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## Editorial

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Dear Readers,

It is my pleasure to introduce this special issue, 2024 *International Maha Fluid Power Conference*. The 2024 Maha conference was held at Purdue University, Indiana, United States, from September 3rd to 5th, organized by the Maha Fluid Power Research Center. This marks the second biennial event hosted by the center and has become one of the largest fluid power conferences in the United States.

This year's event welcomed over 280 participants from 59 institutions and companies across 11 countries. The conference featured 10 keynote lectures delivered by prominent leaders in the fluid power community, including executive board members from major OEMs and first-tier fluid power suppliers. In addition, 58 technical presentations were delivered across two parallel sessions.

For the first time in Maha conference history, an exposition area was introduced to showcase the latest components and off-road vehicles equipped with advanced actuation technologies. The exposition included 18 stations and 10 vehicles. Another first for the conference was the inauguration of Monika Ivantysynova medals in honor of the center's founder, the late Professor Monika Ivantysynova. This award was presented to a Purdue alumnus in recognition of career achievements in fluid power and motion control.

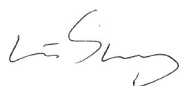
From the rigorously reviewed conference papers, the committee selected eight outstanding contributions based solely on reviewer comments and scores. The authors of these papers were invited to enrich their submissions with additional research findings and detailed methodologies for journal publication. After a second round of peer review and revision, the enhanced papers are now presented in this special issue of the *International Journal of Fluid Power*.

These eight articles span a broad range of topics in fluid power research: from fundamental fluid dynamics and cavitation to transfer path analysis for

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pump vibroacoustics; from sensor technologies enabling predictive diagnostics to fault detection using machine learning; and from novel system architectures to pump innovations for more efficient off-road vehicles. I extend my sincere thanks to all who contributed to the authorship, review, and organization of this special issue. I hope you find the articles insightful and inspiring.

Warm regards,

A handwritten signature in black ink, appearing to read 'Lizhi Shang'.

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