

# Florin Adrian Radu: Curriculum vitae

## Personal information

First name, Surname:	Radu, Florin Adrian
Nationality:	
Researcher unique identifier(s) (ORCID, ResearcherID, etc.):	ORCID: 0000-0002-2577-5684 ResearcherID: K-3926-2012
URL for personal website:	

## Education

Year	Faculty/department - University/institution - Country
2004	<b>Ph.D. University of Erlangen-Nuremberg, Germany;</b> Thesis: Mixed finite element discretization of Richards' equation: error analysis and application to realistic infiltration problems. Advisers: Prof. P. Knabner, Prof. C. Wieners, Mark: <b>magna cum laude</b> .
1996	<b>Master of Science in Mathematics,</b> University of Bucharest, Romania.

## Positions - current and previous

- 2015- **Full Professor, Department of Mathematics, UoB; tenured.**
- 2011-2015 Associate Professor, Department of Mathematics, UoB; tenured.
- 2011-2011 Full Professor (W3), chair Biomathematics, University Erlangen-Nuremberg, Germany (Acting Professor for one semester).
- 2010-2011 Researcher, UFZ-Center for Environmental Research, Leipzig, Germany.
- 2007-2010 Research Assistant, University of Jena, Germany and UFZ.
- 2006-2007 Research Assistant, Max-Planck-Institute for Mathematics in the Sciences, Leipzig.
- 1997-2006 Research Assistant, University of Erlangen-Nuremberg, Germany.
- 1996-1997 Teacher of mathematics at the high school Decebal, Constanta, Romania.

## Project management experience

- VISTA-Norwegian Academy of Science Project (Leader) 2017-2020: Adaptive model and solver simulation of enhanced oil recovery (AdaSim) (1 PhD student); 3.200.000 NOK. I am the manager of the project and the main adviser of the PhD student.
- NFR-DAAD 2019-2020 (Leader, UoB-Federal Army University of Hamburg, Germany): Multivariate time stepping with error control for reactive flows in deformable porous media (MATEROC); 100.000 NOK.
- NFR-Petromaks2 2016-2019 (Co-leader, NORCE-UoB): Improving microbial selective plugging technology through experimentally based modelling and simulation (IMMENS) (1

- PhD student at UoB); I am the leader of UoB part and the main adviser for the PhD student; 10.000.000 NOK.
- NFR-Toppforsk 2016-2020 (Co-applicant): Thermo-Mechanical Subsurface Energy Storage (TheMSeS) (4 PhD students and 4 PostDocs); I am the main adviser for 1 PhD student and 1 Postdoc; 25.000.000 NOK.
  - NFR-CLIMIT 2016-2019 (Co-applicant, UniResearch CIPR-UoB): Fundamentals of CO<sub>2</sub>-Hydrocarbon Interactions for CO<sub>2</sub> storage with enhanced oil recovery (CHI). I am the leader of UoB part and adviser of a PhD student; 7.000.000 NOK.
  - NFR-DAAD 2016-2017 (Leader, UoB-Federal Army University of Hamburg, Germany): Efficient discretizations and fast solvers for poroelasticity (EDIFY); 60.000 NOK.
  - UoB/Statoil Project 2016-2019 (Co-leader; Dept. Chemistry- Dept. Math.): Experimentally based modelling of colloid transport in multiphase porous media (EPOCH) (1 PostDoc). I am the leader of Dept. Math. part and co-adviser of the PostDoc; 3.500.000 NOK.
  - VISTA-Norwegian Academy of Science Project (Leader) 2014-2017: Efficient and reliable simulation of microbial enhanced oil recovery (1 PostDoc); 3.300.000 NOK. The project was unfortunately not carried out because the PostDoc candidate obtained an Assoc. Prof. position at UoB and VISTA did not permit a replacement.
  - NFR-DAAD 2013-2014 (Leader, UoB-Federal Army University of Hamburg, Germany): Higher order variational time disc. and MFEM for flow in porous media; 80.000 NOK.
  - NFR-DAAD 2012-2013 (Leader, UoB-University of Erlangen, Germany): MPFA and MHFE methods for flow and transport in porous media; 80.000 NOK.

### Supervision of students

(Total number of students)

Master's students	Ph.D. students	University/institution - Country
18	12	University of Bergen, Norway

### Other relevant professional experiences

#### SELECTED INVITED PRESENTATIONS AT INTERNATIONAL CONFERENCES

- Invited speaker at 'Workshop on recent developments in modelling, analysis and simulation of processes in porous media', Erlangen, March 2020.
- Invited speaker at "10th InterPore Annual Meeting and Jubilee", New Orleans, US, 2018.
- Invited special session at "ACOMEN 2014, 2017", Gent, Belgium.
- Invited special sessions at "ALGORITMY 2012, 2016, 2020", Podbanske, Slovakia.
- Invited mini-symposium (MS) talk at "SIAM Comput. Geosci. 2009, 2011, 2013, 2015, 2017, 2019" in Leipzig, Long Beach, Padova, Stanford, Erlangen, Houston.
- Invited session at "ECCOMAS Coupled Problems", Venice, Italy, 2015.
- Invited speaker at "10th and 11th Workshop on mathematical modelling of environmental and life sciences problems", Constanta, Romania, 2014, 2016.

## ORGANISATION OF SCIENTIFIC MEETINGS

- 2020 Member of the organizing committee of the international conference 'Finite Volumes for Complex Applications', June 2020, Bergen, Norway.
- 2018 Organizer (together with B. Wohlmuth, M. Gerritsen, I.S. Pop) of the Oberwolfach Workshop 1835, *Reactive Flows in deformable porous media*, 26-31.08.2018.
- 2017 [Chair of the organizing committee of the European conference on numerical methods and advanced applications \(ENUMATH 2017\), Voss, Norway, 24-29.09.2017 \(334 participants\).](#)
- 2016 Member in the organizing committee of the international workshop *Flow in deformable porous media*, Zaragoza, Spain, 23-26.11.2016 (24 participants).
- 2013 Member in the organizing committee of the *2nd Inter. conference on nonlinearities and upscaling in porous media*, Bergen, 30.09-02.10.2013 (120 participants).

## INSTITUTIONAL RESPONSIBILITIES

- 2018-2019 Leader of the researchers education committee of the Dept. of Math. of UoB.
- 2015 Member in the committee to elaborate the UoB strategy for 2015-2025 on petroleum research.

## COMMISSIONS OF TRUST

- 2019- [Member in the expert project panel of Swedish Research Council, Sweden](#)
- 2019- [Member in the expert project panel of Research Foundation Flanders \(FWO\), Belgium](#)
- 2008- Reviewer for Swiss National Foundation (SNSF), for Netherlands Organization for Scientific Research (NWO) and for National Committee for Scientific and Technological Research Chile (CONICYT).
- 2018 Guest-Editor at Computational Geosciences (Springer, ISI) and Computers and Mathematics with Applications (Elsevier, ISI)
- 2012- Opponent (Reviewer/Member of the examination committee) at the PhD defences of 9 students (T. Barland, Oslo, Norway; K. Mitra, Eindhoven, The Netherlands; A. Lopez-Pena, Delft, The Netherlands; S. Hilden, NTNU, Trondheim, Norway; U. Koecher and K. Schwegler, Helmut-Schmidt University Hamburg, Germany; K. Kumar, TU Eindhoven, The Netherlands; F. Brunner, F. Frank, T. Elbinger, University Erlangen-Nuremberg, Germany, D. Seus, University of Stuttgart, Germany).

## Track record

	Since 2002		Last 5 years	
Total # publications	101		67	
Peer reviewed ISI journal publications	70		42	
Peer reviewed book contributions (ISI)	17	10	8	8
H-Index <a href="#">GoogleScholar</a> / <a href="#">WebOfScience</a>	29	17	22	15
# Citations <a href="#">GoogleScholar</a> / <a href="#">WebOfScience</a>	3118	1509	2339	816

- I have 9 publications in *Advances in Water Research*, #5 in water research (from 83).
- I have publications in *SINUM* (3), *Numerische Mathematik* (4), *IMA J. Num. Anal.* (1), *Mathematics of Computations* (1), which are (the) leading journals in numerical analysis.
- I have more than 3000 citations at [GoogleScholar](#) and more than 1000 at [WebOfScience](#).
- I am the main editor for the book "Numerical Mathematics and Advanced Applications-ENUMATH 2017", Springer 2019 (about 900 pages).

### SELECTED PUBLICATIONS

1. E. Storvik, J.W. Both, J.M. Sargado, J.M. Nordbotten, F.A. Radu, An accelerated staggered scheme for variational phase-field models of brittle fracture, *CMAME* 381 (2021).
2. F. List, K. Kumar, I.S. Pop, F.A. Radu, Rigorous upscaling of unsaturated flow in fractured porous media, *SIAM J. of Math. Analysis* 52 (2020), 239-276.
3. A. Kassa, S. Gasda, K. Kumar, F.A. Radu, Impact of time-dependent wettability alteration on the dynamic permeability, *Advances in Water Resources* 142 (2020).
4. D. Landa-Marban, ..., F.A. Radu, Mathematical Modeling, Laboratory Experiments, and Sensitivity Analysis of Bioplug Technology at Darcy Scale, *SPE Journal*, SPE-201247-PA (2020).
5. K. Kumar, F. List, I.S. Pop, F.A. Radu, Formal upscaling and numerical validation of unsaturated flow in fractured porous media, *J. of Computational Physics* 407 (2020).
6. M. Brun, T. Wick, I. Berre, J.M. Nordbotten, F.A. Radu, An iterative staggered scheme for phase field brittle fracture propagation with stabilizing parameter, *CMAME* 361 (2020).
7. E. Storvik, J.W. Both, K. Kumar, J.M. Nordbotten, F.A. Radu, On the optimization of the fixed-stress splitting for Biot's equations, *IJNME* 120 (2019), 179-194.
8. M. Borregales, K. Kumar, F.A. Radu, C. Rodrigo, F. Gaspar, A partially parallel-in-time fixed-stress splitting scheme for Biot's consolidation model, *Computers and Mathematics with Applications* 77 (2019), 1466-1478.
9. J.W. Both, K. Kumar, J. M. Nordbotten, F.A. Radu, Anderson accelerated fixed-stress splitting schemes for consolidation of unsaturated porous media, *Computers and Mathematics with Applications* 77 (2019), 1479-1502.
10. E. Ahmed, J.M. Nordbotten, F.A. Radu, Adaptive poromechanics computations based on a posteriori error estimates for fully mixed formulation of Biot's consolidation model, *CMAME* 347 (2019), 264-294.