

Special Issue: Celebrating the 70th Anniversary of the Establishment of Polymer Program at Peking University

The polymer program at Peking University (PKU) was founded by Prof. Xinde Feng in 1953, and is the earliest polymer educational and research organization in China. Nine undergraduates specialized in polymer chemistry, the earliest in China, graduated in 1955. Postgraduate education in polymer chemistry at PKU was initiated by Prof. Feng, from 1953 to 1965, he supervised 13 post-graduate students. In 1978 when China resumed Regulations on Academic Degrees, Prof. Feng recruited 8 three-year master's degree students. Since then, PKU polymer program, under the leadership of Prof. Feng, has entered into a rapid development stage of postgraduate training. The first doctor of science degree in polymer chemistry was awarded in 1984, and two post-doctoral fellows joined PKU polymer program in 1989.

For PKU polymer education, Prof. Feng spent a significant amount of time and energy on designing the curricula. He advocated that education should be a combination of "management" and "freedom", and this educational philosophy was well inherited and maintained at PKU polymer program. Specifically, our education paid attention to the comprehensive cultivation of students' basic theories and cutting-edge knowledge of disciplines, their learning ability and capabilities of solving practical problems, rigorous scientific attitude and meticulous scholarship. Therefore, our graduate students all have strong abilities to innovate and work independently.

For PKU polymer research, we always pay attention to fundamental problems in polymer science, emphasize the importance of systematic and innovative investigation, and advocate interdisciplinary research. Early research fields mainly focused on polymer chemistry. Great achievements have been made in free radical (co)polymerization, living radical and cationic polymerization, as well as ring-opening polymerization of lactide. PKU polymer program is also one of the earliest research institutions in China for bioactive and biomedical polymer materials research. In 1980s, Prof. Qi-Feng Zhou initiated liquid crystal polymers research at PKU, and he, for the first time in the world, proposed the concept of Mesogen-Jacketed Liquid Crystalline Polymers and gave solid proof from both chemical synthesis and physical properties. Since then, the research field in PKU polymer program has been gradually expanded, and many important advances have been made, including new methods of polymer synthesis, precise regulation of polymer hierarchical ordered structure,

chiral polymer materials, functional liquid crystal materials, organic optoelectronic functional materials and devices, and biomedical polymer materials.

With the development of polymer science and the continuous expansion of research fields, the Department of Polymer Science and Engineering was established in 1996, with Prof. Zhou as the first head of the department. Since then, PKU polymer program has entered a new period of rapid development, both professional talents and research platform have gradually expanded, and the level of research has been constantly improving. "Key Laboratory of Polymer Chemistry and Physics of the Ministry of Education" (in 2004) and "Soft Matter Science and Engineering Center of Peking University" (in 2013) were established subsequently. Currently, PKU polymer program has 11 research groups with 17 faculty members. The faculty members have broad interests in polymer science and soft matter research, focusing on polymer chemistry, polymer physics, functional liquid crystalline and high-performance polymeric materials, biomedical and environment-friendly polymeric materials, and optoelectronic functional polymer materials and devices.

PKU polymer program has developed into a leading research and educational hub in polymer science in China and earned its international reputation. It made important contributions to the development of polymer science in China. The programs alumni span the globe with many of them holding key positions in academia, industry and others. Thus, I am honored to organize this special issue dedicated to the 70th anniversary of the establishment of PKU's polymer program. This special issue features 18 publications, including editorial, reviews and original articles, contributed by the broadly defined PKU polymer community. These research studies show the latest progress in polymer chemistry, physics, materials and related interdisciplinary fields.

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