Editorial corner – a personal view

Polymers are bound to save the world

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One of the hottest topics in today's polymer research is the research and development of biopolymers. Biopolymers can be based on renewable resources or synthetic raw materials. The term biopolymer covers not only biodegradable polymers that degrade in the environment (compost) but also bioresorbable polymers that are used in medical and pharmaceutical applications where they are eliminated by the body. Biopolymers used in medical applications are biocompatible and sometimes even bioactive, promoting cell proliferation on the polymeric scaffold material.

Increasing crude oil prices have boosted the search for sustainable material solutions. Important motivation in the search for novel biopolymers is the need to exploit renewable resources and labor force locally around the world, not only in the oil-rich countries.

In the biomedical sector, the polymers may offer giant leaps in the applications that benefit both patients and the entire society. Already today polymer/bioactive glass composites are in clinical use. In future, polymers for tissue engineering enable not only healing of traumas and tissue defects, but also cultivation of new tissue based on patients' own cells or stem cells. In this development the role of polymer based bioactive scaffolds is of highest importance.

Polymer based active agent release is another emerging sector in biomedical field. More precise, targeted and time-controlled drug or active agent delivery devices will revolutionize therapies of several diseases. First breakthroughs using either biostable or bioresorbable polymers in these areas already exist, and more is to come. Although the first truly bioactive polymers and composites are already in clinical studies, a new challenge is to meet all the demands in various sectors of clinical practices.

The above mentioned are some of the emerging areas where sophisticated level polymer science and its' advances are of key significance.

Polymers are bound to save the world!

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