

Recent Advances in Nanoparticles and Colloidal Systems and Their Impact on Human Health

The nanoparticles and colloids field is a fast-growing research area bridging the fundamental principles of chemistry with physics and biology. Nanotechnological research has already led to significant breakthroughs, and the development of health-related products with novel features is a top application field for both *in vitro* and *in vivo* applications. Biocompatibility of nanostructures depends on their chemical composition, surface behavior, solubility, size, and other parameters. However, for some of the nanomaterial used in health-related applications, the analytical and toxicological data are very incomplete. Moreover, the increasing use of nanotechnology can be expected to affect environmental health of plants, animals, and humans.

The specific objective of this recently initiated project is to compile present knowledge, and critically discuss and reveal the scope—especially the limits—of the colloidal and nanoparticulate systems used for health applications such as drug delivery, *in vivo* imaging, food technology, and cosmetics.

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 www.iupac.org/project/2013-007-1-700

A Brief Guide to Polymer Terminology

Most polymer scientists are aware of the importance of using terminology defined and approved by IUPAC. However, the polymer literature is abundant with terms for which there are a variety of definitions and, as editors and readers of polymer journals know, there is widespread confusion concerning even the most common terms.

This project draws upon experience gained from the successful project, “A Brief Guide to Polymer Nomenclature” (www.iupac.org/project/2008-032-1-400), and is of comparable strategic importance in that it is directed to enhance awareness of primary IUPAC output.

The project will deliver a concise two-page document that will act as a basic guide to IUPAC terminology for authors publishing in polymer and related science journals, and which will be readily accessible through the websites of those journals. The document will also be produced on a two-sided, gloss-finished

card for provision as a teaching aid.

The document will not be a summary of all terms; rather it will seek to put the most commonly used terms into context in plain English in a manner that will be comprehensible to scientists, including those with little prior knowledge of polymers, or with little experience in the use of scientific English, or both.

The guidelines will include the important basic terms used in polymer science, careful distinctions of terms that are often misused, and hyperlinks to the relevant primary IUPAC documents. The document may reference terms in nomenclature as part of a basic introduction, but the main body of the document will deal with terminology, not nomenclature.

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 www.iupac.org/project/2012-048-3-400

UNESCO/IUPAC Postgraduate Course in Polymer Science

The 17th run of the Course has began in October 2012 and concluded in July 2013 within the scope of the workshop Career in Polymers V organized by the Institute. Twelve students from the following countries have been attending: Bulgaria, Poland, Russia, Ukraine, and Vietnam. In March 2013, the mid-term seminar was held at which the students reported on the results of their research projects. More than half of the projects are likely to result in publications in international journals or communications at meetings.

The 18th and 19th runs of the Course will be held in the academic years 2013/2014 and 2014/2015 at the Institute of Macromolecular Chemistry, Academy of Sciences of the Czech Republic, Prague. Out of the large number of applicants, 13 have been nominated for the 18th course. The nominees are from: Croatia, Mongolia, Poland, Russia, Ukraine, and Vietnam. The Course started in October 2013 and will be concluded in July 2014.

Cumulative results of the 17 runs held so far are: 138 graduates from 20 countries, 285 publications in international journals, 329 communications at international meetings, and 4500 citations more than (all as of January 2013).

Detailed information on the Course can be found online at:

www.imc.cas.cz/en/imc/unesco.html

www.imc.cas.cz/en/umch/kursy_unesco_iupac.htm

An experience of 17 years enables us to draw a