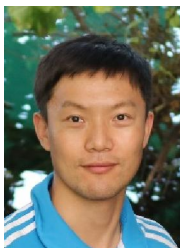


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# Title: Polymer Science in Injection Molding

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## **Proposal**

The field of polymer science plays a pivotal role in various industrial sectors, and injection molding is one of the most important manufacturing processes in the polymer industry. It involves the production of intricate components by injecting molten polymer materials into a mold cavity. As the advancement of polymer science continues to reshape the injection molding process, it becomes crucial to explore and understand the latest developments, challenges, and opportunities in this field. This special issue aims to gather cutting-edge research and insights related to polymer science in injection molding, enabling researchers and industry professionals to stay updated with the latest advancements and bridge the gap between theory and application.

This special issue aims to contribute to the scientific community by providing a comprehensive platform for researchers, academicians, and industrial practitioners to share their research findings, reviews, and perspectives on various aspects of polymer science in injection molding. The main objectives of this special issue are as follows:

- Highlight recent advancements and innovations in polymer materials used for injection molding.
- Explore the influence of process parameters on the quality and properties of injection-molded products.
- Investigate novel techniques, tools, and simulation methods for optimizing injection molding processes.
- Examine the challenges and solutions in addressing issues such as warpage, shrinkage, and residual stress in injection molding.
- Discuss the integration of emerging technologies (e.g., additive manufacturing, Industry 4.0) with injection molding processes.
- Analyze the sustainability and environmental impact of injection molding, including the utilization of biodegradable and recycled polymers.
- Foster collaboration and exchange of ideas among researchers, practitioners, and industry stakeholders in the field of polymer science.

This Special Issue offers a platform for sharing knowledge about unparalleled networking and relationship-building opportunities, presenting and discussing topics such as (but not limited to):

- Novel polymer materials for injection molding applications.
- Experimental and numerical investigations of injection molding processes.
- Process-parameter optimization for enhancing product quality.
- Simulation and modeling of injection molding processes.
- Characterization and testing methods for injection-molded products.
- Surface modifications and coatings in injection molding.
- Multiscale and multiphysics approaches for understanding injection molding phenomena.

The proposed special issue on "Polymer Science in Injection Molding" will provide a valuable platform for researchers and practitioners to publish and access high-quality research papers focused on the latest advancements, challenges, and opportunities in this field. We believe that this issue will promote collaboration, innovation, and practical applications of polymer science in the injection molding industry. We kindly invite researchers to contribute their expertise to this special issue and look forward to receiving insightful and significant contributions that will contribute to the progress of polymer science in injection molding.

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