

POLYMER EDUCATION IN 2012: WHERE WE ARE, WHERE WE'RE GOING

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ABSTRACT

Recent Developments in Polymer Education

This part of the talk will summarize the developments in polymer science education around the world but focusing mainly on those in the US. Sadly, much material that was available has disappeared or become unavailable, especially on-line material that was once accessible. Several new textbooks have been published recently and will be listed, although the list will certainly be incomplete.

Multimedia and Web-based Polymer Education Current Status

Focus will shift to web-based multimedia offerings that are presently available, and the good news here is that, despite some disappearances, these offerings have increased somewhat over the last few years.

These will be reviewed in some detail with a listing of website addresses and description of what is offered at each site. What is clear from an overview of these sites is that there is no coordination of focus or content, something that would greatly enhance their utility. One possibility for such a coordination effort will be described with the goal of establishing a centralized listing and archiving service for the range of materials and subject matter available free to the general public.

Recent Developments at the Polymer Science Learning Center Website

The PSLC (found at www.pslc.ws) is the most widely accessed resource on basic polymer concepts, synthesis, and uses in the world. A complete overhaul and updating of this widely used site is currently underway and progress to date will be described. Plans for expanding the site in the future will also be discussed including goals for:

- Inclusion of new polymers and families of polymers
- Developing advanced areas focusing on modern applications
- Expansion of the laboratory demonstrations and experiments section
- Expansion of the "How Polymers Work" offerings
- Inclusion of sections on industrial polymer synthesis and production
- Expansion of the characterization and analysis sections
- Archiving related sites that have been de-funded or "retired"

Future Directions for Polymer Education

It can be argued that the polymer industry is becoming (or has become) a "mature" industry with few new polymer families possible for development and application. It can also be argued that the rapid evolution in education taking place today, with increasing use of instantaneous on-demand access to open-source material, will have increasing impact on what is taught and how it is taught, what is learned and how it is learned. The traditional methods of education are rapidly morphing into hybrid structures and processes that involve decreasing use of in-class lectures and library assignment, and increased reliance on internet delivered information. A proposal for a concerted effort to embrace these changes in the area of polymer education materials will be given. One example is in hosting or linking to complete on-line courses in specific areas of polymer science and engineering.

Acknowledgment. Grateful acknowledgement is given for past support for multimedia polymer education from the National Science Foundation, the Dreyfus Foundation and the polymer-related divisions of the American Chemical Society plus a variety of industrial donations and grants which have been provided over the years. Also acknowledged with great appreciation are the paid and unpaid efforts of dozens of staff members, students, teachers and faculty who have contributed to the growth and utilization of the Polymer Science Learning Center as it exists today and in the past.