

# DR RADOSTIN DIMOV SIMITEV

DipHE MSc PhD PGCert, FHEA

— Curriculum Vitae — Glasgow, 2012/03/07 —

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## ■ Personal and Contact Details

<i>Date of Birth:</i>	January 29, 1976	<i>Address:</i>	School of Mathematics and Statistics, University of Glasgow, Glasgow G12 8QW, United Kingdom, EU
<i>Place of Birth:</i>	Stara Zagora, Bulgaria, Europe	<i>Phone:</i>	(0044) 141 330 6882, (0044) 776 737 2773
<i>Nationality:</i>	Bulgarian	<i>E-mail:</i>	<a href="mailto:Radostin.Simtev@glasgow.ac.uk">Radostin.Simtev@glasgow.ac.uk</a>
<i>Marital Status:</i>	Married, One child	<i>URL:</i>	<a href="http://www.maths.gla.ac.uk/~rs">http://www.maths.gla.ac.uk/~rs</a>
<i>Profession:</i>	Applied Mathematician & Physicist		
<i>Languages:</i>	English, Bulgarian (fluent); Russian, German (read)		

## ■ Education and Certificates

2006 – 2008	<i>Degree awarded:</i> <b>Postgraduate Certificate</b>	2008/10/22
	<i>Subject:</i> Academic Practice (accredited by the UK Higher Education Academy)	
	<i>Institution:</i> University of Glasgow, Learning & Teaching Centre, Glasgow, UK	
2000 – 2004	<i>Degree Granted:</i> <b>Dr. rer. nat.</b>	2004/05/26
	<i>Subject:</i> Theoretical and Computational Physics	
	<i>Institution:</i> University of Bayreuth, Institute of Physics, Bayreuth, Germany	
	<i>Adviser:</i> Prof. F.H. Busse	
	<i>Dissertation:</i> <i>Convection and Magnetic Field Generation in Rotating Spherical Fluid Shells</i>	
	<i>Honors:</i> magna cum laude	
1995 – 2000	<i>Degree Granted:</i> <b>M.Sc.</b>	2000/07/13
	<i>Subject:</i> Physics (Theoretical, Nuclear and Particle Physics)	
	<i>Institution:</i> St K Ohridski University of Sofia, Faculty of Physics, Sofia, Bulgaria	
	<i>Grades:</i> Excellent (averaged over 40 subject exams : 5.95 of 6.00; viva: 6.00 of 6.00)	
1996 – 1998	<i>Degree Granted:</i> <b>DipHE (Diploma of Higher Education)</b>	1998/07/08
	<i>Subject:</i> Computing and Information Technologies	
	<i>Institution:</i> St I Rilski University of Mining and Geology, Open Faculty, Sofia, Bulgaria	
	<i>Grades:</i> Excellent (exams: 6.00 of 6.00; viva: 6.00 of 6.00)	
1983 – 1995	<i>Degree Granted:</i> <b>Pre-university Diplomas</b>	1995/06/23
	<i>Subjects:</i> Bulgarian National Primary & Secondary Education curriculum (enhanced English & Maths)	
	<i>Last institution:</i> The English Language High School, Stara Zagora, Bulgaria	
	<i>Grades:</i> Excellent (5.97 of 6.00)	
<i>Minor</i>		
<i>Certificates</i>	<i>Brainbench</i> <b>Certificate</b> in Web Design Concepts	2011/10/08
	<i>MSOR</i> <b>Certificate</b> Induction to teaching Maths & Stats	2006/11/08
	<i>Brainbench</i> <b>Certificate</b> in Fortran 77	2001/01/13
	<i>Brainbench</i> <b>Certificate</b> in Unix Korn Shell Scripting	2001/01/16
	<i>ETS Princeton</i> <b>TOEFL Certificate</b> in English (Total Score: 263 of 300; better than 90%)	2000/01/19
	<i>DVLA/MVR</i> <b>UK/BG Driving license</b> (B,B1,f,k,p)	1998/07/17

## ■ Professional Experience

### Appointments

2006 – Present	<i>Position:</i>	<b>Lecturer in Applied Mathematics</b>
	<i>Institution:</i>	University of Glasgow, School of Mathematics and Statistics, Glasgow G12 8QW, UK.
	<i>Key Tasks:</i>	(a) To conduct research in Mathematics to an internationally recognised standard; (b) Teach appropriate courses and supervise students at all levels; (c) To manage administrative tasks as allocated; (d) To maintain continuing professional development.
	<i>Personal Goals:</i>	(a) To enhance and maintain my outstanding publication record and my int'l research reputation; (b) To achieve the esteem of an int'l leader in my research fields; (c) To secure routinely major funding for research and support my own research group; (d) To enhance teaching skills; (e) To be efficient and proactive in management and leadership roles.

- 2004 – 2006    *Position:*            **Senior Research Assistant**  
*Institution:*            University of Liverpool, Department of Mathematical Sciences, Liverpool L69 7ZL, UK.  
*Funding:*                *Engineering and Physical Sciences Research Council (EPSRC) grant, UK.*  
*Key Tasks:*              (a) To conduct research on the project *Analytical Approach to Realistic Models of Excitation Propagation in Cardiac Tissue*; (b) To assist in teaching.  
*Personal Goals:*        Were to become a highly-skilled and independent scientist and acquire additional research experience with the aim to progress to a permanent academic post.
- 2000 – 2004    *Position:*            **Wissenschaftlicher Mitarbeiter (Research Assistant)**  
*Institution:*            University of Bayreuth, Institute of Physics, D-95440 Bayreuth, Germany.  
*Key Tasks:*              (a) To conduct research on the project *Numerical Simulations of Models for Planetary and Stellar Dynamos*; (b) To assist in teaching.  
*Personal Goals:*        Were to earn a Doctorate by research with the aim to launch a scientific career.

#### Long-term research visits (> 1 month)

- 2012, 5 mos.    *Position:*            **Research Scholar**  
*Institution:*            Institute of Geophysics, University of California, Los Angeles & W.W. Hansen Experimental Physics Laboratory, Stanford University, California, US.
- 2011, 1 mo.    *Position:*            **Visiting Researcher**  
*Institution:*            NORDITA, Stockholm, Sweden.
- 2010, 1 mo.    *Position:*            **Visiting Researcher**  
*Institution:*            Center for Turbulence Research, Stanford University, California, US.
- 2008, 1 mo.    *Position:*            **Visiting Researcher**  
*Institution:*            Kavli Institute for Theoretical Physics, University of California at Santa Barbara, US.
- 2002, 3 mos.    *Position:*            **Fellow of the 2002 WHOI Geophysical Fluid Dynamics Program**  
*Institution:*            Woods Hole Oceanographic Institution, Massachusetts, US.

#### Memberships

- Since 2011    **Member of the Editorial Board** of *ISRN Thermodynamics*, ISSN: 2090-5211.  
 Since 2011    **Member** of Space Glasgow Research Cluster.  
 Since 2009    **Fellow** of the Higher Education Academy.  
 Since 2006    **Member** of the Edinburgh Mathematical Society.  
 Since 2006    **Member** of the Glasgow Centre for Mathematics Applied to the Life Sciences.

#### ■ Publications and Research

Links to my published works can be found at my personal web-page <http://www.maths.gla.ac.uk/~rs>.

#### Under review

- [S41] **Simatev, R.**, Busse F.H., *Bistable attractors in a model of convection-driven spherical dynamos*, *Physica Scripta*, ISSN: 0031-8949, (submitted 2011/12/01).

#### In journals

- [S40] **Simatev, R.**, Busse F.H., *How far can minimal models explain the solar cycle?*, *Astrophys. J.*, ISSN: 0004-637X, (accepted 2012/01/30).
- [S39] **Simatev, R.**, Busse F.H., *Solar cycle properties described by simple convection-driven dynamos*, *Physica Scripta*, ISSN: 0031-8949, (accepted 2012/01/13).
- [S38] **Simatev, R.**, *Double-diffusive convection in a rotating cylindrical annulus with conical caps*, *Phys. Earth Planet. Inter.*, **186(3-4)**, pp. 183-190, DOI:10.1016/j.pepi.2011.04.007, 2011.
- [S37] Busse, F.H., **Simatev, R.**, *Remarks on some typical assumptions in dynamo theory*, *Geophys. Astrophys. Fluid Dyn.*, **105(2)**, pp. 234-247, DOI:10.1080/03091929.2010.519891, 2011.
- [S36] **Simatev, R.**, Biktashev, V.N., *Asymptotics of conduction velocity restitution in models of electrical excitation in the heart*, *Bull. Math. Biol.*, **73(1)**, pp. 72-115, DOI:10.1007/s11538-010-9523-6, 2011.
- [S35] **Simatev, R.**, *Thermal Convection: Patterns, Evolution and Stability* by M. Lappa, *Geophys. Astrophys. Fluid Dyn.*, **105(1)**, pp. 109–111, DOI:10.1080/03091929.2010.506096, 2011.
- [S34] **Simatev, R.**, Busse, F.H., *Bistability and hysteresis of dipolar dynamos generated by turbulent convection in rotating spherical shells*, *EPL (Europhys. Lett.)*, **85**, 19001, DOI:10.1209/0295-5075/85/19001, 2009.
- [S33] Busse, F.H., **Simatev, R.**, *Toroidal flux oscillations as possible causes of geomagnetic excursions and reversals*, *Phys. Earth Planet. Inter.*, **168(3-4)**, pp. 237-243, DOI:10.1016/j.pepi.2008.06.007, 2008.
- [S32] Plaut, E., Lebranchu, Y., **Simatev, R.**, Busse, F.H., *On the Reynolds stresses and mean fields generated by pure waves - Applications to shear flows and rotating convection*, *J. Fluid Mech.*, **602**, pp. 303–326, DOI:10.1017/S0022112008000840, 2008.

- [S31] Biktashev, V.N., Suckley, R., Elkin, Y.E., **Simitev, R.**, *Asymptotic analysis and analytical solutions of a model of cardiac excitation*, Bull. Math. Biol., **70**(2), pp. 517-554, DOI: 10.1007/s11538-007-9267-0, 2008.
- [S30] Getling, A.V., **Simitev, R.**, Busse, F.H., *Can cellular convection in a rotating spherical shell maintain both global and local magnetic fields?*, Int. J. Geophys. Aeron., **7**(1), GI1004, DOI: 10.1029/2005GI000138, 2007.
- [S29] Busse, F.H., **Simitev, R.**, *Parameter dependences of convection driven dynamos in rotating spherical fluid shells*, Geophys. Astrophys. Fluid Dyn., **100**(4-5), pp. 341-361, DOI: 10.1080/03091920600784873, 2006.
- [S28] **Simitev, R.**, Biktashev, V.N., *Conditions for propagation and block of excitation in an asymptotic model of atrial tissue*, Biophys. J., **90**(7), pp. 2258-2269, DOI: 10.1529/biophysj.105.072637, 2006.
- [S27] Busse, F.H., **Simitev, R.**, *Dynamos of giant planets*, Procs. Intl. Astron. Union, **2**, pp. 467-474, DOI:10.1017/S1743921307000920, 2006.
- [S26] Getling, A.V., **Simitev, R.**, Busse, F.H., *Generation of coupled global and local magnetic fields by a cellular MHD dynamo*, Procs. Intl. Astron. Union, **2**, pp. 482-487, DOI:10.1017/S1743921307000944, 2006.
- [S25] Idris, I., **Simitev, R.**, Biktashev, V.N., *Using novel simplified models of excitation for analytic description of initiation propagation and blockage of excitation waves*, IEEE Computers in Cardiology, **33**, pp. 213-217, ISSN: 0276-6547, 2006.
- [S24] Biktasheva, I.V., **Simitev, R.**, Suckley, R., Biktashev, V.N., *Asymptotic properties of mathematical models of excitability*, Phil. Trans. Roy. Soc. A, **364**, pp. 1283-1298, DOI: 10.1098/rsta.2006.1770, 2006.
- [S23] **Simitev, R.**, Busse, F.H., *Prandtl number dependence of convection driven dynamos in rotating spherical fluid shells*, J. Fluid Mech., **532**, pp. 365-388, DOI: 10.1017/S0022112005004398, 2005.
- [S22] Busse, F.H., **Simitev, R.**, *Dynamos driven by convection in rotating spherical shells*, Astron. Nachr., **326**, 3/4, pp. 231-240, DOI: 10.1002/asna.200410382, 2005.
- [S21] Getling, A.V., **Simitev, R.**, Busse, F.H., *Cellular dynamo in a rotating spherical shell*, Astron. Nachr., **326**, 3/4, pp. 241-244, DOI: 10.1002/asna.200410383, 2005.
- [S20] Busse, F.H., **Simitev, R.**, *Inertial convection in rotating fluid spheres*, J. Fluid Mech., **498**, pp. 23-30, DOI: 10.1017/S0022112003006943, 2004.
- [S19] **Simitev, R.**, Busse, F.H., *Patterns of convection in rotating spherical shells*, New J. Phys., **5**, pp. 97.1-97.20, DOI: 10.1088/1367-2630/5/1/397, 2003.

#### In peer-reviewed collections

- [S18] Busse, F.H., **Simitev, R.**, *Some Unusual Properties of Turbulent Convection and Dynamos in Rotating Spherical Shells*, IUTAM Symposium on "Turbulence in the Atmosphere and Oceans", IUTAM Bookseries Springer, vol **28**, pp. 181-194, DOI:10.1007/978-94-007-0360-5\_15, 2010.
- [S17] **Simitev, R.**, Biktashev, V.N., *Analytically solvable asymptotic model of atrial excitability*, in "Mathematical Modeling of Biological Systems", A. Deutsch, R. Bravo de la Parra, R. de Boer et al. (eds.) Birkhäuser, Boston, pp. 289-302, DOI: 10.1007/978-0-8176-4556-4\_26, 2008.
- [S16] Busse, F.H., **Simitev, R.**, *Planetary dynamos*, in "Planets and Moons", T. Spohn (ed.), vol. 10 of series "Treatise on Geophysics", pp. 281-298 G. Schubert, (ed.), Elsevier, DOI: 10.1016/B978-044452748-6.00160-7 2007.
- [S15] Busse, F.H., Dormy, E., **Simitev, R.**, Soward, A.M., *Dynamics of rotating fluids*, in "Mathematical Aspects of Natural Dynamos", E. Dormy, A.M. Soward (eds.), Grenoble Sciences and CRC Press, Boca Raton pp. 119-198, ISBN-13: 978-1-58488-954-0, 2007.
- [S14] Busse, F.H., **Simitev, R.**, *Convection in rotating spherical fluid shells and its dynamo states*, in "Fluid Dynamics and Dynamos in Astrophysics and Geophysics" A.M. Soward, C.A. Jones, D.W. Hughes, N.O. Weiss (eds.), CRC Press, pp. 359-392, ISBN: 0-8493-3355-5, 2005.
- [S13] Busse, F.H., Grote, E., **Simitev, R.**, *Convection in rotating spherical shells and its dynamo action*, in "Earth's Core and Lower Mantle", C.A. Jones, A.M. Soward and K. Zhang, (eds.), Taylor & Francis, pp. 130-152, ISBN: 0-415-30936-0, 2003.
- [S12] **Simitev, R.**, Busse, F.H., *Parameter dependences of convection driven spherical dynamos*, in "High Performance Computing in Science and Engineering '02", E. Krause, W. Jäger, (eds.), Springer, pp. 15-35, ISBN: 3-540-43860-2, 2002.
- [S11] Grote, E., Busse, F.H., **Simitev, R.**, *Buoyancy driven convection in rotating spherical shells and its dynamo action*, in "High Performance Computing in Science and Engineering '01", E. Krause, W. Jäger, (eds.), Springer, pp. 12-34. ISBN: 3-540-42675-2, 2001.

#### Dissertation

- [S10] **Simitev, R.**, *Convection and Magnetic Field Generation in Rotating Spherical Fluid Shells*, Doctoral dissertation, University of Bayreuth, Opus-Dokumentenserver, Universitätsbibliothek Bayreuth, 2004, URL: <http://opus.ub.uni-bayreuth.de/volltexte/2004/91>.

#### In proceedings, technical reports

- [S9] **Simitev, R.**, MacTaggart D., *The mathematics of fluid dynamos*, [The, Commutator], (accepted Jan 2, 2012).
- [S8] **Simitev, R.**, Busse, F.H., *Problems of Astrophysical Turbulent Convection: Thermal convection in a layer without boundaries* Procs 2010 CTR Summer Program, P. Moin (ed.), pp. 475-484, Stanford University, 2010.
- [S7] **Simitev, R.**, Busse, F.H., Kosovichev, A.G., *Turbulent 3D MHD dynamo model in spherical shells: Regular oscillations of the dipolar field*, Procs 2010 CTR Summer Program, P. Moin (ed.), pp. 485-492, Stanford University, 2010.

- [S6] Yokoi, N., Balarac, G., Kitiashvili, I.N., Kleeorin, N., Kosovichev, A.G., Rogachevskii, I., **Simitev, R.**, *Integrated exploration of turbulent cross-helicity effect: theory, observation, modeling and numerical simulations of the solar convection zone*, Procs 2010 CTR Summer Program, P. Moin (ed.), pp. 493-502, Stanford University, 2010.
- [S5] Lebranchu, Y., Plaut, E., **Simitev, R.**, Busse, F.H., *Etude theorique dondes de Rossby thermiques nonlineaires en geometrie spherique: influence du mode de chauffage*, Comptes-rendus de la 10eme RNL, pp. 95-100, 2007, (in French).
- [S4] Getling, A., **Simitev, R.**, Busse, F., *Global-local Solar dynamo*, in “Solar activity as a space weather factor”, IX International Conference, Pulkovo, 2005, St. Peterburg, 2006, (in Russian).
- [S3] **Simitev, R.**, *Inertial wave convection in rotating spherical fluid shells*, in “2002 GFD Program on Bounds of Turbulent Transport”, J. Whitehead (ed.), Woods Hole Oceanographic Institution Technical Report, WHOI-02-16, pp. 148-175, Woods Hole, MA, 2002.
- [S2] Busse, F.H., **Simitev, R.**, *Current state and future challenges of the dynamo theory of planetary magnetism*, pp. L1–L13, in Proc. 5th International PAMIR Conference “Fundamental and Applied MHD”, Ramatuelle, A. Alemany (ed.), LEGI Grenoble, 2002.
- [S1] **Simitev, R.**, *Study of Band Structures in  $^{128}\text{Ba}$  Nucleus by the Tilted Axis Cranking Model*, M.Sc. thesis, University of Sofia, 2000, (in Bulgarian).

#### Invited seminars and int'l conference presentations

Leeds (2012/01/26), Liverpool (2011/12/07), East Kilbride (2011/10/28), Stockholm, (2011/08/03), Oxford (2011/07/09), Exeter (2011/06/02), Glasgow (2011/04/27), Imperial College London (2010/12/08), Stanford, CA (2010/07/19), Grenoble, France (2010/04/01), Stirling (2009/11/24), Cambridge (2009/07/22), Zürich, Switzerland (2009/07/11), Santa Barbara, US (2008/07/17), Santa Barbara, US (2008/07/11), Salford (2008/06/05), Newcastle, (2007/10/26), Glasgow (2007/10/25), Newcastle (2007/06/07), St Andrews (2007/05/25), Glasgow (2007/05/21), Glasgow (2007/02/20), Glasgow (2006/05/10), Liverpool (2005/09/28), Dresden, Germany (2005/07/20), Leeds (2005/05/13), Liverpool (2005/04/05), Potsdam, Germany (2003/10/01), Caramulo, Portugal (2003/09/06), Dresden, Germany (2002/11/25), Ilmenau, Germany (2002/09/23), Woods Hole, Massachusetts (2002/08/19), München, Germany (2002/04/10), Stuttgart, Germany (2001/10/09), Braunschweig, Germany (2001/04/03), Sofia, Bulgaria (2000/06/16), Varna, Bulgaria (1999/10/01).

#### Research interests and contributions

*Fields:* Fluid Dynamics, Magnetohydrodynamics, Mathematical Biology.

*Keywords:* convection, dynamo, geo-, solar, planetary magnetism, turbulence, pattern formation, reaction-diffusion systems, excitable media, cardiac electrophysiology, asymptotic/perturbation methods, numerical methods.

#### Research approach and expertise

*Approach:* My research revolves around the development and analysis of mathematical models of physical and biological processes. This involves a wide range of mathematical techniques for analytical solution of model equations, and design and implementation of high resolution multi-dimensional numerical experiments and visualisation.

*Expertise:* Solid experience in Applied Mathematics, Theoretical Physics, and Scientific Computing from active engagement in scientific research, university teaching, formal education and professional activities since 1995.

#### ■ Funding Grant Awards

- [17] Leverhulme Foundation, *Research Project Grant application*, PI, 2012-2015, (pending £146,276).
- [16] University of Glasgow, *Lord Kelvin and Adam Smith Scholarship*, joint with M. Cartmell, A. Workman, A. Rankin, 2011, (awarded  $\approx$  £120,000).
- [15] University of Glasgow, *2011-12 College of Science and Engineering Research Fund*, PI, 2012, (awarded £4,802).
- [14] Royal Society, *Research Grant*, PI, 2011-2012, (awarded £12,715).
- [13] Royal Society, *International Joint Project*, CI, joint with X. Luo, N.A. Hill, A. van Hirtum, 2011-2013, (awarded £12,000).
- [12] EPSRC *KTA (Knowledge Transfer Application Grant)*, CI, joint with X. Luo, Devro Scotland plc, 2011, (awarded £32,269 from EPSRC, and £7000 from Devro).
- [11] NORDITA Sweden, *Subsistence and Conference Fees Grant*, PI, 2011, (awarded £2,230).
- [10] CTR Stanford *Subsistence and Conference Fees Grant*, PI, 2010, (awarded £3,000).
- [9] Edinburgh Mathematical Society, *Research and Visitor Grant*, PI, 2010 (awarded £500).
- [8] USA National Aeronautics and Space Administration (NASA), *Research Grant* in the programme “Living with a star” for the project “Using dynamo models and data assimilation methods for modelling and forecasting properties of solar cycles”, PI: F.H. Busse (UCLA, USA), Collaborators: R. Simitev, A. Kosovitchev, A. Brandenburg, 2009-2014, (awarded \$657,100; \$54,000 for Simitev).
- [7] Edinburgh Mathematical Society, *Research and Visitor Grant*, PI, 2009 (awarded £800).
- [6] Isaac Newton Institute for Mathematical Sciences, *Subsistence and Conference Fees Grant*, PI, 2009, (awarded £450).
- [5] Royal Society, *Conference Grant*, PI, 2008, (awarded £1,100).
- [4] Kavli Institute of Theoretical Physics, Santa Barbara, *Subsistence and Conference Fees Grant*, PI, 2008, (awarded £850).
- [3] British Council, Paris, *International Travel and Research Grant*, PI, joint with A. Van Hirtum, X. Luo, N.A. Hill, 2008–2010, (awarded £4,800).

- [2] Royal Society, *Conference Grant*, PI, 2007, (awarded £960).  
 [1] Royal Society, *International Outgoing Travel Grant*, PI, 2007, (awarded £930).

## ■ Teaching and Supervision

I have completed a Higher Education Academy accredited staff development programme at the University of Glasgow (2008).

### Supervision of PhD students

- [3] N. N., *Nonlinear dynamics and control of the electrophysiology of atrial fibrillation*, University of Glasgow, to start Oct 2012.  
 [2] Andrew Allan, *Electro-mechanical delay in rabbit hearts*, British Heart Foundation, started 2011.  
 [1] Dr Roberto Pintus (Erasmus PhD exchange from University of Cagliari, Italy), *Inductive magnetohydrodynamic generator*, 2009-2010.

*PhD examination*: Internal examiner (Glasgow, 2009, 2010, 2011).

### Supervision of undergraduate students

2006 – Present 9 senior-honour projects, over 60 junior-honour projects.

#### Teaching

- Since 2006, University of Glasgow

As a Lecturer in Mathematics I am involved in the full range of academic teaching duties including (a) preparation, delivery and examination of courses at appropriate levels for both undergraduate and postgraduate students, with average undergraduate class size of 100, (b) delivery of a range of tutorials and (c) supervision of project work. Correspondingly, I have taught:

*Lectures* Mathematical Methods (ODEs, PDEs, 2009–), Numerical Solution of PDEs (2006–2009,2011), 1R Calculus (2006–2011), 1Y Calculus (2009–2011), SMSTC Cardiac modelling (2008–), Writing and Presenting Mathematics (2011–).

I have consistently obtained some of the best student feedback scores for my lectures.

*Tutorials* Numerical Solution of PDEs, 1R Calculus and Algebra, 1Y Calculus and Algebra, Differential Equations I (ODE) or II (PDE), Numerical Analysis, 1S Calculus and Algebra, 1X Calculus and Algebra, Mathematical Methods, Dynamical Systems, Fundamental of Applied Mathematics.

*Advising* Academic adviser of over 30 undergraduate students on all matters of University life.

- 2000 – 2006, Universities of Liverpool and Bayreuth

As a Post-Doctoral researcher (from 2004 to 2006) and Doctoral student (from 2000 to 2004), I have been actively involved in the teaching of undergraduates. My typical duties involved design and grading of homework, small-group tutorials, occasional lectures, supervision of undergraduate projects and seminar presentations. Correspondingly, I have taught:

*Tutorials* Quantum Mechanics I, II (2002,2003), Theory of Relativity (2002), Thermodynamics and Statistical Physics (2003), Computational Physics (2003-2004), Dynamic Modelling (2005), Mathematical Methods (2006).

## ■ Management and Other Activities

- [i] Organizer of the 2013 National UK MHD meeting, Glasgow, June, 2013.  
 [ii] Convener of the Schools Liaison and Recruitment Committee, School of Mathematics and Statistics, University of Glasgow, since 2009.  
 [iii] Class head Mathematics 1Y, School of Mathematics and Statistics, University of Glasgow, 2010.  
 [iv] Organizer of the *Mathematical Biology Seminar*, School of Mathematics and Statistics, University of Glasgow, since 2006.  
 [v] Organizer of the Glasgow Science Festival at the School of Mathematics and Statistics, University of Glasgow, since 2009.  
 [vi] Undergraduate Prospectus Contact, Department of Mathematics, University of Glasgow, since Sept 2009.  
 [vii] Research Webmaster, Department of Mathematics, University of Glasgow, 2008-2010.  
 [viii] Member of the Information Technology Committee, Department of Mathematics, University of Glasgow, 2009.  
 [ix] Member of the Research Committee, Department of Mathematics, University of Glasgow, 2010.

## ■ Reference Letters

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 (busse@uni-bayreuth.de)

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