

## ROBERT SCHEICHL

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### EDUCATION

*Ph.D. in Mathematics*  
University of Bath, United Kingdom December 2000

*Diplom-Ingenieur der Technischen Mathematik (mit Auszeichnung)*  
Johannes Kepler Universität Linz, Austria October 1997

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### PROFESSIONAL EXPERIENCE

*Professor of Scientific Computing*  
Department of Mathematical Sciences, University of Bath, UK since 2011

*Senior Lecturer in Applied Mathematics*  
Department of Mathematical Sciences, University of Bath, UK 2010–2011

*Lecturer in Applied Mathematics*  
Department of Mathematical Sciences, University of Bath, UK 2002–2010

*Marie-Curie Postdoctoral Fellow*  
Institut Français du Pétrole, Paris, France 2001–2002

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### ACADEMIC PRIZES AND DISTINCTIONS

*SIAM Student Paper Prize 2000*  
Society of Industrial and Applied Mathematics

*Distinguished Romberg Guest Professorship*  
University of Heidelberg, 2014–2017

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### VISITING POSITIONS (only listing those of 1 month or more)

*Isaac Newton Institute*, Cambridge, UK (2003 & 2012)

*Johann Radon Institute*, Austrian Academy of Sciences, Linz, Austria (2007 & 2011)

*University of New South Wales*, Sydney, Australia (2007, 2009 & 2015)

*Lawrence Livermore National Laboratory*, Livermore, CA (2009)

*Penn State University*, State College, PA (2010)

*University of Stuttgart*, Germany (2007)

*University of Heidelberg*, Germany (2015)

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### RESEARCH INCOME

Total grant support obtained to date: **£3M** (of which **£2.1M** as **PI**), including

*EPSRC Energy Mission Programme Grant* with Nottingham & Oxford (**Lead-PI**, 2011-14) [**£677K**]

*NERC Programme Grant* with several UK universities; lead: Met Office (**Bath PI**, 2011-16) [**£450K**]

*EPSRC Maths for Manufacturing Grant* (**joint PI** with R. Butler, Engineering, 2014-2017) [**£500K**]

## OTHER ACADEMIC ROLES AND POSITIONS OF ESTEEM

Appointed member and European representative on the *SIAM Membership Committee*, 2014-2016.  
Associate Editor for *Internat. J. of Computer Mathematics, Section B*, 2009–2015  
Associate Editor for *SIAM/ASA J. Uncertainty Quantification*, 2015-2017  
Associate Editor for *SIAM J. Scientific Computing*, 2016-2018  
Chair of *RICAM Special Semester* on “Multiscale Analysis and Simulation in Energy and Environment”  
Radon Institute, Austrian Academy of Sciences, Linz, 2011  
Co-chair of *LMS Durham Research Symposium* on “Numerical Analysis of Multiscale Problems”, 2010  
Scientific Committee for *IMA Conference Series on Numerical Methods for Simulation*  
Scientific Committee for *Inter. Conf. Series Preconditioning Techniques for Scient. & Industr. Applic.*  
Scientific Advisory Panel Member for UQ Research Centre (SRI-UQ), KAUST University, Saudi Arabia  
External Examiner on the *MASDOC MSc*, University of Warwick, 2014-2017  
External PhD Examiner at Oxford (2004, 2015), Heidelberg (2010), Greenwich (2010), Leipzig (2011), Cardiff (2011), Heriott-Watt (2015), EPFL Lausanne (2015), Bergen (2016)

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## RESEARCH OUTPUT

41 journal papers appeared or in press in the top journals (averaging ~300 citations per year; h-index: 21; Source: Google Scholar 8/12/2015); as well as 4 books written or edited.

### Selected Publications

- IG GRAHAM, P LECHNER, R SCHEICHL. Domain Decomposition for Multiscale PDEs, *Numer Math* **106**, 589-626, 2007 [132 citations]
- C PECHSTEIN, R SCHEICHL. Analysis of FETI Methods for Multiscale PDEs, *Numer Math* **111**, 293-333, 2008 [74 citations]
- KA CLIFFE, MB GILES, R SCHEICHL, AL TECKENTRUP. Multilevel Monte Carlo Methods and Applications to Elliptic PDEs with Random Coefficients, *Comput Visual Sci* **14**, 3-15, 2011 [137 citations]
- IG GRAHAM, FY KUO, D NUYENS, R SCHEICHL, IH SLOAN. Quasi-Monte Carlo Methods for Elliptic PDEs with Random Coefficients and Applications, *J Comp Phys* **230**, 3668-3694, 2011 [67 citations]
- J CHARRIER, R SCHEICHL, AL TECKENTRUP. Finite Element Error Analysis of Elliptic PDEs with Random Coefficients and its Application to Multilevel Monte Carlo Methods, *SIAM J Numer Anal* **51**, 322-352, 2013 [68 citations]

### Keynote Lectures (selection)

- 15th Computational Techniques and Applications Conference (CTAC2010)* Sydney, Nov 2010  
(the major international computational applied maths conference in Australia and New Zealand, since 1981)
- 20th Internat. Conference on Domain Decomposition Methods (DD20)* San Diego, Feb 2011  
(the most highly regarded and influential international conference series in domain decomposition, since 1987)
- 20th Internat. Conf. on Computational Methods for Water Resources* Stuttgart, June 2014  
(the largest conference in computational hydrology, running since 1976)
- 26th Biennial Conference on Numerical Analysis* Glasgow, June 2015  
(longest standing and internationally most highly regarded conference in numerical analysis, since 1965)
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## RESEARCH SUPERVISION

**PhD:** R Norton (2004-08), S Buckeridge (2006-10), E Dodgson (2008-2011), A Teckentrup (2009-13), S Kynaston (since 2013), G Katsiolides (since 2014), M Parkinson (since 2015)

**Postdoc:** J Van lent (2006-08), E Ullmann (2011-14), E Mueller (2011-15), A Ferreiro-Castilla (2012-13), T Kim (2014-15), S Dolgov (2016-18)

## RESRESEARCH INTERESTS

The main part of my research is on the numerical simulation and analysis of multiscale PDEs and on stochastic uncertainty quantification, as well as their application in particular in energy and environment related areas, such as uncertainty quantification in radionuclide transport, single- and multiphase flow in porous media, sedimentary basin simulation, weather and climate modelling, atmospheric dispersion and nuclear reactor safety calculations. In particular

- Efficient and robust parallel multilevel solvers for systems of PDEs
- Analysis of domain decomposition methods for multiscale PDEs
- Numerical homogenisation, upscaling and multiscale iterative methods
- PDEs with random coefficients and uncertainty quantification
- Multilevel Monte Carlo Methods as well as Bayesian Inference for PDEs
- Parallel multigrid methods in weather and climate prediction and in data assimilation
- Massively parallel implementation of (multilevel) iterative solvers (including GPU clusters)

In addition, I have also done work on parameter identification, spectral methods for eigenproblems with discontinuous coefficients and band gap computations in photonic crystal fibres.

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## CURRENT RESEARCH PROJECTS

- “Multilevel Monte Carlo Methods for Elliptic Problems with Applications to Radioactive Waste Disposal” (with K.A. Cliffe, Nottingham, and M.B. Giles, Oxford, in collaboration with the UK Nuclear Decommissioning Authority and Serco Assurances, EPSRC Grant EP/H051503/1): 1 Postdoc and 1 PhD student at Bath, finished 2014.
  - “Parallel Scalability of Elliptic Solvers in Weather and Climate Prediction” (part of 5-year programme on *Next Generation Dynamical Core for the UK Met Office*, in consortium w. Met Office, STFC, Imperial College, Universities of Exeter, Leeds, Manchester and Reading, NERC Grants NE/J005576/1 and NE/K006754/1): 1 Postdoc and 1 PhD student at Bath (both finished), until June 2016.
  - “Multiscale Modelling of Aerospace Composites” (with R. Butler, Mech. Eng. Bath, and GKN Aerospace, Bristol, EPSRC Grant EP/K031368/1 and EPSRC Industrial CASE Award): 1 Postdoc and 1 PhD student until June 2017.
  - “Tensor product numerical methods for high-dimensional problems in probability and quantum calculations”, EPSRC Postdoctoral Fellowship EP/M019004/1 for Sergey Dolgov, starts January 2016.
  - “Multiscale computational studies of energy materials”, interdisciplinary project with Alison Walker (Physics, PI) and Saiful Islam (Chemistry) as part of the H2020-EINFRA-2015-1 EU-funded *Energy Oriented Centre of Excellence for Computer Applications (EoCoE)*, 1 Postdoc, started October 2015.
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## OTHER INDUSTRIAL COLLABORATIONS & NETWORKING

*Institut Francais du Petrole* (supported by IFP, British Council, Nuffield), 2002-2005

*UK Met Office* (various projects supported by Met Office, GWR, NERC, EPSRC), 2006-2017

*Lawrence Livermore National Laboratory* (consultancy supported by LLNL), 2009-2011

*Thales UK* (EPSRC Knowledge Transfer Network Internship for S Buckeridge), 2010-2011

*DNV GL*, risk assessment software (supported by EPSRC IAA, DNV GL), 2014-2015

*AMEC*, uncertainty quantification in nuclear reactor simulation (supported by AMEC, SAMBa), 2015-2018

EPSRC network in *Porous Media – Processes and Mathematics (PMPM)*, Bath lead

EPSRC network in *Living with Environmental Change (MathForsees)*, Bath lead

## FULL LIST OF PUBLICATIONS

### Journal Papers

1. S. Loisel, H. Nguyen and R. Scheichl, Optimized Schwarz and 2-Lagrange Methods for Multiscale PDEs, to appear in *SIAM Journal of Scientific Computing*, 2015.
2. A. Ferreiro-Castilla, A.E. Kyprianou and R. Scheichl, An Euler-Poisson Scheme for Levy driven SDEs, to appear in *Journal of Applied Probability*, 2015.
3. A. Dedner, E.H. Mueller and R. Scheichl, Efficient Multigrid Preconditioners for Atmospheric Flow Simulations at High Aspect Ratio, *International Journal for Numerical Methods in Fluids*, published online 28 July 2015.
4. I.G. Graham, R. Scheichl and E. Ullmann, Mixed Finite Element Analysis of Lognormal Diffusion and Multilevel Monte Carlo Methods, *Stochastic Partial Differential Equations: Analysis and Computations*, published online 12 June 2015.
5. E.H. Mueller, R. Scheichl and E. Vainikko, Petascale Solvers for Anisotropic PDEs in atmospheric modelling on GPU Clusters, *Parallel Computing*, **50**:53-69, 2015.
6. T.J. Dodwell, C. Ketelsen, R. Scheichl and A.L. Teckentrup, A Hierarchical Multilevel Markov Chain Monte Carlo Algorithm with Applications to Uncertainty Quantification in Subsurface Flow, *SIAM/ASA Journal on Uncertainty Quantification* **3**(1):1075-1108, 2015.
7. E.H. Mueller, R. Scheichl and T. Shardlow, Improving MLMC for SDEs with Application to the Langevin Equation, to appear in *Royal Society Proceedings A* **471**:20140679, 2015.
8. I.G. Graham, F.Y. Kuo, J.A. Nicholls, R. Scheichl, C. Schwab and I.H. Sloan, Quasi-Monte Carlo Finite Element Methods for Elliptic PDEs with Log-normal Random Coefficients, *Numerische Mathematik* **131**(2):329-368, 2015.
9. M. Dauge, R.A. Norton and R. Scheichl, Regularity of Maxwell Eigenproblems in Photonic Crystal Fibre Modelling, *BIT Numerical Mathematics* **55**(1):59-80, 2014.
10. E. Mueller and R. Scheichl, Massively Parallel Solvers for Elliptic PDEs in Numerical Weather and Climate Prediction, *Quart. J. Royal Meteorol. Soc.* **140**(685):2608-2624, 2014.
11. A. Ferreiro-Castilla, A.E. Kyprianou, R. Scheichl and G. Suryanarayana, Multilevel Monte Carlo Simulation for Levy Processes Based on the Wiener-Hopf Factorisation, *Stochastic Processes and their Applications* **124**(2):985-1010, 2014.
12. N. Spillane, V. Dolean, P. Hauret, F. Nataf, C. Pechstein and R. Scheichl, Abstract Robust Coarse Spaces for Systems of PDEs via Generalized Eigenproblems in the Overlaps, *Numerische Mathematik* **126**(4):741-770, 2014.
13. E. Mueller, X. Guo, R. Scheichl and S. Shi, Matrix-free GPU implementation of a preconditioned conjugate gradient solver for anisotropic elliptic PDEs, *Comput. Visual. Sci.* **16**(2):41-58, 2013.
14. A.L. Teckentrup, R. Scheichl, M.B. Giles and E. Ullmann, Further Analysis of Multilevel Monte Carlo Methods for Elliptic PDEs with Random Coefficients, *Numerische Mathematik* **125**(3):569-600, 2013.
15. J. Charrier, R. Scheichl and A.L. Teckentrup, Finite Element Error Analysis of Elliptic PDEs with Random Coefficients and its Application to Multilevel Monte Carlo Methods, *SIAM Journal on Numerical Analysis* **51**(1):322-352, 2013.
16. R. Norton and R. Scheichl, Planewave Expansion Methods for Photonic Crystal Fibres, *Applied Numerical Mathematics* **63**:88-104, 2013.
17. V. Dolean, F. Nataf, R. Scheichl and N. Spillane, Analysis of a Two-level Schwarz Method with Coarse Spaces Based on Local Dirichlet-to-Neumann Maps, *Comput. Meth. Appl. Math.* **12**(4):391-414, 2012.
18. C. Pechstein and R. Scheichl, Weighted Poincare Inequalities, *IMA Journal on Numerical Analysis* **33**(2):652-686, 2012.
19. R. Scheichl, P.S. Vassilevski and L.T. Zikatanov, Multilevel Methods for Elliptic Problems with Highly Varying Coefficients on Non-Aligned Coarse Grids, *SIAM J. Numer. Anal.* **50**(3):1675-1694, 2012

20. M. Marletta and R. Scheichl, Eigenvalues in Spectral Gaps of Differential Operators, *Journal of Spectral Theory* **2**(3):293-320, 2012.
21. P. Bastian, M. Blatt and R. Scheichl, Algebraic multigrid for discontinuous Galerkin discretizations of heterogeneous elliptic problems, *Numerical Linear Algebra with Applications* **19**(2):367388, 2012.
22. R. Scheichl, P.S. Vassilevski and L.T. Zikatanov, Weak Approximation Properties of Elliptic Projections with Functional Constraints, *Multiscale Modeling and Simulation (SIAM)* **9**(4):1677-1699, 2011.
23. N. Spillane, V. Dolean, P. Hauret, F. Nataf, C. Pechstein and R. Scheichl, A Robust Two Level Domain Decomposition Preconditioner for Systems of PDEs, *Comptes Rendus Mathematique* **349**(23-24):1255-1259, 2011.
24. K.A. Cliffe, M.B. Giles, R. Scheichl and A.L. Teckentrup, Multilevel Monte Carlo Methods and Applications to Elliptic PDEs with Random Coefficients, accepted subject to minor corrections, *Computing & Visual. in Science* **14**(1):3-15, 2011.
25. S.D. Buckeridge, M.J.P. Cullen, R. Scheichl and M. Wlasak A Robust Numerical Method for the Potential Vorticity Based Control Variable Transform in Variational Data Assimilation, *Quart J Roy Meteorological Society* **137**(657):1083-1094, 2011.
26. C. Pechstein and R. Scheichl, Analysis of FETI Methods for Multiscale PDEs - Part II: Interface Variation, *Numerische Mathematik* **118**(3):485-529, 2011.
27. I. G. Graham, F. Y. Kuo, D. Nuyens, R. Scheichl, and I. H. Sloan, Quasi-Monte Carlo Methods for for Elliptic PDEs with Random Coefficients and Applications, *Journal of Computational Physics* **230**(10):3668-3694, 2011.
28. S.D. Buckeridge and R. Scheichl, Parallel Geometric Multigrid for Global Weather Prediction, *Numerical Linear Algebra with Applications* **17**, 325-342, 2010.
29. R. Norton and R. Scheichl, Convergence Analysis of Planewave Expansion Methods for Schrödinger Operators with Discontinuous Periodic Potentials, *SIAM J. Numer. Anal.* **47**(6), 4356-4380, 2010.
30. C. Pechstein and R. Scheichl, Scaling Up through Domain Decomposition, *Applicable Analysis* **88**(10), 1589-1608, 2009.
31. J. Van lent, R. Scheichl and I.G. Graham, Energy Minimizing Coarse Spaces for Two-level Schwarz Methods for Multiscale PDEs, *Numerical Linear Algebra with Applications* **16**(10), 775-799, 2009.
32. C. Pechstein and R. Scheichl, Analysis of FETI Methods for Multiscale PDEs, *Numerische Mathematik* **111**(2), 293-333, 2008 2008.
33. B. Aksoylu, I.G. Graham, H. Klie and R. Scheichl, Towards a Rigorously Justified Algebraic Preconditioner for High-Contrast Diffusion Problems, *Comput. Visual. Sci.* **11**, 319-331, 2008.
34. R. Scheichl, E. Vainikko, Additive Schwarz with Aggregation-Based Coarsening for Elliptic Problems with Highly Variable Coefficients, *Computing* **80**, 319-343, 2007.
35. I.G. Graham, P. Lechner and R. Scheichl, Domain Decomposition for Multiscale PDEs, *Numerische Mathematik* **106**, 589-626, 2007.
36. I.G. Graham and R. Scheichl, Robust Domain Decomposition Algorithms for Multiscale PDEs, *Numer. Meth. for Partial Differential Equations* **23**(4), 859-878, 2007.
37. R. Scheichl, M.-H. Klopffer, Z. Benjelloun-Dabaghi, B. Flaconneche, Permeation of Gases in Polymers: Parameter Identification and Nonlinear Regression Analysis, *J. Membrane Science* **254**, 275-293, 2005.
38. R. Scheichl, R. Masson, J. Wendebourg, Decoupling and Block Preconditioning for Sedimentary Basin Simulations, *Computational Geosciences* **7**(4), 295-318, 2003.
39. R. Scheichl, Decoupling Three-dimensional Mixed Problems Using Divergence-free Finite Elements, *SIAM Journal of Scientific Computing* **23**(5), 1752-1776, 2002.
40. K.A. Cliffe, I.G. Graham, R. Scheichl, and L. Stals, Parallel Computation of Flow in Heterogeneous Media Modelled by Mixed Finite Elements, *Journal of Computational Physics* **164**, 258-282, 2000.
41. R. Scheichl, Parallel Solvers for the Transient Multigroup Neutron Diffusion Equations, *Internat. J. for Numerical Methods in Engineering* **47**, 1751-1771, 2000.

## Books

42. M. Cullen, M.A. Freitag, S. Kindermann and R. Scheichl (Editors), *Large Scale Inverse Problems: Computational Methods and Applications in the Earth Sciences*, Radon Series on Computational & Applied Mathematics, vol.13, De Gruyter, Berlin, 2013.
43. P. Bastian, J. Kraus, R. Scheichl and M.F. Wheeler (Editors), *Simulation of Flow in Porous Media: Applications in Energy and Environment*, Radon Series on Computational & Applied Mathematics, vol. 12, De Gruyter, Berlin, 2013.
44. I.G. Graham, T.Y. Hou, O. Lakkis and R. Scheichl (Editors), *Numerical Analysis of Multiscale Problems*, Lecture Notes in Computational Science and Engineering, Vol. 83, Springer, Heidelberg, 2011.
45. R. Scheichl, *Parallel Solution of the Transient Multigroup Neutron Diffusion Equations with Multi-Grid and Preconditioned Krylov-Subspace Methods*. Master's Thesis, Schriften der Johannes Kepler Universität Linz, Vol. C21, Trauner-Verlag, Linz, 1997.

## Conference Proceedings

46. R. Butler, T.J. Dodwell, T. Kim, S. Kynaston, R. Scheichl, R.T. Haftka and N.H. Kim (2015), Uncertainty Quantification of Composite Structures with Defects using Multilevel Monte Carlo Simulations, AIAA SciTech Conference, Kissimmee, 5-9 January 2015.
47. T. Kim, T. Fletcher, T.J. Dodwell, R. Butler, R. Scheichl, J. Ankersen and R. Newley (2015), The Effect of Free Edges on Inter-Laminar Performance of Curved Laminates, AIAA SciTech Conference, Kissimmee, 5-9 January 2015.
48. R. Scheichl, Robust Numerical Upscaling at High Contrast, Oberwolfach Workshop on "Reactive Flows in Deformable, Complex Media" (Organ.: M. Gerritsen, J.M. Nordbotten, I.S. Pop, B. Wohlmuth), 21-27 September 2014, Oberwolfach Report 43/2014.
49. N. Spillane, V. Dolean, P. Hauret, F. Nataf, C. Pechstein and R. Scheichl, Achieving Robustness Through Coarse Space Enrichment in the Two Level Schwarz Framework, to appear in Proceedings of the 21st International Conference on Domain Decomposition Methods (DD21), Rennes, June 2012.
50. R. Scheichl, MLMCMC – Multilevel Markov Chain Monte Carlo, Oberwolfach Miniworkshop on "Numerical Upscaling for Media with Deterministic and Stochastic Heterogeneity" (Organ.: Y. Efendiev, O. Iliev, P. Vassilevski), Feb 2013, Oberwolfach Report 07/2013.
51. R. Scheichl, Robust Coarsening in Multiscale PDEs, in Domain Decomposition Methods in Science and Engineering XX (R Bank, M Holst, O Widlund, and J Xu, Eds.), *Lecture Notes in Computational Science and Engineering*, vol. 91, 2013, pp. 51-62 (Proceedings DD20, San Diego, Feb 2011).
52. V. Dolean, F. Nataf, R. Scheichl and N. Spillane, A Two-Level Schwarz Preconditioner for Heterogeneous Problems, in Domain Decomposition Methods in Science and Engineering XX (R Bank, M Holst, O Widlund, and J Xu, Eds.), *Lecture Notes in Computational Science and Engineering*, vol. 91, 2013, pp. 87-94 (Proceedings DD20, San Diego, Feb 2011).
53. C. Pechstein, M. Sarkis and R. Scheichl, New Theoretical Coefficient Robustness Results for FETI-DP, in Domain Decomposition Methods in Science and Engineering XX (R Bank, M Holst, O Widlund, and J Xu, Eds.), *Lecture Notes in Computational Science and Engineering*, vol. 91, 2013, pp. 313-320 (Proceedings DD20, San Diego, Feb 2011).
54. C. Pechstein and R. Scheichl, Weighted Poincare Inequalities and Applications in Domain Decomposition, in Domain Decomposition Methods in Science and Engineering XIX (Y Huang, R Kornhuber, O Widlund, and J Xu, Eds.), *Lecture Notes in Computational Science and Engineering*, vol. 78, 2011, pp. 197-204 (Proceedings DD19, Zhangjiajie, Aug 2009).
55. E. Dodgson, D.A.S. Rees and R. Scheichl, Vortex Instability of Free Convection Boundary Layers in Porous Media, in Proceedings of 3rd International Conference on Porous Media and its Applications in Science and Engineering (ICPM3), June 2010, Montecatini, Italy.
56. C. Pechstein and R. Scheichl, Robust FETI Solvers for Multiscale Elliptic PDEs, in Proceedings of 6th International Conference on Mathematics in Industry – Scientific Computing in Electrical Engineering (SCEE 2008), Springer, 2010.

57. C. Pechstein and R. Scheichl, Weighted Poincare Inequalities for High-Contrast Coefficients, Oberwolfach Workshop "Computational Electromagnetism and Acoustics" (Org.: R Hiptmair, RHW Hoppe, P Joly, U Langer), Feb 2010, Oberwolfach Report 10/2010.
58. R. Scheichl, Domain Decomposition and Upscaling, Oberwolfach Miniworkshop on "Numerical Upscaling for Flow Problems: Theory and Applications" (Organisers: A. Brandt, Y. Efendiev, O. Iliev), March 2009, Oberwolfach Report 12/2009.
59. I.G. Graham and R. Scheichl, Coefficient-explicit Condition Number Bounds for Overlapping Additive Schwarz, in Domain Decomposition Methods in Science and Engineering XVII (U. Langer, M. Discacciati, D. Keyes, et al, Eds.), *Lecture Notes in Computational Science and Engineering*, vol. 60, Springer, 2008 (Proceedings DD17, Strobl, Austria, July 2006).
60. R. Scheichl and E. Vainikko, Robust Aggregation-Based Coarsening for Additive Schwarz in the Case of Highly Variable Coefficients, in Proceedings of the European Conference on Computational Fluid Dynamics, ECCOMAS CFD 2006 (P. Wesseling, E. Onate, J. Periaux, Eds.), TU Delft, 2006.
61. R. Masson, P. Quandalle, S. Requena, R. Scheichl, Parallel Preconditioning for Sedimentary Basin Simulations, in Proceedings of the 4th International Conference on Large Scale Scientific Computations, Sozopol, Bulgaria, June 4-8, 2003 (Lirkov I., Margenov S. et al., Eds.), *Lecture Notes in Computer Science*, vol. 2907, Springer, New York, 2004.
62. R. Scheichl, Parallel Solvers for the Two-Group Neutron Diffusion Equations of Reactor Kinetics, in Proc. of 11th Inter. Conf. Domain Decomposition Methods, Greenwich, July 1998 (C.H. Lai, P.E. Bjorstad, et al, Eds.), Domain Decomposition Press, Bergen, 1999.
63. H. Finnemann and R. Scheichl, Efficiency Enhancements of Coupled RELAP5/ PANBOX Calculations Using Adaptive Methods, Transactions of the American Nuclear Society for the Annual Meeting, Boston, June 1999.

**Preprints (Submitted)**

64. T. Kim, T.J. Dodwell, R. Butler, R. Scheichl and R. Newley, Resin Treatment of Free Edges to Aid Certification of Through Thickness Laminate Strength, submitted November 2015.
65. F.Y. Kuo, R. Scheichl, Ch. Schwab, I.H. Sloan and E. Ullmann, Multilevel Quasi-Monte Carlo Methods for Lognormal Diffusion Problems, Preprint arXiv:1507.01090, submitted July 2015.