



InterPore News

Issue #07, 3 April 2020










Dear InterPore friends,

Wherever you are in the world, it is likely that you are reading the newsletter from home. A considerable part of the world is now in lock-down, either mandatory or self-imposed. The InterPore Executive Committee reflects on this and looks ahead. Meanwhile, online meetings are booming and so our InterPore community continues to work, for example with the kick-off meeting of the Financial Committee.

Can a machine grasp the complexity of porous media? Find out in the InterPore *In Journals* science section. And don't forget to check the new research positions.

Take care,
 Matthijs de Winter
 Editor-in-Chief *InterPore News*

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Message from the InterPore Executive Committee

The InterPore Executive Committee has been closely monitoring the development of the COVID-19 pandemic. The virus is affecting all of our lives. While there appears to be encouraging signs from China, dramatic news is still being reported from around the world. Under these circumstances, we must keep our spirits high and draw strengths from our hopes. We should envision and look forward to all the wonderful things that we can do once these difficult times are over, especially to gather as a community once again. Even as conference culture adapts and changes, we find that it is still very important to come together at physical meetings. In this regard, we are strongly determined to offer you a high-quality, pleasant, and rewarding conference at a wonderful venue: our Annual Meeting and short courses in Qingdao. Currently, the plan is to organize the meeting from 30 August till 04 September. If this proves to be unfeasible, InterPore2022 will be held in Qingdao, after InterPore2021 in Edinburgh. If our plans stay on track for this year, we will take actions as needed to reduce difficulties for our members. We will be flexible with deadlines for our Annual Meeting and will try to accommodate requests related to your participation in events.

In closing, we are aware that some of us may have received sad and heart-breaking news about very near and dear people. As a community, InterPore supports those who have lost friends, relatives,

colleagues, or live in distress and difficult situations with worries about relatives and friends in intensive care units. From the entire community of InterPore, we send heartfelt and warm hugs to you and your loved ones.

Please remain vigilant towards suspicious emails



We are again being notified of many of our committee members receiving emails disguised as being from members of the InterPore Executive Committee or members of the InterPore staff, especially in regards to the COVID-19 crisis. **Avoid clicking on any links or downloading any attachments in emails unless you're absolutely sure that the message is authentic.** Be aware and vigilant when replying to suspicious emails (check the "from" and "reply to" fields). If there is any doubt, it is best to contact the person individually and directly in order to confirm if they were, in fact, the sender. Ignore and delete communications that ask for your personal or financial information.

InterPore Financial Committee Kick-off

The newly formed InterPore Financial Committee met virtually with Laura Pyrak-Nolte (President) on 25 March 2020. Members of the committee include: Azita Ahmadi (Treasurer), Majid Hassanizadeh (Managing Director), Michael Celia from Princeton University, Veronika Schleper from Bosch, Pål-Eric Øren from Petricore Ltd, Karolin Weber (Executive Officer), and Kristy Lutz (Treasurer Assistant).

The committee received a briefing of InterPore's current financial situation and outlook for the next few years. The main topic of discussion is the outbreak of COVID-19 around the world and how this will affect InterPore's finances in the coming months. The Financial Committee agreed that InterPore is in good shape financially to weather the immediate economic effects of COVID-19. The Financial Committee will meet again in 2 months to discuss InterPore's finances further.



InterPore2020 Conference Grant applications

Please note the updated deadline of **15 May** for InterPore2020 Conference Grant applications. More details, including eligibility requirements and application instructions can be found [here](#).

Announcement of InterPore Elections 2020

InterPore Elections are coming up, spanning an election period from 1 November to 30 November 2020. With this announcement, we wish to inform the Society members about the details of the election procedure.

Who will be elected? A new President-Elect and four new Council members will be elected.

The terms of office of the current InterPore President is due to end on the last day of the InterPore Annual Meeting – 3 June 2021. As stipulated in the InterPore Bylaws, the current President, Prof. Laura J. Pyrak-Nolte (Purdue University), will transfer responsibilities to the current President-Elect, Prof. Michel Quintard (Université de Toulouse). As such, a new President-Elect needs to be elected.

In addition, the term of four Council members will end on the same date, and four new Council Members will be elected in November.

Who is conducting the elections? The Election Committee, appointed by the current InterPore leadership, consists of Prof. Gabriel Wittum (Chair, Goethe University Frankfurt), Prof. Parisa Mirbod (University of Illinois-Chicago) and Prof. Alexei A. Mailybaev (IMPA, Rio de Janeiro). Dr. Karolin Weber (InterPore Executive Officer) and Ms. Amy Spang (InterPore Office Manager) will assist in the technical implementation. InterPore, and the Election Committee in particular, is committed to ensuring a free, fair, and transparent election process.

Periods of Office: The bylaws of the Society stipulate the election of a new President-Elect and four (or five) new Council members every other year. The new President-Elect will serve from June 2021 to May 2023 and will automatically assume the Presidency for the term May 2023 to May 2025. Elected Council Members will serve for four years on the new Council starting May 2021.

How will you vote? All current InterPore members that have already paid their 2020 membership fees (or are exempted) are eligible to vote. They will receive an email with a personalized one-time link to the election tool.

According to [InterPore bylaws](#), a Nomination Committee is formed to collect nominations for President-Elect and four new Council Members.

In an upcoming newsletter, a Call for Candidates Nomination will be published.

We seek:

- At least **two candidates for President-Elect**.
- At least **eight candidates for the Council membership**. At least three of these must be representatives from industry, and at least one representative from industry will be elected to the Council.

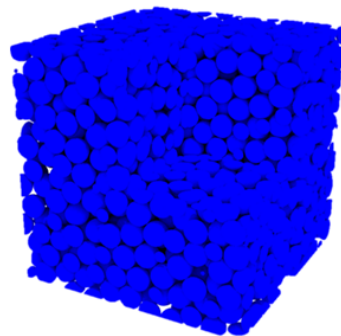
Once all nominations are received, the Council selects two candidates from the list of nominees who will run for President-Elect and at least eight candidates for the vacancies in the Council. Criteria for the selection of candidates by the Council are (1) personal qualifications, (2) balancing industry and academia, and (3) ensuring – as much as possible – gender and geographical balance. Only nominees who agree to serve, once elected, will be accepted.

Nominate or volunteer! Please volunteer to run for an office and/or nominate candidates! The Call for Candidate Nominations will be published soon.

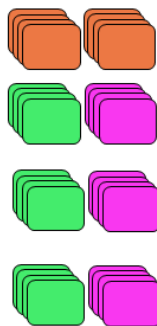


InterPore In Journals

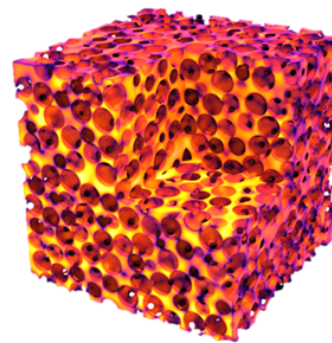
PoreFlow-Net: A 3D convolutional neural network to predict fluid flow through porous media



Binary Image



PoreFlow-Net



Velocity Field

Javier Santos, Duo Xu, Honggeun Jo, Christopher Landry, Masa Prodanovic, Michael Pyrcz

We present a 3D convolutional neural network that is able to create relationships between pore morphology and the steady state solution of the Navier-Stokes equation for laminar flow through porous materials. To test its capacity to generalize, the network is trained only using spherepacks, and then it is subsequently tested with a variety of complicated lithologies. The accuracy of the neural network model is remarkable in all of them, showing the abstraction capabilities of the proposed model.

Advances in Water Resources: PoreFlow-Net: A 3D convolutional neural network to predict fluid flow through porous media
Corresponding author: [Javier Santos](#)


Promote your Publication


InterPore Members, do you want to promote your publication to the community? If so, please submit your highlight to newsletter@InterPore.org. Note that we will not review the entries nor does InterPore endorse the published work. Furthermore, we publish on a "submitted first, published first" basis. The highlighted publication should be no older than 6 months (available online).

The highlight should be short and contain an illustration. Please note that we offer this opportunity exclusively to InterPore members. If you would like to become a member, please have a look [here](#).



Research Positions

-  Post-doctoral researcher, Numerical modelling of permafrost thermo-hydrological dynamics with OpenFOAM using High Performance Computing in the framework of the HiPerBorea project, GET Laboratory, Toulouse, France

 PhD position in modeling and multiscale HPC simulation of CO2 storage in saline aquifers.
Université de Pau et des Pays de L'Adour, Pau, France



InterPore Calendar

Date	Event
14-16 May 2020	The Hellenic National InterPore Chapter meeting (Athens, Greece)
30 August - 4 September 2020	The 12th annual InterPore meeting (Qingdao, China)
1-2 October 2020	The German Chapter meeting (Stuttgart, Germany)
26-28 October 2020	The French Chapter meeting (Strasbourg, France) (Flyer)
2 November 2020	The Benelux Chapter meeting (Enschede, The Netherlands)
23-25 November 2020	The Australian Chapter meeting (Perth, Australia)
31 May - 3 June 2021	The 13th annual InterPore meeting (Edinburgh, UK)
15-21 May 2022	The 14th annual InterPore meeting (Albuquerque, New Mexico, USA)

Imprint

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Articles and news items on the study and characterization of porous media, especially when relevant to other types of porous media, are welcomed for publication in this newsletter, issued twice a month.

Find us on: [in](#) | [f](#) | [t](#)

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