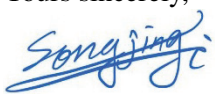
Introduction

The 2020 IEEE Global Fluid Power Society (GFPS) PhD Symposium was successfully held online on October 19–21, 2020. As the conference chairs, in agreement with the Editorial Board of the International Journal of Fluid Power (IJFP), we decided to edit this special issue to provide the whole technical community the opportunity to further explore the most significant contributions to the symposium. Six papers were selected from the list of the best papers voted by reviewers and experts, among the 110 submissions to the symposium. These six papers covered several topics of fluid power technology: hydraulic control valves, actuators and robotic applications, such as, geometry study of ball seat valve, adaptive robust controller for hydraulic robotic manipulators, cost-effective electro-hydraulic actuator solution with open circuit architectures, control study of hydraulic quadruped robot, EHL simulations of translational seals with cavitation and articulated finger based on pneumatic soft joints, which are the popular topics in the fluid power areas nowadays.

We sincerely appreciate the support from the Global Fluid Power Society (GFPS) and the invitation from the editor-in-chief of IJFP, Professor Andrea Vacca for providing this opportunity. We would also like to express our gratitude to Dr. Mazza Luigi, Dr. Beichen Ding from Sun Yat-Sen University, Dr. Jinghui Peng and Dr. Biao Zhang from Harbin Institute of Technology, as well as all the members of the editorial and publication teams of IJFP for their helpful assistance on the editing and reviewing of all the papers to improve the qualities.

We wish that you find this special issue of IJFP much valuable and will be inspired to make new strides in the development of fluid power technology.

Yours sincerely,



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