreed that a stronger structure that emphasized the interdivisional nature of the subcommittee's purposes was essential. Henceforth, until possibly such time as an even more influential profile can be developed, it would be identified as the Interdivisional Subcommittee on Materials Chemistry (ISMC), with an expanded membership drawn from across IUPAC. It was recognized that high-profile activity in Materials Chemistry could lead to greater recognition of IUPAC among younger chemists, and enhance its role in advancing international cooperation in chemical science and technology. Accordingly, approval would be sought from the IUPAC Council to confirm a remit to oversee all aspects of materials chemistry and act as an IUPAC voice, contributing to congresses as appropriate and coordinating new cross-disciplinary projects. The interdivisional subcommittee would maintain an IUPAC Materials Chemistry website with links from all of the participating divisions which, in addition to reporting its structure and activities, would provide access to materials chemistry educational resources. Meetings would take place annually, at General Assemblies and also in the so-called off-years. In order to implement the proposal, the ISMC's membership would at first be based on those present at the Cornell meeting, but wider involvement would be canvassed without delay. Representatives of other interested groups or individuals within IUPAC who wish to be involved should contact the acting chair, Leonard Interrante <interl@rpi.edu>. The next meeting will take place in Zurich on 23 April 2010.

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