

SELECTED POROUS MEDIA CONTRIBUTIONS FROM THE 1ST IRAN INTERPORE CONFERENCE

Hassan Mahani 

Sharif University of Technology, Department of Chemical and Petroleum Engineering, Tehran, Iran

Correspondence to:

Hassan Mahani, hmahani@sharif.edu

PUBLISHED: 1 Mar. 2026



@2026 The Author

How to Cite:

Mahani, H. (2026). Top Porous Media Contributions from the 1st Iran InterPore Conference. *InterPore Journal*, 3(1), IPJ010326-1. <https://doi.org/10.69631/fhmwhz36>

This is an open access article published by InterPore under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License (CC BY-NC-ND 4.0) (<https://creativecommons.org/licenses/by-nc-nd/4.0/>).

It is my great pleasure to introduce this special issue featuring the top papers presented at the 1st *Iran InterPore Conference*. The first national conference of the Iran InterPore Chapter marked a significant milestone for the country's porous media community. The event brought together more than 120 researchers, industry practitioners, and students spanning reservoir and geoenery engineering, geotechnical engineering, environmental sciences, medical science, geothermal energy, digital rock physics, and computational modeling—reflecting the inherently interdisciplinary nature of porous media science. A defining characteristic of the Iran InterPore community is the breadth of its application domains, extending well beyond conventional petroleum systems.

This special issue features the six top-ranked papers selected from more than seventy contributions presented at the conference, each representing a distinct and impactful application of porous media research in Iran.

The selected papers illustrate how porous media science supports innovation across diverse fields:

- **Reservoir engineering** - underground hydrogen storage optimization, tracer-transport characterization, and digital rock analysis.
- **Geotechnical engineering** - modeling debris-flow interactions and understanding the behavior of cracked, deformable strata.
- **Geothermal energy** - optimizing heat-extraction processes in enhanced geothermal systems.
- **Environmental and climate-related studies** - analyzing coupled heat-water transfer under varying climatic conditions.
- **Computational and data-driven modeling** - deep learning, SPH simulations, and multi-objective optimization frameworks.

This diversity reflects the growing recognition that porous media processes are central to solving national and global challenges.

Looking ahead, the *1st Iran InterPore Conference* has established a strong foundation for future collaboration, capacity building, and scientific growth. The papers in this special issue not only advance fundamental understanding but also highlight the capability and creativity of Iranian porous media community to contribute meaningfully to global efforts in energy transition, environmental resilience, and infrastructure safety.

On behalf of my colleagues in the Iran InterPore Chapter, I express my deepest appreciation to the InterPore Society and the InterPore Journal—with special thanks to Laura Lenz and Prof. Nima Shokri—for their continued support. I also extend sincere gratitude to the editorial team for their professionalism in handling this special issue, to the reviewers for their careful and timely evaluations, and to all members of the conference organizing and program committees for their dedication to the success of the 1st Iran InterPore Conference—especially Dr. Hamed Sadeghi and Dr. Mozhdeh Sajjadi.

This special issue aims to serve as a reference for researchers and practitioners, nurturing continued innovation and strengthening the role of porous media science in Iran's scientific landscape.

Enjoy reading!

Hassan Mahani

Guest Editor, Special Issue

Scientific Secretary, 1st Iran InterPore Conference

All submissions were coordinated by the Guest Editor, with final decisions made by the Editor-in-Chief. Where potential conflicts of interest existed, including in cases involving editorial or conference leadership roles, manuscripts were reassigned to independent editors in accordance with the journal's conflict-of-interest policy.