

Introduction to Session 5

Biological Production of Materials

RAMANI NARAYAN¹ AND ÉLIAS GREENBAUM²

¹*Purdue University, West Lafayette, IN; and* ²*Oak Ridge National Laboratory, Oak Ridge, TN*

This session is a new entrant into the Symposium series and highlights an emerging but important area of materials applications through biotechnology—the biological production of materials. The use of biopolymers like cellulose derivatives and poly(lactide) copolymers in biomedical materials applications such as surgical sutures, surgical dressings, prosthetic devices, and drug delivery systems is well known. However, its applications in traditional materials areas such as plastics and electronics has received very little attention. It is this area to which the papers in this session are targeted. They cover a broad spectrum of materials related research. The topics covered are microbial oxygenation reactions leading to novel chemical intermediates like Benzene cis glycols, fluocatechol, and polymers/copolymers like PHB and PHBV (poly3-hydroxybutyrate-3-hydroxyvalerate); biodegradable plastics, the preparation and properties of a composite photobioelectronic material, production of phenolics, and drag reducing polysaccharides from yeast.