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Otto Vogl

University of Massachusetts - Amherst, vogl@polysci.umass.edu

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Centers of Polymer Research

POLYMER SCIENCE AND TECHNOLOGY IN THE GDR

By Otto Vogl

Polymer Science and Engineering Department
University of Massachusetts
Amherst, Massachusetts 01003

In November, 1978, I spent one week in the German Democratic Republic by invitation of the German Chemical Society and the Academy of Sciences of the GDR to visit and give a number of lectures at some Academy and University Institutes. Visited were the Friedrich Schiller University in Jena, the Technical University in Dresden and the Institute of Polymer Chemistry of the Academy of Sciences of GDR in Teltow/Seehof.

Research in polymer science in the GDR is carried out in institutes of the Academy of Sciences and in industrial laboratories, but all teaching is carried out in laboratories of universities. I would like to limit comments specifically to institutions that I visited although some polymer science is taught and research is being done in almost every university in the GDR.

The Institute of Polymer Chemistry of the Academy of Sciences of the GDR in Teltow/Seehof is perhaps the most important institution of polymer science in the GDR. It was founded shortly after the war and has recently celebrated its 30th. anniversary. For many years it was under the leadership of Professor Klare, now the President of the Academy of Sciences of the GDR; the Institute is now and has been for the last 10 years under the leadership of Professor Burkart Philipp. The research activities of the Institute have their assigned objectives which include specific responsibility of relationship with the chemical industry of the GDR. Initially the objective of the Institute's research direction was in cellulose chemistry and fiber technology and some scientific work of the Institute is still involved with subjects of the spinning processes and the mechanism of the formation of fibers. However, polymer synthesis and the study of degradation of synthetic polymers both under strictly thermal conditions but also under thermal oxidative conditions, is now emphasized. The study of membranes which could be used for gaseous and aqueous processes is an important part of the investigations of the Institute. A very good section on polymer physics and testing of materials which includes the study of morphology and polymer properties have become a very important part of the overall activities.

Members of the Institute of Polymer Chemistry are also active in some of the publications in polymer science of the GDR and the journal *Faserforschung und Textiltechnik* has recently been renamed *Acta Polymerica* and its editorial board broadened and brought on a more international basis with encouragement of publications in English.

The Institute of Textile Chemistry in the Sektion Chemie at the Technical University in Dresden with its new modern building is a very important institution of research and teaching in the GDR. It has many modern laboratories for processing and many aspects of chemical engineering with an extensive teaching program. Much research is done on chemistry and technology of acrylic fibers but some work is also done in the theoretical and practical aspects of polymer blends and the preparation and utilization of functional polymers. Most of the work on polymer science and technology is carried out under the direction of Professor W. Berger with the theoretical and physical aspects under Prof. H. Kammer.

The effort in polymer science at the Sektion Chemie of the University of Jena is conducted by Professors Heublein, Hartmann and Horhold. The Institute in Jena is primarily a teaching institution but good research is carried out in cationic polymeriza-

tion, the utilization of special vinyl monomers and the preparation and study of functionally substituted polystyrenes and complexing resins based on such polymers.

Research in polymer science is also carried out at the Technical University in Merseburg, the University of Leipzig, and also in the large industrial complex, the Leuna Works near Merseburg and also at the Academy Institute for Organic Chemistry in Berlin.

The new agreement between the U.S. National Academy of Sciences and the Academy of Sciences of the GDR which was signed in October, 1978, one week prior to my visit seems to have given an important impetus and hope that closer relations and specific interactions between the scientists of both countries would be developed in the very near future.