



INTERPORE NEWS

Issue 5, January 2011

SPECIAL ISSUE: InterPore 2011 Elections

Some words from the current President

Dear InterPore Members,

First of all, I'd like to wish you all a very happy, healthy and successful 2011. I look forward to seeing you personally in Bordeaux at our next InterPore Conference.

As we mentioned in the previous InterPore Newsletter, elections for a new President-Elect and four of the eight Council Members are coming up. As a small society, we rely on the active participation of all our members - in other words, please take a couple of moments to vote. Every candidate has international standing and would be a fine choice - it's up to you!



The current President-Elect (Dr. Oleg Iliev) will succeed as our new President on April 1st, 2011; his period of office lasts until March 31st, 2013. The four new Council Members to be elected will succeed the retiring Council Members Drs. Azita Ahmadi, Helge Dahle, Didier Lasseux and Konrad Steiner also on April 1st, 2011, for a period of 4 years until March 31st, 2015. The Council has four further regular members, Drs. John H. Cushman, Rudolf Hilfer, Massoud Kaviani and Rodrigo Rosati, who will continue in office for another two years until 2013.

I would like to take this opportunity to thank all InterPore officers for the commitment and the energy they invested in our young society. They contributed greatly to InterPore's growth and success. As for myself, I enjoyed seeing our society being brought to life and thank you for your trust and support.

This special issue will introduce the candidates to you and help you through the online voting process.

Best wishes,

Rainer



INTERPORE NEWS

The InterPore 2011 Online Election

You are invited to participate in the upcoming InterPore elections. As an InterPore member, you will be asked to vote for our new President-Elect (two candidates are running for election) and for four new InterPore Council Members (ten candidates). You can vote for a maximum of four Council Members, but you may also vote for fewer. Feel free to participate only in the election for President-Elect, only in the election for Council Members, or in both.

Online balloting will start soon and you will receive a registration via email. Details on the online voting process are provided below. The election will open once you have received the registration email to the online voting platform. It will close one day after the end of the election process as described below, in order to allow all different time zones to participate.

How the election will work: The election will be open for 30 days, from January 17th, 2011, until February 17th, 2011. The elections will be held using the free online platform ballotbin.com, as outlined below:



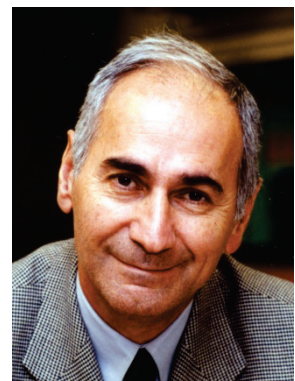
- Each member will receive a registration email with an election link from ballotbin.com. Please follow this link to your personal ballot page. If this link does not work on your computer, just open www.ballotbin.com in your browser and copy your personal "voting code" from the registration email into the box at the top left of the webpage.
- Both the link and the voting code can be used repeatedly until you submit your vote.
- On the election page, you will see our two presidential candidates and the ten council candidates. Each candidate has a check box for voting. You have one vote for a Presidential candidate, and a maximum of four votes to distribute among the candidates for Council Member.
- Submitting the vote (button: "Click here to submit the vote") will conclude the vote. You will then be taken to a new page that confirms that your vote has been received.
- The election results will be announced on February 20th, 2011.

If you have questions or need support, please contact wolfgang.nowak@iws.uni-stuttgart.de.

Best regards,

Your Election Committee,

Wolfgang Nowak
Rien van Genuchten
Massoud Kaviany





ELECTION CANDIDATES

Candidates for President-Elect (alphabetical order)

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Candidates for Council Members (alphabetical order)

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PRESIDENTIAL CANDIDATES

Prof. Dr.-Ing. Wolfgang Ehlers

Affiliation

Chair of Continuum Mechanics
Institute of Applied Mechanics (CE)
University of Stuttgart
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Letter to the InterPore Members

Dear InterPore Members,

The *International Society for Porous Media* (InterPore) was established in 2008 as a non-profit scientific organisation with the goal of advancing the scientific understanding in porous media mechanics. The specific interest of InterPore lies in the physical modelling and the numerical simulation of complex multi-component and multi-phase materials occurring in natural and industrial applications. Among those, the interest includes natural systems such as oil and gas reservoirs, geotechnical and hydraulic applications, and biological systems like soft and hard biological tissues with all their facets such as the combined deformation and in-tissue drug delivery problem. On the industrial side, one is interested in mathematical modelling of concrete and concrete-like materials, polymers and polymeric foams, or electro-chemically reacting structures like fuel cells, to name but a few.

My personal scientific background lies in the broad field of continuum mechanics with a specific focus on the Theory of Porous Media and various applications in geomechanical, biomechanical and industrial engineering both on the modelling and the computational side. Just after my dissertation on solid plasticity in 1983, I started with porous media research in cooperation with my scientific teacher, Professor Reint de Boer, and his group at the University of Duisburg-Essen. Subsequently to being awarded the habilitation degree including the *venia legendi* for the subject "mechanics", I got my own research group at the Technical University of Darmstadt (1991 – 1995) and at the University of Stuttgart (since 1995). Up to now, I am looking back to a more than 25 years lasting research period, where I have been investigating porous media problems. Currently, I am conducting a research group of 18 scientists working in the wide field of porous media. Particularly, we work on geotechnical and biomechanical problems as well as on computational issues of strongly coupled partial-differential equations stemming from multi-component material applications.



PRESIDENTIAL CANDIDATES

Prof. Dr.-Ing. Wolfgang Ehlers (cont'd)

Concerning my organisational ability, I would like to point out that I have been holding various positions in the scientific community such as the position of an elected member of the Senate and the Joint Committee of the German Research Foundation (DFG), the position of the Vice Rector for Organisation at the University of Stuttgart, and the my actual position as the Executive Director of the Stuttgart Research Centre for Simulation Technology combined with the position of the Coordinator of the Cluster of Excellence in Simulation Technology funded by the German federal and state Governments.

Based on my scientific interests and my organisational ability, I am willing to candidate as a President Elect of the InterPore organisation.

Stuttgart, October 2010

Prof. Dr.-Ing. W. Ehlers

Curriculum Vitae

Academic Career

born 1 August 1951	Bielefeld, Germany
1979	Graduation in Civil Engineering (Dipl.-Ing.), University of Hannover
1979 – 1989	Teaching assistant, Institute of Mechanics, University of Duisburg-Essen
July 1983	Doctoral degree (Dr.-Ing.), University of Duisburg-Essen
April 1989	Habilitation degree for the subject "Mechanics", University of Duisburg-Essen
1989 – 1991	Lecturer for Mechanics, Institute of Mechanics, University of Duisburg-Essen
1991 – 1995	Associate Professor (C3) for Continuum Mechanics at the Institute of Mechanics, Technical University of Darmstadt
since 1995	Full Professor (C4) for Continuum Mechanics at the Institute of Applied Mechanics (CE), University of Stuttgart



PRESIDENTIAL CANDIDATES

Prof. Dr.-Ing. Wolfgang Ehlers (cont'd)

Internal and External Positions, Awards

- Executive Director of the Stuttgart Research Centre for Simulation Technology (SRC SimTech) and Coordinator of the Cluster of Excellence in Simulation Technology (since 2007)
- Vice-Coordinator (since July 2010) and Principal Investigator (since 2007) of the International Research Training Group “Non-linearities and upscaling in porous media” (IRTG 1398 NUPUS) in cooperation with the Dutch universities of Delft, Eindhoven and Utrecht and the Norwegian university of Bergen
- Initiator and Conductor of the GAMM Activity Group Biomechanics (since 2003)
- Vice Rector for Organisation at the University of Stuttgart (2003 – 2006)
- Elected member of the Senate and the Joint Committee of the German Research Foundation (DFG) (2002 – 2006)
- Expert Peer Reviewer of Applied Mechanics of the German Research Foundation (2000 – 2004)
- Elected Member of the Academic Senate of the University of Stuttgart (2000 – 2003)
- Member of the Executive Board of the Collaborative Research Centre “Multifield Problems in Continuum Mechanics” (SFB 404) from January 2000 to December 2006
- Gottschalk-Diederich-Baedeker prize for the habilitation thesis (1990)
- Peer Reviewer for the German Research Foundation and various other organisations and journals
- Member of editorial boards: International Journal of Advances in Engineering Sciences and Applied Mathematics (since 2009), Archive of Applied Mechanics (since 2009)

Professorial Offers

- 1991 Associate Professorship (C3) for Continuum Mechanics at the Institute of Mechanics, Technical University of Darmstadt
- 1993 Full Professor (C4) for Strength of Materials at the Institute of Mechanics, Otto-von-Guericke University of Magdeburg
- 1995 Full Professor (C4) for Continuum Mechanics at the Institute of Applied Mechanics (CE), University of Stuttgart
- 1998 Full Professor (C4) for General Mechanics at the Institute for Computational Engineering, Ruhr-University of Bochum



PRESIDENTIAL CANDIDATES

Prof. Dr.-Ing. Wolfgang Ehlers (cont'd)

Most Important Publications (ten)

- Ehlers, W., Acartürk, A., and N. Karajan: Advances in modelling saturated biological soft tissues and chemically active gels. *Archive of Applied Mechanics* 80 (2010), 467 – 478.
- Ehlers, W., Markert, B., and O. Röhrle: Computational continuum biomechanics with application to swelling media and growth phenomena. *GAMM-Mitteilungen* 32 (2009), 135 – 156.
- Ehlers, W.: Challenges of porous media models in geo- and biomechanical engineering including electro-chemically active polymers and gels. *International Journal of Advances in Engineering Sciences and Applied Mathematics* 1 (2009), 1 – 24.
- Ehlers, W., Karajan, N., and B. Markert: An extended biphasic model for charged hydrated tissues with application to the intervertebral disc. *Biomechanics and Modeling in Mechanobiology* 8 (2009), 233 – 251.
- Ehlers, W. and B. Scholz: An inverse algorithm for the identification and the sensitivity analysis of the parameters governing micropolar elasto-plastic granular material. *Archive of Applied Mechanics* 77 (2007), 911 – 931.
- Ehlers, W., Karajan, N., and B. Markert: A porous media model describing the inhomogeneous behaviour of the human intervertebral disc. *Materials Science and Engineering Technology* 37 (2006), 546 – 551.
- Ehlers, W., Graf, T., and M. Ammann: Deformation and localization analysis of partially saturated soil. *Computer Methods in Applied Mechanics and Engineering* 193 (2004), 2885 – 2910.
- Ehlers, W., Ramm, E., Diebels, S., and G. D. A. D'Addetta: From particle ensembles to Cosserat continua: homogenisation of contact forces towards stresses and couple stresses. *International Journal of Solids and Structures* 40 (2003), 6681 – 6702.
- Ehlers, W.: Foundations of multiphase and porous materials. In W. Ehlers and J. Bluhm (eds.), *Porous Media – Theory, Experiments and Applications*, Springer-Verlag, Berlin 2002.
- Ehlers, W. and W. Volk: On theoretical and numerical methods in the Theory of Porous Media based on polar and non-polar elasto-plastic solid materials. *International Journal of Solids and Structures* 35 (1998), 4597 – 4617.



PRESIDENTIAL CANDIDATES

Rodrigo Rosati

Affiliation

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Letter to the InterPore Members

Dear InterPore Members,

It is great to see our InterPore Society to develop and grow, welcoming new people from different locations and disciplines!

I have been part of this Society since its foundation, after the workshop on flow and transport in porous media in November 2007 in Utrecht. Since then, day by day, I have become more and more excited about the InterPore purpose and contributions.

As working in an industrial Research & Development organization, I can witness the importance of the InterPore objective to bring together academia and industry. Porous media science is behind many industrial applications, which demand more and more complex theories, models and experiments to develop new innovative solutions against tough technical challenges and engineering contradictions. InterPore offers the benefit to integrate industry and academia in a seamless Society, providing a unique multidisciplinary framework to define and tackle the toughest technical and scientific challenges.

After serving in the last year as an ordinary council member, I would like to candidate myself for the position of President-Elect. I am very motivated to serve even more the Society and to help the InterPore Society towards the objectives of the Society. Bringing my industrial research experience in porous media from the Procter&Gamble Research&Development department, I am very motivated to bring together academia and industry, to facilitate collaboration and exchange across academia and industry. We have already a great range of tools in place in our Society, from conferences to workshops, from Focus Groups to an Awards & Recognition system, from student center to many others: it is now time to move more and more these tools into action to enable our InterPore vision. I feel I have a lot of passion to make this happen with your help!

Rodrigo Rosati



PRESIDENTIAL CANDIDATES

Rodrigo Rosati (cont'd)

Curriculum Vitae

Rodrigo Rosati is a Principal Engineer at Procter&Gamble (P&G), currently working in the Baby Care Research&Development (R&D) at Schwalbach Technical Center, Germany. Along his career in P&G R&D, Rodrigo has worked in the area of absorbent core design and modeling fluid flow in porous media, in particular for thin swelling multilayer porous structures such as used in Pampers, Always, Alldays.

Education

Nov 1997 M.S. in Chemical Engineering, University of Salerno, Italy

Professional Experience

Dec 2008 R&D Principal Engineer, Procter&Gamble, Baby Care, Schwalbach Tech. Center – Germany
Aug 2005 R&D Senior Engineer, Procter&Gamble, Baby Care, Schwalbach Tech. Center – Germany
Jan 2003 R&D Senior Engineer, Procter&Gamble, FemCare, Pescara Tec. Center-Italy
Nov 1999 R&D Engineer, Procter&Gamble, FemCare, Pescara Technical Center-Italy
Summer 1999 R&D Intern, Procter&Gamble, FemCare, Pescara Technical Center-Italy

Publications

- Modeling unsaturated flow in absorbent swelling porous media: Part 1. theory, Transport in Porous Media, Volume 83, Issue 3, July 2010, Pages 437-464
- Modeling Unsaturated Flow in Absorbent Swelling Porous Media: Part 2. Numerical Simulation, Transport in Porous Media 2010, Pages 1-24

Rodrigo has published 11 patent applications related to absorbent articles, 4 of which have been granted.

Organizational Experience

Rodrigo is currently an InterPore Council ordinary member.

Within his work at P&G, Rodrigo leads since 2006 a multifunctional team including technologists, analytical characterizers and modelers with the objective to further advance knowledge of fluid flow in porous media and absorbent structures and its application to absorbent technologies development.

Personal Data

- Born at Nocera Inferiore - Italy in 1973
- Married to Rossella, one son-Roberto



COUNCIL CANDIDATES

Prof. Lynn Bennethum

Affiliation

Center for Computational Mathematics
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Curriculum Vitae

Lynn received her MS in Mechanical Engineering from Northwestern University in 1988, her PhD in Applied Mathematics from Purdue University in 1990, was a post doc at Purdue University in the Agronomy Department for 1.5 years and is currently an associate professor in the Department of Mathematical and Statistical Sciences at the University of Colorado Denver. Her research interests primarily center around mathematically modeling porous materials: flow and diffusion through swelling porous materials, deformation of porous materials, flow and diffusion influenced by charges and electric fields, and modeling the electro-chemical-mechanical coupling that can occur. She has used averaging to upscale and thermodynamics to obtain governing equations and obtained novel relationships relating osmotic pressure to flow, deformation due to chemical potentials, and charges to stress. Applications include modeling expansive soils (e.g. montmorillonite clay), drug delivery systems such as Aleve, and the cilia (hair-like structures) in lungs. Although numerical methods are not a primary focus, she has worked on domain decomposition, finite elements, and pseudo-spectral methods. She currently has 26 publication in journals such as *Mathematical Methods in Applied Sciences*, *Transport in Porous Media*, *International Journal of Engineering Science*, *Mathematical Modeling and Numerical Analysis*, *Computers and Geotechnics*, *Advances in Water Resources*, *Multiscale Modeling and Simulation*, *Journal of Engineering Mechanics*, and *Journal of Pharmaceutical Sciences*.

Lynn has served on the editorial board of *Journal of Engineering Science* (June 2004-Feb 2007) and *Advances in Water Resources* (2000-present). She has been actively involved with the Society of Industrial and Applied Mathematics (SIAM) Activity Group on Geosciences, both as chair (2003-2006) and secretary (2001-2003), and as such chaired or co-chaired the SIAM Conference on Mathematical and Computational Issues in Geosciences in 2005 and 2007. Currently she is on the membership committee for SIAM. She has given numerous invited talks including the Gordon Research Conference on Flow and Transport in Porous Media (Maine, 2010) and the International Union of Theoretical and Applied Mechanics Symposium of Porous Materials: From Colloid Science to Poromechanics (Brazil, 2007).



COUNCIL CANDIDATES

Prof. Sebastian Geiger

Affiliation

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Curriculum Vitae

Professor Sebastian Geiger has recently been appointed the CMG Industry Research Chair in Carbonate Reservoir Simulation at the Institute of Petroleum Engineering at Heriot-Watt University in Edinburgh. Before commencing his current role, he was a senior lecturer (2009 – 2010) and lecturer (2006 – 2009) at the same institution. Sebastian holds a Dr. sc. nat. degree in Computational Geosciences from ETH Zurich (2004), an M.Sc. degree in Hydrogeology from Oregon State University (2000) and did his undergraduate studies in geosciences at the University of Freiburg, Germany. He further has a postgraduate certificate in academic practice from Heriot-Watt University (2008). Sebastian has been an academic visitor and visiting fellow at the Department of Earth Science and Engineering at Imperial College London (2006) and the Department of Mathematics at the Australia National University (2001), respectively.

Sebastian's current research interests lie in the simulation, modelling, understanding, and quantitative prediction of non-linear fluid flow processes in structurally complex and deformable geological media. Together with his team of 8 PhD students, he focuses on developing new numerical, analytical, and in-situ X-Ray CT techniques to investigate pore- to the field-scale processes ubiquitous to enhanced oil and gas recovery in fractured carbonate reservoirs, which hold a major part of the world's remaining oil reserves (approximately 60% or 3 trillion barrels). He has also worked, and is still working, on modelling multiphase heat and mass transfer in tectonically active high-temperature hydrothermal systems, groundwater flow during volcanic eruptions, and methane migration in gas-hydrate bearing sediments. He is one of the main developers of the Complex System Modelling Platform (CSMP++), a finite volume – finite element based simulation environment for porous media flow. CSMP++ is joint research effort of the Montan University of Leoben, ETH Zurich, and Heriot-Watt University.



COUNCIL CANDIDATES

Prof. Sebastian Geiger (cont'd)

Sebastian is a member of InterPore, the American Geophysical Union, the Geological Society of America, and the Society of Petroleum Engineers. He has served and is serving on several organizing committees for international conferences and workshops, including the 2009 SPE Advanced Technology Workshop “Upscaling in Fractured Carbonate Reservoirs – Best and Practice and Workflows”, the 2011 EAGE Workshop “Naturally and Hydraulically Induced Fractured Reservoirs – From Nano-Darcies to Darcies”, or the 2011 SPE Reservoir Characterisation and Simulation Conference. He will co-chair the 2012 joint AAPG-SPE-SEG Hedberg Conference on “Fundamental Controls of Flow in Carbonates”.

Sebastian’s research is supported by the CMG Reservoir Simulation Foundation and he is part of several major industrial research projects such as the International Centre for Carbonate Reservoirs in Edinburgh, the ExxonMobil Research Alliance “Fundamental Controls of Flow in Carbonates”, and the itf-ISF Consortium “Improved Simulation of Fractured and Faulted Reservoirs” run jointly between Montan University of Leoben, Imperial College London, and Heriot-Watt University.



COUNCIL CANDIDATES

Dr. Rudolf Held

Affiliation

Statoil ASA
Arkitekt Ebbellsvei 10
7005 Trondheim, Norway

E-mail: rujh@statoil.com



Curriculum Vitae

Research Interests

Experimental, numerical and theoretical investigation of flow and transport in porous media, across different length and time scales. Non-traditional constitutive relationships and macroscopic multi-phase flow formulation.

Education

Ph.D. in Civil Engineering, Princeton University
M.S. in Civil Engineering, University of Colorado at Boulder
Diplom (M.S.) in Geology, Technical University of Clausthal
Vordiplom (B.S.) in Geology, University of Stuttgart

Professional Experience

Staff Engineer, Statoil ASA since 2004
Research Staff, ETH Zurich
Independent Consultant, Terra Concept Consult
Research Assistant, Los Alamos National Laboratory
Field Exploration, Preussag/Tuprag Metal Madencilik

Publications

30+ peer reviewed articles and conference papers.

Professional Services and Memberships

Reviewer for Water Resources Research, Advances in Water Resources, Computational Geosciences, Transport in Porous Media.

Member of American Geophysical Union (AGU) and Society of Petroleum Engineers (SPE)



COUNCIL CANDIDATES

Prof. Konstantinos Kostarelos

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Curriculum Vitae

Dr. Kostarelos graduated with the degree Bachelor of Engineering from Stevens Institute of Technology (Hoboken, NJ, USA) focusing on civil engineering. He later earned the degree Master of Engineering (Environmental) from Stevens Tech, and continued his studies at The University of Texas at Austin (USA) where he was awarded a Doctorate from the Civil Engineering Department. Dr. Kostarelos became a faculty member at Polytechnic University (Brooklyn, NY, USA) in 2000 where his research laboratory focused on subsurface remediation technologies, especially targeting NAPLs. Recent research projects include the use of surfactants to recover coal tar, *in-situ* treatment options for hexavalent chromium contamination, partitioning tracer testing for NAPL detection and estimation, and treatment of dredged sediments. Exciting new work was undertaken with a colleague at Poly to develop a new *in-situ* chemical sensor for geo-environmental applications. In 2007, Dr. Kostarelos joined the University of Cyprus faculty in the Civil & Environmental Engineering department and will be continuing his research program with the founding of a Subsurface Research Center.

In terms of personnel management, Kostarelos has advised 2 PhD candidates, 14 MS students, 2 UG students, and 6 HS students on research projects, and he has also served on guidance committees of 3 PhD and 11 MS candidates. His funded work has provided financial support for 9 graduate students. Kostarelos has hosted 4 visiting scientists. Furthermore, Dr. Kostarelos has organized conferences (2), co-organized conferences (3), and professional training events at Polytechnic and UCY. For approximately 4 years, Kostarelos was a member of the Interstate Technology and Regulatory Council (ITRC) where he volunteered his time to co-author 2 monographs with the DNAPL and the Bio-DNAPL teams. He has also founded and advised the student chapter of the NY Water Environmental Association (NYWEA) and worked to found a new chapter of Water for People (WFP) in New York City. He is currently a board member of the International Water Institute, an organization with funding of 2.5 million €.



COUNCIL CANDIDATES

Prof. Knut-Andreas Lie

Affiliation

Applied Mathematics, SINTEF ICT
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Curriculum Vitae

Education

Dr. ing., Department of Mathematical Sciences, NTNU, Trondheim, 1998
Siv. ing., Department of Mathematical Sciences, NTH, Trondheim, 1993

Employment History

09/07– : Professor II in applied mathematics, University of Bergen
11/06– : Chief scientist, SINTEF ICT, Dept. of Applied Mathematics.
01/04–11/06: Senior scientist, SINTEF ICT, Dept. of Applied Mathematics.
01/00–12/03: Research director, SINTEF Applied Mathematics.
09/99–12/99: Research scientist, SINTEF Applied Mathematics
09/05– : Senior scientist, Center of Mathematics for Applications, University of Oslo
09/99–08/05: Associate professor, Department of Informatics, University of Oslo.
08/98–08/99: Postdoc, Department of Informatics, University of Oslo
08/94–08/98: Doctoral student / teaching assistant, NTH/NTNU, Trondheim.

Professional activities

Research management / academic offices:

- Research manager of the “Numerical Simulation” group, SINTEF, 2006 –
- Research Director, Department for Numerical Simulation, SINTEF, 2000 – 2003
- Faculty Board and Council, Physics and Mathematics, NTH, 1995 – 1996



COUNCIL CANDIDATES

Prof. Knut-Andreas Lie (cont'd)

Participation in research centres:

- Simula Research Laboratory (2001-2005)
- Center of Mathematics for Applications (2005–)
- Center for Integrated Operations in the Petroleum Industry (2007–)
- SUCCESS (2010–)

Students (supervisor/co-supervisor):

- Master: 18 graduated (NTH/NTNU, UoO, UoA), 2 in progress (UoO)
- Doctoral: 6 graduated (NTNU, UoB, UoO), 3 submitted (NTNU, UoO), 6 in progress (UoB, UoO)
- Postdocs: 4 former (SINTEF, NTNU), 1 in progress (SINTEF)

Associate editor in SPE Journal and Journal of Mathematics in Industry

Publications

Most of my scientific papers are available at <http://folk.uio.no/kalie/>:

- 36 journal papers, 4 manuscripts in review
- 36 proceedings papers, 4 peer-reviewed book chapters
- 1 book, 3 edited books



COUNCIL CANDIDATES

Prof. Peter Matthews

Affiliation

Environmental and Fluid Modelling Group
School of Geography, Earth and Environmental Sciences
Room 602, Davy Building, Drake Circus,
Plymouth, Devon, PL4 8AA, England

Email: P.Matthews@plymouth.ac.uk



Curriculum Vitae

I am Professor in Applied Physical Chemistry in the School of Earth, Ocean and Environmental Sciences at the University of Plymouth. I studied chemistry at Oxford University, and then went on to gain a doctorate there for research into the measurement and computer modelling of the flow of simple gases. Subsequently I supervised and developed Oxford's physical chemistry teaching laboratories while a college lecturer at St Catherine's College, before moving to Plymouth in 1985. My Environmental and Fluid Modelling research interests are concerned with fluid flow in porous materials, particularly when this has environmental importance. I have attracted more than £2.3m of research funding to date, and have written 110 publications in research and pedagogy, including a 500 page textbook on Experimental Physical Chemistry (Oxford University Press, 1985), and 40 consultancy reports. From January to April 2007, I was Royal Society visiting associate professor in the Department of Applied Mathematics, in the Research School of Physical Science and Engineering at the Australian National University, Canberra. I am associate editor of the European Journal of Soil Science.

My interest in InterPore stems from the belief that there are great benefits to be gained from the cross-fertilisation of research ideas applied to different porous substances. InterPore must be all about communication. However, it should not try to compete with other successful conference series, such as the Gordon Conferences which already have an inter-disciplinary series on transport in porous media. Instead it should offer a spectrum of services, including special interest groups and forums, and perhaps even round-robin and validation exercises on both material and models. This strong belief led me, with the help of the Council, to devise the format for the InterPore newsletter, and to draw up its first three issues. Provided InterPore stays multi-national, multi-material, multi-scale and multi-approach, then it has a great and important future – one to which I, as a member of the Council, would hope to contribute.



COUNCIL CANDIDATES

Dr. John F. McKibben

Affiliation

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Curriculum Vitae

With a background in Paper Science, I've been interested in porous media related to paper since a graduate course in the early 1990's. Much of my work at P&G has included porous flow issues which usually has included high levels of deformation, both swelling and compression. Many of the problems of interest also include thin structures like the tissue and towel products that I currently work with. I view involvement with InterPore as an opportunity to expand the technical knowledge about these highly challenging and insufficiently studied topics.

Education

The Institute of Paper Science & Technology Paper Science PhD, 1994
The Institute of Paper Science & Technology Paper Science MS, 1987
Southern Oregon University Chemistry BS, 1985
Oregon State University Chemical Eng. BS, 1984

Employment

2007-Present Technology Section Head, Family Care Modeling & Simulation, P&G, Cincinnati, OH
2003-2007 Technology Section Head, Fabric & Home Care Modeling & Simulation, P&G, Cincinnati, OH
2001-2003 Technology Leader, Fabric & Home Care Modeling & Simulation, P&G, Cincinnati, OH
1997-2001 Technology Leader, Corporate Modeling & Simulation, P&G, Cincinnati, OH
1994-1997 Engineer, Corporate Modeling & Simulation, P&G, Cincinnati, OH
Spring 1988 Intern, Fluent Inc., Hanover, NH
Summer 1987 Summer Intern, Nekoosa Paper Company, Port Edwards, WI
Summer 1986 Summer Intern, James River Paper Company, Pennington, AL



COUNCIL CANDIDATES

Dr. John F. McKibben (cont'd)

Publications

1. J.F. McKibben, C.K. Aidun, "Extension of the volume-of-fluid method for analysis of free surface viscous flow in an ideal gas," *International J. for Numerical Methods in Fluids*, v 21, n 12, p 1153-1170, Dec. 1995.
2. B.I. Wilhelmsson, J.F. McKibben, S.G. Stenstrom, C.K. Aidun, "Condensate Flow inside Paper Dryer Cylinders," *Journal of Pulp and Paper Science*, v 21, n 1, p J1-J9, Jan 1995.
3. J.F. McKibben, C.K. Aidun, "Computational analysis of flows," *Tappi Journal*, v 77, n 5, p 143-148, May 1994.

Significant Collaborations

- R.K. Ramasubramanian, North Carolina State University, Raleigh, NC
- P.R. Schunk, Sandia National Laboratory and University of New Mexico, Albuquerque, NM
- C.K. Aidun, Georgia Institute of Technology, Atlanta, GA
- D. Coffin, Miami University, Oxford, OH
- S. Keller, Miami University, Oxford, OH
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Curriculum Vitae

Education

Dipl.-Ing.	Environmental Engineering, University of Stuttgart, 2003
M.Sc.	Water Resources Engineering and Management, University of Stuttgart, 2003
Dr.-Ing.	University of Stuttgart, 2006
Habilitation thesis	University of Stuttgart, 2010

Research Interests

- Modeling Multi-Phase Flow and Transport Processes in Porous Media
- Multi-Scale Multi-Physics Methods
- Modeling Using Thermodynamically-Based Theories of Porous Media Flow
- Interface Condition at Material Discontinuities
- Kinetic Mass and Energy Transfer Processes

more than 20 publications (11 peer-reviewed), more than 35 scientific talks (7 invited)

Academic Service

- 2010- Member of the AGU Hydrology Section Unsaturated Zone Technical Committee
- 2010 Organizing Committee of 2010 Gordon Research Conference on Flow and Transport in Permeable Media, USA, Chair of the Gordon-Kenan Research Seminar on Flow and Transport in Porous Media
- 2009 Co-organization of a Summer School on the role of interfaces in porous medium flow
- 2009 Chaired the InterPore Election Committee
- 2008 Member of the Organizing Committee of the Gordon Research Conference on Flow and Transport in Permeable Media, Oxford, UK
 - Organized different sessions on AGU meetings
 - Organized minisymposia on SIAM Conferences on Computational Issues in the Geosciences
 - Editorial Board Member of Advances in Water Resources and Reviewer for 7 international journals



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Kambiz Vafai is Professor of Mechanical Engineering at University of California, Riverside (UCR), where he started as the Presidential Chair in the department of Mechanical Engineering. He joined UCR from The Ohio State University, where he received outstanding research awards as assistant, associate, and full professor. He received his B.S. degree from the University of Minnesota (with the highest honors), Minneapolis, and the M.S. and Ph.D. degrees from the University of California, Berkeley. Author of over 240 archival journal articles, book chapters, books (Ed.) and symposium volumes (Ed.); He has given numerous national and international invited lectures, keynote addresses and presentations.

Dr. Vafai is a Fellow of American Association for Advancement of Science, American Society of Mechanical Engineers, World Innovation Foundation, and an Associate Fellow of the American Institute of Aeronautics and Astronautics. He is the editor-in-chief of the Journal of Porous Media and Special Topics and Reviews in Porous Media—an International Journal and serves on the editorial advisory board of the International Journal of Heat and Mass Transfer, International Communications in Heat and Mass Transfer, Numerical Heat Transfer, International Journal of Numerical Methods for Heat and Fluid Flow, International Journal of Heat and Fluid Flow, and Experimental Heat Transfer. He is the editor of the first and second editions of the Handbook of Porous Media, which became best sellers and has been the Director/Chair of the First, Second, and Third International Conferences on Porous Media all sponsored by ECI and NSF.

He has supervised fifty doctoral and Masters students and has directed over twenty post docs and visiting scholars. He has worked on a multitude of fundamental research investigations, a number of which have addressed some pertinent concepts presented for the first time. He has carried out various sponsored research projects through companies, governmental funding agencies and national labs. He has also consulted for various companies and national labs and has been granted six U.S. patents. He was the recipient of the ASME Classic Paper Award in 1999 and had received the 2006 ASME Heat Transfer Memorial Award, which are amongst the most selective awards in the field of heat transfer. He is among the very few engineering scientists within the prestigious ISI highly cited category with over 4,300 ISI citations covering a wide spectrum of disciplines and journals and an h-index of 33.



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Curriculum Vitae

Mary Fanett Wheeler is a world-renowned expert in computational science. She has been a member of the faculty at UT Austin since 1995 and holds the Ernest and Virginia Cockrell Chair in the departments of Aerospace Engineering and Engineering Mechanics, and Petroleum and Geosystems Engineering. She is also director of the Center for Subsurface Modeling at the Institute for Computational Engineering and Sciences. Before joining the faculty at UT Austin, Dr. Wheeler was the Noah Harding Professor in engineering at Rice University, and the first tenured female associate and full professor.

Dr. Wheeler has published more than 207 technical papers and edited seven books, and is an editor of seven technical journals. She co-authored the first papers on modeling flow and transport in porous media using DG and/or mixed finite element methods.

Dr. Wheeler has served on numerous committees for the National Science Foundation (NSF) and the Department of Energy (DOE). Dr. Wheeler is on the Board of Governors for Argonne National Laboratory and on the Advisory Committee for Pacific Northwest National Laboratory. In 1998, she was elected to the National Academy of Engineering (NAE). She received honorary doctorates from Technische Universiteit Eindhoven, Netherlands, 2006, Colorado School of Mines, 2008, and in 2009, she was honored with the SIAM Geosciences Career Prize, as well as her third IBM Faculty Award. She was awarded the Theodore von Kármán prize at the SIAM national meeting, recognizing her seminal research in numerical methods for partial differential equations, her leadership in the field of scientific computation and service to the scientific community. Dr. Wheeler was elected as a member of the American Academy of Arts and Sciences in 2010.



ABOUT INTERPORE

The *International Society for Porous Media (InterPore)*

is a non-profit-making independent scientific organization established in 2008.

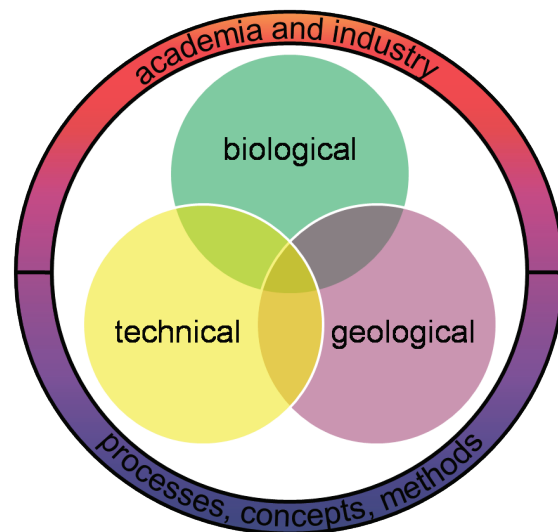
The general aim of the Society is to advance and disseminate knowledge for the understanding, description, and modeling of natural and industrial porous media systems.

Key Aims of the Society

- facilitate connections and collaboration among industrial and academic researchers;
- connect porous media theoreticians, modellers, and experimentalists;
- provide a forum for exchanging ideas and expertise for the improvement of porous media models;
- identify research questions that will lead to major improvements in the theories and models of complex porous media and to define modelling challenges;
- facilitate training and education.

Examples of Industrial & Natural Applications of Porous Media

Fuel cells, paper-pulp drying, food production and safety, filtration, concrete, ceramics, moisture absorbents, textiles, paint drying, polymer composites, and detergent tablets. The most well-known natural porous media involving multiphase flow and transport are soils, aquifers, and reservoirs. But such processes also occur in biological tissues and plants. Recently, there has been growing interest in the biomechanics of porous tissues, engineered tissues, and in-tissue drug delivery.



Why should you join InterPore?

InterPore is uniquely positioned to connect experts and practitioners from a diverse field of both scientific and engineering know how as well as industrial applications. This enables faster and unexpected connections resulting in quicker learning and accelerated innovation.

You can become a member by registering online or contacting InterPore.

Honours and awards committee

Chairperson: Mike Celia (Princeton University), Jacob Bear (Technion, Haifa), Mary Wheeler (U. Texas, Austin), Rodrigo Rosati (Procter & Gamble, Germany), and Jan Nortbotten (Bergen University, Norway).

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