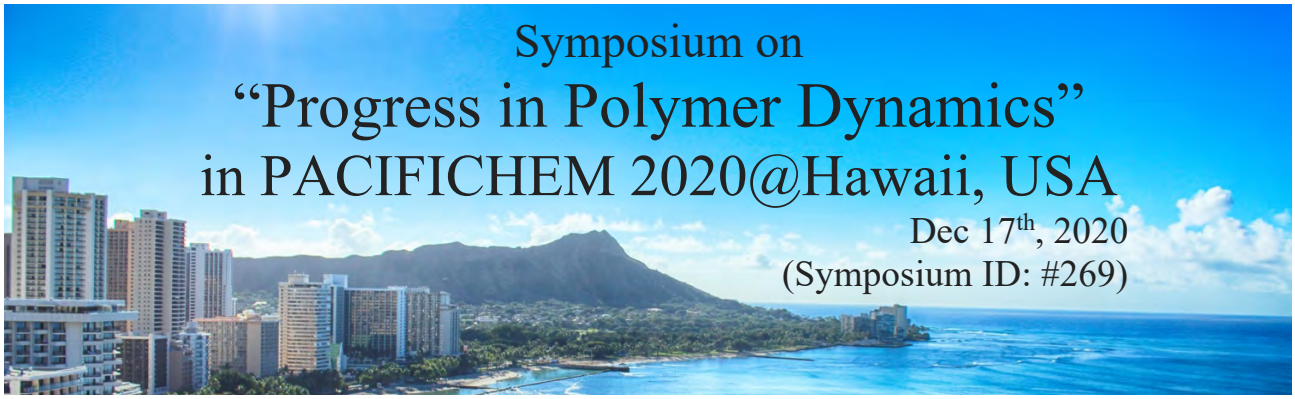
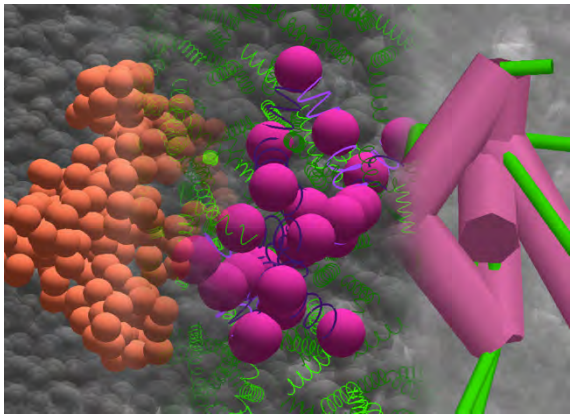


The dynamics of polymeric materials has attracted significant scientific and industrial interest. From a scientific viewpoint, the dynamic universality has been widely investigated. For instance, the molecular weight dependence of properties such as diffusion constant and viscosity, converges to universal behavior for a variety of polymers, regardless of chemistry. Based on universality, coarse-grained modeling has been developed and widely adopted. On the industrial side, the dynamics are directly related to material design through processing. Polymeric materials commonly used in our daily life are processed under non-equilibrium conditions, in which free energy is not globally minimized, and the system is trapped in a meta-stable state. This non-equilibrium nature is essential for the development of industrial materials because the material properties are different from those under equilibrium. For instance, some high-performance polymeric materials such as high modulus fibers attain their superior material properties due to the designed meta-stable state. For such systems, dynamics are important because the meta-stable state arises from the relaxation of the system and materials processing.

Motivated by the background mentioned above, researchers have developed experimental, theoretical, and computational methodologies to investigate the polymer dynamics. On the experimental side, technologies for the dynamics under non-equilibrium have been significantly improved in the last decade. The attempts include large amplitude oscillatory shear (LAOS) measurements, extensional rheometry measurements, microrheology measurements, etc. On the theoretical side, analysis and discussion have provided new insights into shear banding, ring polymers, elongational rheology, nanocomposites, etc. On the computational side, substantial progress has been made for coarse-grained modeling, multi-scale modeling, novel boundary conditions, etc. These activities have resulted in a proliferation of the number of publications in this field. In the ISI database, the number of papers in related areas increased from 4900 in 2007, to 8300 in 2017. This amount is ca. 10% of publications in polymer research as a whole, demonstrating its essential role in the field.



Our symposium, Progress in Polymer Dynamics, will take place on Dec 17th, 2020, as a part of PACIFICHEM 2020. The session will run all day long with a sufficient number of oral slots, although the presentation time will be determined later according to the number of talks. A poster session will also be organized. This session will showcase the recent developments in the field of polymer dynamics for experimental, theoretical, and computational approaches. The meeting will also act as a place for mixing among the researchers, who work in closely related fields but in different societies. The organizing team cordially welcomes paper submissions for the relevant topics.

PACIFICHEM 2020 website: https://pacifichem.org/
Abstract Submission (Deadline Apr 1st, 2020): https://pacifichem2020.abstractcentral.com

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