

CURRICULUM VITAE

JAN S. HESTHAVEN

UNIVERSITY ADDRESS

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EDUCATION

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|---------|---|
| 07/1991 | M.Sc. in Computational Physics, Institute of Mathematical Modeling, Technical University of Denmark, Copenhagen, DK. August 1991.
Thesis: <i>Dynamics of Coherent Structures in the Hasegawa-Mima Equation.</i> |
| 08/1995 | Ph.D. in Applied Mathematics, Institute of Mathematical Modeling, Technical University of Denmark, Copenhagen, DK. August 1995.
Thesis: <i>Numerical Studies of Unsteady Coherent Structures and Transport in Two-Dimensional Flows.</i> |
| 11/2009 | Dr.techn. in Numerical Analysis. Institute of Mathematical Modeling. Technical University of Denmark, Copenhagen, DK. November 2009.
Thesis: <i>Nodal Discontinuous Element Methods: Formulations, Analysis, and Applications.</i> |

PROFESSIONAL APPOINTMENTS

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|-----------------|---|
| 08/1995-07/1998 | NSF Postdoctoral Fellow, Division of Applied Mathematics, Brown University. |
| 08/1995-06/1999 | Visiting Assistant Professor, Brown University. |

07/1999-12/2002	Assistant Professor of Applied Mathematics, Brown University.
07/2001-12/2002	Manning Assistant Professor, Brown University.
01/2003-06/2005	Associate Professor, Brown University.
07/2006-06/2010	Associate Chair of Applied Mathematics, Brown University.
07/2005-	Professor of Applied Mathematics, Brown University.
10/2006-	Director of Center for Computation and Visualization (CCV), Brown University.
10/2007-	Adjunct Professor, Technical University of Denmark, Lyngby, Denmark.
09/2010-	Deputy Director of the Institute for Computational and Experimental Research in Mathematics (ICERM), Brown University.

VISITING ACADEMIC APPOINTMENTS (> 1 MONTH)

08/2001	Visiting Professor, Department of Mathematical Modeling, Technical University of Denmark, Denmark.
07/2004	Visiting scientist, Project ONDES, INRIA-Roquencourt, France.
07/2005	Visiting scientist, Project ONDES, INRIA-Roquencourt, France.
08/2005-07/2006	Otto Mønsted Visiting Professor, Technical University of Denmark, Denmark
08/2007	Visiting Professor, Department of Mathematical Modeling, Technical University of Denmark, Denmark.

PUBLICATIONS

Metrics	All metrics based on Google Scholar (definitions - http://www.harzing.com/pop.htm) Total number of citations - 3700+ h-index - 33 g-index - 58 Individual h-index - 23
Books	J. S. Hesthaven, S. Gottlieb, and D. Gottlieb, <i>Spectral Methods for Time-Dependent Problems</i>. Cambridge Monographs on Applied and Computational Mathematics 21. Cambridge University Press, Cambridge, UK. X+274 pages. January 2007. J. S. Hesthaven and T. Warburton, <i>Nodal Discontinuous Galerkin Methods: Algorithms, Analysis, and Applications</i>. Springer Texts in Applied Mathematics 54, Springer Verlag, New York. XIV+500 pages. January 2008. Translation to Chinese: 交点间断Galerkin方法:算法、分析和应用 by Jichun Li., Global Science Press, Hong Kong, 432 pages, May 2011

- J. S. Hesthaven and T. Warburton, *Nodal Discontinuous Galerkin Methods: Algorithms, Analysis, and Applications, 2nd Edition*. Springer Verlag, New York. In preparation with completion late 2012.
- J. S. Hesthaven and E. Rønquist (Eds.), *Spectral and High-Order Methods for Partial Differential Equations*, Springer Lecture Notes in Computational Science and Engineering **76**, Springer Verlag, Berlin. 2010.
- J. S. Hesthaven, A. Patera, G. Rozza, and B. Stamm, *Certified Reduced Basis Methods*, Modeling, Simulation and Applications, Springer Verlag. In preparation with completion late 2012.
- Special Volumes J. S. Hesthaven, D. Gottlieb, and E. Turkel (Eds.), *Proceedings of the 4th International Conference on Spectral and High-Order Methods (ICOSAHOM'98)*. Applied Numerical Mathematics, **33**(1-4), Elsevier Publishing, Holland. May 2000.
- M.H. Carpenter, D. Gottlieb, J. S. Hesthaven, and C.-W. Shu (Eds.), *Proceedings of AFOSR Workshop on Advances and Challenges in Time-Integration of PDE's*, J. Sci. Comput. **25**(1-2), Kluwer Publishing, Holland. October 2005.
- D. Gottlieb, J. S. Hesthaven, G. E. Karniadakis, and C.-W. Shu (Eds.), *Proceedings of the 6th International Conference on Spectral and High-Order Methods (ICOSAHOM'04)*, J. Sci. Comput. **27**(1-3), Kluwer Publishing, Holland. June 2006.
- G.E. Karniadakis and J.S. Hesthaven (Eds.), *Special Issue on "Spectral Interpolation in Non-Orthogonal Domains: Algorithms and Applications"*, J. Engin. Math. **56**(3), March 2007.
- H. Haddar and J.S. Hesthaven (Eds.), *Proceedings of the 7th International Conference on Mathematical and Numerical Aspects of Waves (WAVES'05)*, J. Comp. Appl. Math. **204**(2), July 2007.
- J.S. Hesthaven and E. Tadmor (Eds.), *Special Issue in Memory of Professor David Gottlieb*, Math. Model. Numer. Anal. **46**, January 2012.
- Book Chapters J. S. Hesthaven, 2003, *High-Order Accurate Methods in Time-Domain Computational Electromagnetics. A Review*. Advances in Imaging and Electron Physics **127**, pp. 59-123.
- A. Kloeckner, T. Warburton and J.S. Hesthaven, 2011, *Solving Wave Equations on Unstructured Geometries*, GPU Computing Gems **2**, 225-242.
- Journals J. Du Croz, J. S. Hesthaven, and J. Waśniewski, 1992, *Comparison of Two FFT Libraries on the Amdahl/Fujitsu VP Computer - NAG and Siemens Libraries*, Supercomputer **51**, 4-10.
- J. S. Hesthaven, J. Nycander, and J. P. Lynov, 1993, *Dynamics of Non-Stationary Dipole Vortices*, Phys. Fluids A **5**(3), 622-629.
- J. S. Hesthaven, J. P. Lynov, J. Juul Rasmussen, and G. G. Sutyrin, 1993, *Generation of Tri-Polar Vortices on the Beta-Plane*, Phys. Fluids A **5**(7), 1674-1678.
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- J. S. Hesthaven, A. H. Nielsen, H. L. Pécseli, and J. Juul Rasmussen, 1995, *The Eulerian-Lagrangian Transformation in Two-Dimensional Random Flows*, J. Atmos. Terres. Phys. **57**(3), 215-223.
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- J. S. Hesthaven and D. Gottlieb, 1996, *A Stable Penalty Method for the Compressible Navier-Stokes Equations. I. Open Boundary Conditions*, SIAM J. Sci. Comp. **17**(3), 579-612.
- J. S. Hesthaven, 1997, *A Stable Penalty Method for the Compressible Navier-Stokes Equations. II. One-Dimensional Domain Decomposition Schemes*, SIAM J. Sci. Comp. **18**(3), 658-685.
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- J. S. Hesthaven, 1998, *From Electrostatics to Almost Optimal Nodal Sets for Polynomial Interpolation in a Simplex*, SIAM J. Numer. Anal. **35**(2), 655-676.
- J. S. Hesthaven, 1998, *Integration Preconditioning of Pseudospectral Operators. I. Basic Linear Operators*, SIAM J. Numer. Anal. **35**(2), 1571-1593.
- J. S. Hesthaven, 1998, *On the Analysis and Construction of Perfectly Matched Layers for the Linearized Euler Equations*, J. Comput. Phys. **142**, 129-147.
- J. S. Hesthaven and L. Jameson, 1998, *A Wavelet Optimized Adaptive Multi-Domain Method*, J. Comput. Phys. **145**, 280-296.
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- B. Yang and J. S. Hesthaven, 1999, *A Pseudospectral Method for Time-Domain Computation of Electromagnetic Scattering by Bodies of Revolution*, IEEE Trans. Antennas Propaga. **47**(1), 132-141.
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- C. Chauviere, J.S. Hesthaven, and L. Wilcox, 2007, *Efficient Computation of RCS from Scatterers of Uncertain Shapes*, IEEE Trans. Antennas Propagat. **55**(5), pp. 1437-1448.
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- S. Field, J.S. Hesthaven, and S. Lau, 2009, *Discontinuous Galerkin methods for the extreme mass-ratio dynamics on Schwarzschild background*, Class Quantum Gravity **26**, 165010-165038.
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- A. Narayan and J.S. Hesthaven, 2012, *Computation of connection coefficients and measure modifications for orthogonal polynomials*, BIT Numer. Math. 1-27.
- Encyclopedia Entries
- J.S. Hesthaven and D. Xiu, 2012, *Uncertainty Quantification: Computation*. Encyclopedia of Applied and Computational Mathematics, B. Engquist (Ed). Springer Verlag, Berlin.
- J.S. Hesthaven and D. Xiu, 2012, *Polynomial Chaos Expansions*, Encyclopedia of Applied and Computational Mathematics, B. Engquist (Ed). Springer Verlag, Berlin.
- J.S. Hesthaven, 2012, *Reduced Order Models*, Encyclopedia of Applied and Computational Mathematics, B. Engquist (Ed). Springer Verlag, Berlin.
- Theses
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- Popular Level
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- J. P. Lynov, E. A. Coutsias, and J. S. Hesthaven, 1994, *New Spectral Algorithms for Accurate Simulations of Bounded Flows*. Proc. of Eurotherm 36: Advanced Concepts and Techniques in Thermal Modeling, Poitiers, France. N16-N21.
- E. A. Coutsias, T. Hagstrom, J. S. Hesthaven and D. Torres, 1995, *Integration Preconditioners for Differential Operators in Spectral τ -Methods*. Proc. of International Conference on Spectral and High Order Methods, ICOSAHOM'95, Houston, USA. 21-38.
- E. A. Coutsias, J. S. Hesthaven, and J. P. Lynov, 1995, *An Accurate and Efficient Spectral Tau Method for the Incompressible Navier-Stokes Equations in a Planar Channel*. Proc. of International Conference on Spectral and High Order Methods, ICOSAHOM'95, Houston, USA. 39-54.
- J. S. Hesthaven, 1995, *An Asymptotically Stable Penalty Method for Multi-Domain Solution of the Unsteady, Compressible Navier-Stokes Equations*. Proc. of International Conference on Spectral and High Order Methods, ICOSAHOM'95, Houston, USA. 445-456.
- J. S. Hesthaven, 1996, *A Stable Spectral Multi-Domain Method for the Unsteady, Compressible Navier-Stokes Equations*. Proc. of The 9'th International Conference on Domain Decomposition, Bergen, Norway. 121-129.
- B. Yang, D. Gottlieb, and J. S. Hesthaven, 1997, *On the Use of PML ABC's in Spectral Time-Domain Simulations of Electromagnetic Scattering*. Proc. of The 13'th Annual Review of Progress in Applied Computational Electromagnetics, Monterey, CA. 926-933.
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Diffraction Optics and Micro-Optics, Hawaii. 209-211.

K. Dridi and J. S. Hesthaven, 1999, *N-space Staircase-Free Finite-Difference Time-Domain Formulation for Arbitrary Material Distributions: Numerical Investigations on a Focusing Grating Coupler in Dielectric Waveguides*. Proc. of Integrated Photonics Research IPR 99, Santa Barbara, CA. 250-252.

P. G. Dinesen, J. S. Hesthaven, and J. P. Lynov, 2000, *Rigorous Three-Dimensional Analysis of Surface-Relief Gratings Using a Spectral Collocation Method*. In Diffraction/Holographic Technologies and Spatial Light Modulators 7. Optoelectronics 2000, San Jose, CA. Cindrich, I.; Lee, S.H.; Sutherland, R.L. (eds.), (International Society for Optical Engineering, Bellingham, WA, 2000), Proceedings of SPIE **3951**, 2-10.

P. G. Dinesen, J. S. Hesthaven, and J. P. Lynov, 2000, *Rigorous Analysis of Focusing Grating Couplers Using a Time-Domain Spectral Collocation Method*. In Diffraction/Holographic Technologies and Spatial Light Modulators 7. Optoelectronics 2000, San Jose, CA. Cindrich, I.; Lee, S.H.; Sutherland, R.L. (eds.), (International Society for Optical Engineering, Bellingham, WA, 2000), Proceedings of SPIE **3951**, 11-19.

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J. S. Hesthaven and T. Warburton, 2001, *High-Order/Spectral Unstructured Grid Methods for the Time-Domain Solution of Maxwell's Equations*. In Fourth International Workshop on Computational Electromagnetics in the Time-Domain: TLM/FDTD and Related Techniques, Nottingham, UK. C. Christopoulos (Eds). 47-53.

A. Ditkowski, K. Dridi, J. S. Hesthaven, and C. H. Teng, 2001, *Embedded FDTD Methods for Maxwell's Equations*. In Fourth International Workshop on Computational Electromagnetics in the Time-Domain: TLM/FDTD and Related Techniques, Nottingham, UK. C. Christopoulos (Eds). 1-6.

J. S. Hesthaven and T. Warburton, 2002, *High-Order Unstructured Grid Methods for Time-Domain Electromagnetics*. AIAA Paper 2002-1092, 40th AIAA Aerospace Sciences Meeting & Exhibit, Reno, NV.

G. Haller, Y. Wang, H. Salman, J. S. Hesthaven, and A. Banaszuk, 2002, *Control of Lagrangian Coherent Structures*. In IUTAM Symposium on Unsteady Separated Flows, Toulouse, France.

J. Wyller, J. S. Hesthaven, and J. J. Rasmussen, 2002, *Optical Solitons in the Femtosecond Regime*. In Nonlinear Guides Waves and Their Applications, Stresa, Italy.

C. Chauviere, J. S. Hesthaven, A. Kanevsky, and T. Warburton, 2003, *High-Order Localized Time Integration for Grid-Induced Stiffness*. 2nd MIT Conference on Fluid Dynamics, Boston. Vol II, 1883-1886.

- J. S. Hesthaven, L. Olson, and L. Wilcox, *Two-Level Overlapping Schwarz Pre-conditioning of Nodal Discontinuous Galerkin Approximations of the Indefinite Helmholtz Equation*. Proceedings of the 16th International Conference on Domain Decomposition, New York, 2005.
- C. Eskilsson, A. P. Engsig-Karup, S. J. Sherwin, J. S. Hesthaven, and L. Bergdahl, *The Next Step in Coastal Numerical Models: Spectral/hp Element Methods?*. Proceedings of the 5th International Symposium on Ocean Wave Measurements and Analysis (Waves 2005), Madrid, Spain, 2005.
- C. Chauviere, J.S. Hesthaven, and L. Lurati, *Computational Modeling of Uncertainty in Time Domain Electromagnetics*. Proceedings of Computational Electromagnetics in the Time-Domain, 2005. CEM-TD 2005, Georgia Tech, Atlanta. pp. 32-35
- A.P. Engsig-Karup, H.B. Bingham, P.A. Madsen, and J.S. Hesthaven, *An Unstructured DG-FEM Method for Nonlinear Wave-Structure Interaction*. Proceedings of International Workshop on Water Waves and Floating Bodies, 2006.
- C. Chauviere, J.S. Hesthaven, L. Lurati, and L.C. Wilcox, *DG-FEM for CEM with Uncertainty*. Proceedings of 23rd International Review of Progress in Applied Computational Electromagnetics, Verona, Italy, March 2007.
- J.S. Hesthaven, Y. Maday, and J. Rodriguez, *Reduced basis output bounds for harmonic wave propagation problems*. Proceedings of 8th International Conference on Mathematical and Numerical Aspects of Wave Propagation, Waves-2007, University of Reading, UK, July 2007.
- J. Weirich, J. Laegsgaard, T. Tanggaard Alkeskjold, J. S. Hesthaven, L. Scholari, L. Wei, L. Eskildsen, and A. Bjarklev, *Biased Liquid Crystal Photonic Bandgap Fiber*. In Conference on Lasers and Electro-Optics/Quantum Electronics and Laser Science Conference and Photonic Applications Systems Technologies, OSA Technical Digest (CD) (Optical Society of America, 2008), paper CThEE6.
- H. Bagci, C. Yavuz, A.C. Yucel, J.S. Hesthaven, and E. Michielssen, *A fast and parallel stroud-based stochastic collocation method for statistical EMI/EMC analysis*. In IEEE International Symposium on Electromagnetic Compatibility 2008, EMC 2008. Detroit, MI, 1-5.
- Y. Chen, J.S. Hesthaven, Y. Maday, and J. Rodriguez, *Reduced basis methods for electromagnetics*. Proceedings of 9th International Conference on Mathematical and Numerical Aspects of Wave Propagation, Pau, France, June 2009. 25-30.
- S. Chun, H. Haddar, J.S. Hesthaven, A. Kloeckner, T. Warburton, and L. Wilcox, *Overcoming Performance Bottlenecks in DG-FEM for EM Problems*. Proceedings of 9th International Conference on Mathematical and Numerical Aspects of Wave Propagation, Pau, France, June 2009. 80-81.
- J.S. Hesthaven, T. Warburton, C. Chauviere and L. Wilcox, *High-order discontinuous Galerkin methods for computational electromagnetics and uncertainty quantification*. J. Roos and L.R.J Costa (Eds), Scientific Computing in Electrical Engineering SCEE 2008. Mathematics in Industry 14, Springer Verlag, 2010. 403-412.
- Y. Chen, J.S. Hesthaven and Y. Maday, 2010, *A Seamless Reduced Basis Element Method for 2D Maxwell's Problem: An Introduction*. J. S. Hesthaven and E. Rønquist (Eds), *Spectral and High-Order Methods for Partial Differential*

Equations, Springer Lecture Notes in Computational Science and Engineering **76**, Springer Verlag, Berlin. 141-152.

A.L. Tampos, J.E.C. Lope, and J.S. Hesthaven, 2012, *Singularity-based approach in a Pade-Chebyshev resolution of the Gibbs phenomenon*, World Congress on Engineering 2012, London, UK. 6 pages.

Plenary Talks

J. S. Hesthaven, 1998, *Spectral Penalty Methods*. International Conference on High-Order and Spectral Methods, ICOSAHOM'98, Herzliya, Israel.

J. S. Hesthaven, 2003, *Recent Advances and Emerging Challenges in Computational Electromagnetics*. Spring Meeting of the Swiss Mathematical Society, Basel, Switzerland.

J. S. Hesthaven, 2004, *Towards Flexible and Robust High-Order Methods for Multiphysics Applications*. International Workshop on Advances in Computational Multiphysics, Darmstadt, Germany.

J. S. Hesthaven, 2005, *Some Time-Integration Techniques for DGFEM Solution of Fluid Flows*. FEF05 - Thirteenth Conference on Finite Elements for Flow Problems, Swansea, Wales, UK

J. S. Hesthaven, 2005, *Computing with Uncertainties*. Norwegian Research Foundation Fall Meeting in Computational Mathematics (BeMATA), Oslo, Norway

J. S. Hesthaven, 2007, *Nodal DG-FEM for Free Surface Flows using High-Order Boussinesq Approximations*, 2nd International Conference on High-Order Non-Oscillatory Methods for Wave Propagation, Transport, and Flow Problems, Trento, Italy.

J. S. Hesthaven, 2008, *Discontinuous Galerkin Methods: The Right Tool for CSE?*. CSE Symposium, Urbana-Champaign.

J. S. Hesthaven, 2008, *High-order Discontinuous Galerkin Methods for Computational Electromagnetics and Uncertainty Quantification*. 7th International Conference on Scientific Computing in Electrical Engineering (SCEE 2008), Hensinki University of Technology, Hensinki, Finland.

J. S. Hesthaven, 2008, *Certified Reduced Basis Methods for Wave Problems*, 3rd International Conference on Scientific Computing and Partial Differential Equations, Hong Kong, China.

J. S. Hesthaven, 2009, *Certified Reduced Basis Methods*, Second International Conference on Finite Element Methods in Engineering and Science (FEMTEC 2009), Lake Tahoe, CA.

J. S. Hesthaven, 2009, *Certified Reduced Basis Methods for Wave Problems*. Ninth International Conference on Mathematical and Numerical Aspects of Wave Propagation (WAVES 2009), Pau, France.

J. S. Hesthaven, 2010, *Reduced methods you can believe in*, BIT 50 - Trends in Numerical Computing, Lund, Sweden.

J. S. Hesthaven, 2010, *Reduced methods you can believe in*, International Workshop on Multi-Scale Methods in Computational Engineering, Darmstadt, Germany.

- J. S. Hesthaven, 2011, *Gravitational Wave Physics: Challenges and Opportunities for the Numerical Analyst*, Midwest Numerical Analysis Days, Purdue University.
- J. S. Hesthaven 2011, *Reduced methods you can believe in*, New York Conference on Applied Mathematics, Buffalo, NY.
- J. S. Hesthaven, 2011, *Discontinuous Galerkin Methods for Electromagnetics: Advances, Challenges, and Opportunities*, DG in EM: A Workshop on Recent Developments in Theory and Applications, NLR, Amsterdam, The Netherlands.
- J. S. Hesthaven, 2011, *Towards Efficient Absorbing Layers for Gas Dynamics through Boltzmann Approximations*, International Conference on Advances in the Analysis and Numerical Analysis of Partial Differential Equations, Tel Aviv, Israel.
- J. S. Hesthaven, 2011, *Reduced order modeling for wave problems*, Baylor Workshop on Splitting and Multiscale Methods for Computational PDE's, Baylor University, Waco, TX.
- J. S. Hesthaven, 2011, *GPU Accelerated High-Order Hybrid Methods for Shock Problems*, DOE Applied Mathematics Program Meeting, Washington DC.
- J. S. Hesthaven, 2012, *Reduced methods you can believe in*, 8th International Conference on Scientific Computing and Applications, Las Vegas, NV.
- J. S. Hesthaven, 2012, *Reducing the computational complexity of the reduced basis methods for high-dimensional parameter spaces*, Reduced Basis, POD and Reduced Order Methods for the model and computational reduction: Towards real-time computing and visualization. EPFL, Lausanne, CH.
- J. S. Hesthaven, 2012, ??, XIX International Conference on Computational Methods in Water Resources, Urbana-Champaign, IL.
- J. S. Hesthaven, 2012, ??, BIT Circus, Copenhagen, Denmark.

Invited Workshop Talks

- J. S. Hesthaven, 1994, *The Penalty Method for Systems of Hyperbolic and Mixed Type*. Spectral Multi-Domain Workshop, Rayleigh, North Carolina.
- J. S. Hesthaven, 1997, *Spectral Methods for Viscous Compressible Flows in Complex Geometries*. Proc. of SIAM's 45'th Anniversary Meeting, Stanford University, California. p. 124.
- J. S. Hesthaven, B. Yang, and D. Gottlieb, 1997, *Spectral Methods for Electromagnetic Scattering*. AFOSR Electromagnetics Workshop, San Antonio, Texas.
- J. S. Hesthaven, B. Yang, and D. Gottlieb, 1998, *Advances in Pseudospectral Time-Domain Methods for Computational Electromagnetics*. AFOSR Electromagnetics Workshop, San Antonio, Texas.
- J. S. Hesthaven, 1999, *Fast Stable Spectral Methods on Unstructured Grids*. Proc. of Fourth International Congress on Industrial and Applied Mathematics, Edinburgh, Scotland. p. 126.
- J. S. Hesthaven and T. Warburton 2000, *High-Order Unstructured Grid Time-Domain Method in Computational Electromagnetics*. 2000 SIAM Conference on Computational Science and Engineering, Washington DC.
- J. S. Hesthaven, D. Gottlieb, and T. Warburton 2000, *Advances in High-Order Time-Domain Methods for Computational Electromagnetics*. AFOSR Electromagnetics Workshop, San Antonio, Texas.

- J. S. Hesthaven, 2001, *Embedded Finite Difference Methods for Wave Problems in Complex Geometries and Heterogeneous Media*. Proc. of 96'th AMS Regional Meeting. Las Vegas, NV. p. 45.
- J. S. Hesthaven, D. Gottlieb, and T. Warburton 2001, *Advances in High-Order Time-Domain Methods for Computational Electromagnetics*. AFOSR Electromagnetics Workshop, San Antonio, Texas.
- J. S. Hesthaven, 2002, *High-Order Methods in Time-Domain Electromagnetics*. Recent Advances and State-of-the-Art in Computational Electromagnetics, Army High Performance Computing Research Center (AHPCRC), Minnesota, MN.
- J. S. Hesthaven, 2002, *High-Order Accurate Discontinuous Element Methods: Analysis, Algorithms, and Applications*. Adaptive and High-Order Methods with Applications in Turbulence. National Center for Atmospheric Research (NCAR), Boulder, CO.
- J. S. Hesthaven, T. Warburton and D. Gottlieb, 2002, *High-Order Unstructured Grid Methods for Conservation Laws*. Joint Mathematics Meetings, San Diego.
- J. S. Hesthaven and T. Warburton 2003, *High Order Nodal DG-FEM for the Maxwell Eigenvalue Problem*, Mafelap 2003, Brunel University, UK.
- J. S. Hesthaven and T. Warburton, 2004, *High-Order Accurate Time-Domain Solution of Maxwell's Equations in Complex Geometries*. Progress in Electromagnetic Research Symposium, PIERS 2004, Pisa, Italy.
- J.S. Hesthaven and C. Chauviere, 2004, *Time-Domain Solution of Maxwell's Equations with Uncertainty using Homogeneous Chaos Expansions*. Progress in Electromagnetic Research Symposium, PIERS 2004, Pisa, Italy.
- J. S. Hesthaven and D. Gottlieb, 2004, *Advances in High-Order Time-Domain Methods for Computational Electromagnetics*. AFOSR Electromagnetics Workshop, San Antonio, Texas.
- J. S. Hesthaven and G. Jacobs, 2005, *Towards High-Order PIC Methods on Unstructured Grids*. IPAM Workshop on Multiscale Processes in Fusion Plasma, UCLA.
- C. Chauviere, J.S. Hesthaven, L. Lurati, and L.C. Wilcox, *Uncertainty Quantification in Electromagnetic Scattering*, SIAM Conference on CSE (CSE07), Costa Mesa, CA, February 2007. C. Chauviere, J.S. Hesthaven, L. Lurati, and L.C. Wilcox, *DG-FEM for CEM with Uncertainty*. 23rd International Review of Progress in Applied Computational Electromagnetics, Verona, Italy, March 2007.
- S. Chun and J.S. Hesthaven, *Modeling and Design of Frozen Mode Crystals*. International Conference on Spectral and High-Order Methods (ICOSAHOM 2007), Beijing, China, June 2007.
- C. Chauviere, J.S. Hesthaven, L. Lurati, and L.C. Wilcox, *Uncertainty Quantification in Electromagnetic Scattering*, International Conference on Spectral and High-Order Methods (ICOSAHOM 2007), Beijing, China, June 2007.
- H. Bingham, A. Engsig-Karup, J.S. Hesthaven, P. Madsen, and T. Warburton, *DG-FEM for Modeling of Free Surface Flows using High-Order Boussinesq Approximations*. Advanced in DG-FEM Methods for PDE's, Banff, Canada, November 2007.
- J.S. Hesthaven, J. Bridge, N. Godel, A. Kloeckner, T. Warburton, *Nodal discontinuous Galerkin methods on graphics processing units (GPUs)*. International

Conference on Spectral and High-Order Methods (ICOSAHOM 2009), Trondheim, Norway, June 2009.

J.S. Hesthaven and A. Narayan, *Generalized Wiener rational functions*, International Conference on Spectral and High-Order Methods (ICOSAHOM 2009), Trondheim, Norway, June 2009.

J.S. Hesthaven, Y. Chen, B. Stamm, Y. Maday, and J. Rodriguez *Certified reduced basis methods for Maxwell's equations*, International Conference on Spectral and High-Order Methods (ICOSAHOM 2009), Trondheim, Norway, June 2009.

J.S. Hesthaven, J. Bridge, N. Godel, A. Kloeckner and T. Warburton, *Computational Science using Graphics Processing Units (GPU's)*, HPC Symposium, University of Chile, Santiago, Chile, Sept 2010.

G. Zhen and J.S. Hesthaven, *On the use of ANOVA expansions in UQ*, SIAM CSE conference, March 2011.

J. S. Hesthaven, G. Jacobs, A. Kloeckner and T. Warburton, *Toward a Particle-in-Cell Solver based on Discontinuous Galerkin Methods*, SIAM CSE conference, March 2011.

J. S. Hesthaven, G. Jacobs, A. Kloeckner and T. Warburton, *Toward full electromagnetic kinetic simulations: Challenges and Ideas*, Center for Plasma Edge Simulation (CPES) annual meeting, May 2011.

J.S. Hesthaven, K. Shahbazi, X. Zhu, O. Bruno and N. Albin, *GPU accelerated high-order accurate methods for shock problems*, GPULab days, August 2011.

Named Lectures Brent Smith Memorial Lecture, Kansas State University, May 2012

RESEARCH GRANTS

Current	<i>Parallel High Order Accuracy Methods Applied to Non-Linear Hyperbolic Equations and to Problems in Materials Science</i>, DoE, PI, 2008-2011. <i>MURI: Multi-Scale Fusion of Information for Uncertainty Quantification and Management in Large-Scale Simulations</i>. Co-PI, AFOSR, 2009-2014. <i>MRI: Development of a Next-Generation Interactive Virtual Reality Display Environment for Sciences</i>, Co-PI, NSF, 2009-2013. <i>ICERM: Institute for Computational and Experimental Research in Mathematics</i>, Co-PI, NSF, 2010-2015. <i>HHMI Undergraduate Science Education Award</i>, Co-PI, HHMI, 2010-2012. <i>Discontinuous Galerkin Methods for Problems with Fractional Derivatives</i>. PI, NSF, 2011-2014. <i>High-order accurate numerical models for magma migration beneath the mid-ocean ridges: Geochemical consequences and geophysical implications</i>, Co-PI, NSF, 2012-2015.
Pending	<i>Partnership for Edge Physics Simulation (EPSi)</i>, Co-PI, DoE, Fusion Science, 2012-2017. <i>Scalable high-order methods for multi-scale problems: Analysis, Algorithms, and Applications</i>, PI, AFOSR, 2012-2016.

Completed

High Order Methods for the Numerical Simulation of High Speed Flows. Co-PI (PI - D. Gottlieb; Co-PIs - C.W. Shu and W.S. Don). AFOSR F49620-99-1-0077. 1998-2001.

Facility for Local Postprocessing, Visualization and Animation of Remotely Simulated Very Large Temporal Datasets. Co-PI (w/ D. Gottlieb and C.W. Shu). Department of Defense, AFOSR F49620-00-1-0211. 2000-2001.

SIAM Travel Award to attend ICIAM'99 in Edinburgh, Scotland. 1999.

Collaborative Research on High Bit-Rate Communication: From Mathematical Development to Fiber Design. Co-PI (w/ C. K. R. T. Jones), National Science Foundation, DMS-0073923. 2000-2003.

Alfred P. Sloan Research Fellowship. PI, Alfred P. Sloan Foundation. 2000-2003.

High-Order Accuracy Methods for the Modeling and Design of Micro Optics and Photonic Devices. PI, Army Research Office, ARO-40464-MA. 2001-2004.

Advancing the Frontiers of Broad Band CEM for Modeling Full-Scale Treated Targets. Co-PI (w/ D. Gottlieb), DARPA, F33615-01-C-1866, (subcontract to HyPerComp Inc., CA). 2001-2004.

High-Order Embedded Interface Methods for Wave-Problems. PI. National Science Foundation, DMS-0074257. 2000-2003.

NASA Graduate Fellowship. PI (Graduate student - A. Kanevsky), NASA Langley Research Center, VA, NGT-1-01024. 2001-2004.

Workshop on Advances and Challenges in Time-Integration of PDE's. Co-PI (w/ D. Gottlieb). AFOSR, Computational Mathematics. 2003. F49420-03-1-0177.

International Conference on Spectral and High-Order Methods 2004 (ICOSA-HOM'2004). PI, DARPA/AFOSR, Computational Mathematics, 2003-2004. F49620-03-1-0335.

7th International Conference on Mathematical and Numerical Aspects of Waves (WAVES'05), AFOSR, PI. 2005.

7th International Conference on Mathematical and Numerical Aspects of Waves (WAVES'05), NSF, PI. 2005.

NSF-SCREMS: Enrichment and Integration of Networked Computing Resources for the Mathematical Sciences, NSF, Co-PI. 2004-2006.

Hierarchic Computing Facility Enabling Novel Algorithm Developments and Postprocessing for Large Scale Wave Problems, AFOSR-DURIP, PI. 2005-2006.

High-Order Accurate Particle-in-Cell (PIC) Methods on Unstructured Grids with Applications to Microwave Generation and Accelerator Modeling. AFOSR. 2005-2006. PI.

Workshop on Advances and Challenges in the Solution of Stochastic Partial Differential Equations. PI, AFOSR, 2005-2006.

Collaborative Effort on Approximate Boundary Conditions for Computational Wave Problems. PI. National Science Foundation, International Programs, INT-0307475. 2003-2007.

High-Order Accurate Time-Domain Electromagnetics and RCS Prediction for Dynamic or Uncertain Scatterers, PI. AFOSR Test and Evaluation Research Program. 2004-2007.

Novel Approaches to the Modeling and Computations of Wave Phenomena. DARPA Computational Mathematics. Co-PI. 2004-2007.

CAREER: Towards Robust and Efficient High-Order Adaptive Computational Methods for Conservation Laws in Complex Geometries. PI. National Science Foundation, DMS-0132967. 2002-2008.

Collaborative Research ITR: An Integrated Simulation Environment for High-Resolution Computational Methods in Electromagnetics with Biomedical Applications, NSF CNS-0325110. Co-PI. Lead PI Prof T. Warburton. Subcontract to University of New Mexico. 2004-2008.

Novel Techniques for Linear Accelerator Modeling and Design, Department of Energy, Argonne National Laboratory, PI. 2007-2008.

MURI: Conformal Antenna and Array Design using Novel Electronic Materials, ONR. Co-PI. Lead PI Prof J. Volakis. Subcontract to Ohio State University. 2004-2009.

International Conference on Spectral and High-Order Methods 2009 (ICOSA-HOM'2009). Co-PI, NSF. 2008-2009.

High-order unstructured PDE solvers on GPU's. Nvidia Professor Partnership program, PI, Nvidia Corporation. 2009.

Novel Mathematical and Computational Techniques for Robust Uncertainty Quantification, AFOSR, Co-PI, 2007-2010.

International Conference on Advances in Scientific Computing; December 2009; Providence, RI, Co-PI, NSF. 2009-2010.

International Conference on Advances in Scientific Computing; December 2009; Providence, RI, Co-PI, AFOSR. 2009-2010.

Reduced Basis Approximation and A Posteriori Error Estimation for Parametrized Partial Differential Equations with Application to Real-Time Reliable Estimation and Optimization, AFOSR, PI, 2007-2010.

CGM Research: Developing a Multiscale Model for Melting and Melt Migration in the Mantle, NSF-CMG, 2005-2010. Co-PI.

Discontinuous Galerkin Methods for Kinetic Plasma and Hybrid Plasma/Fluid Modeling with Applications to Microwave Generation and Laser-Matter Interaction, AFOSR, PI, 2007-2010.

FRG: Collaborative Research: Developing Spectral Methods for Numerical Solutions of the Einstein Equations. NSF, PI. 2006-2011.

SCREMS: High order numerical algorithms and their applications, Co-PI, NSF-DMS, 2009-2011. *Hybrid computing facilities enabling novel algorithm development for stochastic simulations and research-related education*, Co-PI, AFOSR, 2010-2011.

SERVICE TO THE UNIVERSITY

To the Division Associate Department Chair (2006-2010).

Maintains group-web-page and electronic report series 'Scientific Computing Reports' (2000-present).

Member of Undergraduate Committee (1999-2000).

Organizer of the Scientific Computing Seminars at the Division of Applied Mathematics, Brown University. (1998-2005).

Member of Graduate Committee (2000-2005).

Member of Hiring Committee for position in Probability and Statistics (2001-2005).

Member of Hiring Committee for position in Stochastic PDE's (2006).

Member of Hiring Committee for position in Pattern Theory (2008).

Chair of Computer committee (2011-present)

Member of the preliminary examination committee for the following PhD-students:

Andrew Jones(1997), Chun-Hao Teng(1998), Mi-Sun Min(1998), Changqing Hu(1998), Sarah Dance(1998), Jae-hun Jung(1999), Jue Yan(1999), Yun Gao(1999), Gershon Kutlikoff(1999), Hui-Ming Pai(1999), Qian Yong Chen(2000), Didier Lucor (2002), Shanqin Shen (2002), Robert Strain (2002), Vasileios Symeonidis (2002), Jin Xu (2002), Sirod Sirosup (2003), Jennifer Libertini (2003), Eric Keaveny (2005), Dmitri Fedesov (2005), Xian Lou (2006), Guang Lin (2006), Nitsan Bengal (2006), Leopold Grinberg (2006), Tom Dean (2007), Kyong-min Yeo (2007), X. Zhong (2008), Sirui Tan (2008), James Nobel (2008), Sutee Olarnrithinun (2009), Dong Yi (2009), Sean Teller(2010), Viswanath Chinthapenta (2011), Peng Chen (2012).

Chair of the preliminary examination committee for the following PhD-students:

Alex Kanevsky (2001), Lucas Wilcox (2003), Laura Lurati (2003), Sehun Chun (2005), Akil Narayan (2005), Alan Schmienez (2006), Andreas Kloeckner (2007), Sheri Doran (2008), Kenny Chowdary (2008), Scott Field (2008), Xueyu Zhu (2009), Seshu Turipathi (2010).

Reader on PhD-thesis by: Baolin Yang (1998), Changqing Hu(1999), Olga Lepsky(2000), Jing Shi(2001), Chun-Hao Teng(2001), Jue Yan(2002), Jamieson Moeser(2002), Robert M. Kirby (2002), Mi-Sun Min (2002), Kurt Sebastian (2003), Yongtao Zhang (2003), Jennifer Ryan (2003), Fengyan Li (2004), Qian Yong Chen (2004), Sirod Sirosup (2004), Shanqin Chen (2005), Zhang Xu (2005), Ching-Shan Chou (2006), Ling Yuan (2006), Xialiang Wan (2007), Jingmei Qiu (2007), Wei Wang (2008), Leopold Grinberg (2009), Ishani Roy (2010), Xiangxiong Zhang (2011), Sirui Tan (2012), Xinghui Zhong (2012).

To Brown

Freshman/Sophomore academic advisor (2000-2002).

Member (appointed) of Provost's hiring committee for director of CCV (2004-2006).

Member (appointed) of Provost's committee on Science Cohort Initiative (2005-2006).

Member (appointed) of Center for Computing and Visualization (CCV) Advisory and Oversight Board (2004-2006).

Member (appointed) of University Committee of Undergraduate Science Education (2006-2007)

Chair (appointed) of Working Group on Research Computing and Support for IT and Cyberinfrastructure 5-year planning for CIS (2008).

Co-chair (appointed) of Institutional Data Center Work Group (2009-2010).

Member (appointed) of Institutional Research Data Work Group (2009-2010).

Core member of proposal development team for NSF Mathematical Sciences Institute - ICERM (2008-2010).

Leading Infrastructure component and chair of research advisory group of IBM-Brown-RI Advanced Research Institute (OSCAR) development (2008-2010).

Member (elected) of the University Resource Committee (URC) (2008-2011).

Member (elected) of the Academic Priorities Committee (APC) (2011-present).

Member (appointed) of IT Advisor Board (ITAB) (2003-2005, 2006-present).

Member (appointed) of Strategic Planning group for Research Computing and Support for
IT and Cyberinfrastructure 5- and 10-year planning for Brown (2011-present)

Member (appointed) of Advisory Board for the Sheridan Center for Teaching Excellence (2006-2011), Vice Chair (2011-present).

Member (appointed) of the Presidents Science Advisory Council (2009-present).

Representing Brown at World Economic Forum, Davos, January 2012.

PROFESSIONAL ACTIVITIES AND SERVICES

Committees	Member of Scientific Committee of <i>6th International Conference on Mathematical and Industrial Aspects of Wave Propagation</i>, University of Jyvaskyla, Finland, 2003 Member of Scientific Committee of <i>7th International Conference on Mathematical and Industrial Aspects of Wave Propagation</i>, Brown University, 2005 Member of Scientific Committee of <i>1st Finite Element Methods in Engineering and Science (FEMTEC 2006)</i>, University of Texas, El Paso, 2006 Member of Scientific Committee of <i>8th International Conference on Mathematical and Industrial Aspects of Wave Propagation</i>, Reading, UK, 2007. Member of Scientific Committee of <i>2nd Finite Element Methods in Engineering and Science (FEMTEC 2008)</i>, University of Texas, El Paso, 2008. Permanent Member of Scientific Committee of <i>International Conference on Spectral and High-Order Methods (ICOSAHOM)</i>, 2004-present. Member of Scientific Committee of <i>8th International Conference on Mathematical and Industrial Aspects of Wave Propagation</i>, Vancouver, Canada, 2011.
Conferences	Co-organizer (w/ E. Michielssen, UIUC) of mini symposium <i>Time-Domain Solvers in Computational Electromagnetics: Trends and Challenges</i>. SIAM Annual Meeting, San Diego 2001. Organizer (w/ C.W. Shu, M. Carpenter (NASA), and D. Gottlieb) of <i>Workshop on Advances and Challenges in Time-Integration of PDE's</i>. Brown University, August 2003.

Organizer (w/ C.W. Shu, G. Karniadakis, and D. Gottlieb) of *6'th International Conference on High-Order and Spectral Methods (ICOSAHOM'04)*, Brown University, June 2004.

Organizer (w/ C.W. Shu, W. Cai, W.S. Don) of *International Conference on the Research Trend for PDE Modeling and Computation on the Occasion of David Gottlieb's 60 Birthday*, Brown University, November 2004.

Organizer (w/ C.W. Shu, D. Gottlieb, and P. Monk (U Delaware)) of *7'th International Conference Mathematical and Numerical Aspects of Wave Propagation (WAVES'05)*, Brown University, June 2005.

Organizer (w/ P. Dupuis, B. Rozovski, and D. Gottlieb) of *Workshop on Advances and Challenges in the Solution of Stochastic Partial Differential Equations*, Brown University, October 2006.

Organizer (w/ C.W. Shu and S. Gottlieb) of *International Conference on Advances in Scientific Computing in Memory of David Gottlieb*, Brown University, December 2009.

Organizer (w/ S. Field and S. Lau) of *Advances and Challenges in Computational General Relativity*, Brown University, May 2011.

Evaluation Boards

External evaluation board for SIMULA, Oslo, Norway (05/09).

Chair of evaluation board of national research in Information and Communication Technology (ICT) in all Norwegian Universities and Colleges (10/11). Final report delivered 02/2012.

External Reader

Richard Archibald, Department of Mathematics and Statistics, Arizona State University. PhD-thesis. 2002.

Fredrik Edelvik, Department of Scientific Computing, Uppsala University, Sweden. PhD-thesis. 2002.

David Fuhrman, Department of Mechanical Engineering, Maritime Engineering, Technical University of Denmark. PhD-thesis. 2004.

Eugene Kashdan, Department of Applied Mathematics, Tel Aviv University, Israel. PhD-thesis. 2004.

Jan Martendal Rasmussen, Department of Mathematical Modeling, Numerical Analysis, Technical University of Denmark. PhD-thesis. 2004.

Julien Diaz, JJ Lions Laboratory, University of Paris VI. PhD-thesis, 2005.

Jesper Riishede, Center for Communication and Optical Materials, Technical University of Denmark. PhD-thesis. 2005.

Eivind Brodal, Physics Department, University of Tromsø. MSc-thesis, 2005.

Jean-Francoise Corbett, Department of Geophysics, University of Copenhagen. PhD-thesis, 2007.

Benjamin Stamm, Computational Mathematics, EPFL, Switzerland. PhD-thesis, 2008.

Gregor Gassner, Department of Aeronautics, University of Stuttgart, Germany. PhD-thesis, 2009.

Frieder Lörcher, Department of Aeronautics, University of Stuttgart, Germany. PhD-thesis, 2009.

Xavier Ferrieres, Department of Mathematics, University of Paul Sabatier, France. Habilitation. 2009.

Victorita Dolean, Department of Mathematics, University of Nice-Sophia Antipolis, France. Habilitation. 2009.

Marcel Bieri, Seminar for Applied Mathematics, ETH, Zurich, Switzerland. PhD-thesis. 2009.

Jesper Sandvig Mariegaard, Department of Mathematics, DTU, Denmark. PhD-thesis. 2009.

Timo Lähivaara, Department of Physics and Mathematics, University of Eastern Finland, Finland. PhD-thesis. 2010.

Alexander Sinding, Faculty of Science, University of Paris-Dauphine, France. PhD-thesis. 2011.

Mohammad Shafique, Department of Mathematics, Gomal University, Pakistan. PhD-thesis. 2011.

Muhammad Ishaq, Center for Advanced Studies in Pure and Applied Mathematics, Bahauddin Zakariya University, Pakistan. PhD-thesis, 2012.

Editorial board *Open Applied Mathematics Journal (OAM)*, Bentham Science Publishers(UK), 2006-2010.

International Journal of Computing Science and Mathematics, Inderscience Publishers (UK), 2006-2010.

Mathematical Modelling and Applied Computing (MMAC), Research India Publications, 2006-2010.

Advances in Mathematical Physics, Hindawi Publishing Corporation (USA), 2008-2010.

Advances in Numerical Analysis, Hindawi Publishing Corporation (USA), 2008-2010.

Applied Mathematics and Computation, Elsevier Publishing (Holland), 2008-2011.

Journal of Scientific Computing, Kluwer Publishing (Holland), 2003-present.

SIAM Journal of Scientific Computing, SIAM (US). Associate editor (2005-2010), Sectional editor, 2011-present.

Communications in Computational Physics (CiCP), Global Science Press (Hong Kong), 2007-present.

Mathematical Modeling and Numerical Analysis (M2AN), ESAIM (France), 2008-present.

BIT Numerical Mathematics, Springer Verlag (Germany), 2010-present.

HONORS AND AWARDS

08/1995 NSF Postdoctoral Fellowship, Advanced Scientific Computing, National Science Foundation.

06/1999	Journal of Computational Physics Outstanding Reviewer Award.
09/2000	Alfred P. Sloan Research Fellowship, Alfred P. Sloan Foundation.
07/2001	Manning Assistant Professorship, Brown University.
03/2002	NSF CAREER Award, Division of Mathematical Sciences, National Science Foundation.
2003-	Listed in Marquis Who's Who in America
2004-	Listed in Who's Who among Teachers
2005-	Listed in Who's Who among Scientists and Engineers in America.
03/2004	Philip J. Bray Award for Teaching Excellence in the Physical Sciences for 2004-2005, Brown University, USA.
05/2004	Master of the Arts, Ad Eundum, Brown University, USA.
01/2012	Gutenberg Chair 2012, Gutenberg Foundation, Strasbourg, France (declined).

TEACHING AND ADVISING EXPERIENCE

Summer Schools	<i>DCAMM Summer School 2000: Computational Aspects and Applications of Spectral Methods</i> . Main speaker. 22 international participants. Technical University of Denmark, 06/2000.
	<i>CEA-EDF-INRIA Winterschool in DG-FEM</i> , INRIA-Rocquencourt, France. One of two main lectures at graduate/post graduate level. 50 participants. 11/2006.
	<i>Rocky Mountain Mathematics Consortium Summerschool in Advanced Methods for Partial Differential Equations</i> . Main lecturer. 50 participants. Laramie, Wyoming, 06/2008.
Mini Courses	<i>Montreal Scientific Computing Days</i> . Main speaker. 80 participants. University of Montreal and McGill University, Montreal, Canada. 02/2005.
	<i>Discontinuous Galerkin Methods for Partial Differential Equations. I. A Mathematical Introduction</i> . Special one week intensive PhD-level course. 26 students. Technical University of Denmark, 12/2005.
	<i>Discontinuous Galerkin Methods for Partial Differential Equations. II. A Practical Introduction</i> . Special one week intensive PhD-level course. 16 students. Technical University of Denmark, 5/2006.
	<i>Simulation and Visualization of Fluid Phenomena</i> , Special two week intensive PhD-level course. 14 students. Technical University of Denmark, 08/2007.
	<i>Discontinuous Galerkin Methods for Partial Differential Equations</i> . Special two week intensive PhD-level course. 25 students. Technical University of Denmark, 08/2009.
	<i>Discontinuous Galerkin Methods for Partial Differential Equations</i> . Special two week intensive PhD-level course. 25 students. University of Santiago de Compostella, Spain, 06/2010.
	<i>Uncertainty Quantification in Computation Science</i> . Lecture series (four 90 min lectures) presented at the Technical University of Denmark, Denmark. 08/2010.

Teaching	AM34 <i>Methods of Applied Mathematics II</i> (S03)
	AM117 <i>Computational Linear Algebra</i> (F99, F00, F03, F06, F07, F10)
	AM118 <i>Numerical Methods for Differential Equations</i> (S01, S03, S07)
	AM255 <i>Finite Difference Methods for Partial Differential Equations</i> (F98, F01, F04, F08)
	AM256 <i>Spectral Methods for Time-Dependent Partial Differential Equations</i> (S95, F96, S98, S00, S02, S05, S08).
	AM282 <i>Topics Course: Numerical Solution of Ordinary Differential Equations: IVP Problems and PDE Related Issues</i> (S04, F09, S12).
	Directing individual research students and reading course students in various subjects of numerical analysis. Division of Applied Mathematics, Brown University, 01/1997-present.
	Development of international summer program for gifted students from University of Paris VI who spend four weeks at Brown during the summer(2010, 2011) and expanded to be a 4+4 combined CS/Apl Math program, including 12 undergraduate US students to form a cohort that spend four weeks at Brown and four weeks in Paris, taking special courses, having visits in research laboratories, and participating in special research program.
Undergraduate	Anthony Giunta, Honors Thesis, Brown University, Spring 2002.
	Kazutoshi Yamazaki, Honors Thesis, Brown University, Spring 2002.
	Jason Kaye, Undergraduate Research Assistant (UTRA), summer 2011, continuing to complete honors thesis during spring'12.
	Michael Wagman, Undergraduate Research Assistant (UTRA), summer 2011, continuing to complete honors thesis during spring'12.
	Frankie Camacho, Undergraduate Research Assistant (UTRA), summer 2011, continuing to complete honors thesis during spring'12.
Graduate	Claus Bendtsen and Lars K. Lundin, MSc, 1992, <i>Spectral Methods on a Massively Parallel Computer</i> . Advisor (w/ Prof. P.G. Thomsen), Institute of Mathematical Modeling, Technical University of Denmark, Denmark.
	Baolin Yang, PhD, 1998, <i>Spectral Methods and Absorbing Boundary Conditions for Maxwell's Equations</i> . Advisor (w/ Prof. D. Gottlieb), Division of Applied Mathematics, Brown University.
	First position: Researcher at Cadance Inc.
	Chun Hao Teng, PhD, 2001, <i>Numerical Methods for Wave Problems in Complex Geometries</i> . Advisor (w/ Prof. D. Gottlieb), Division of Applied Mathematics, Brown University.
	First position: Researcher at Taiwan National University, Taiwan.
	Qianying Chen, PhD, 2004, <i>Topics in Spectral Methods</i> . Advisor (w/ Prof. D. Gottlieb), Division of Applied Mathematics, Brown University.
	First position: Industrial postdoc at the IMA and Exxon Corporation.
	Alex Kanevsky, PhD, 2006. <i>Implicit-Explicit Runge-Kutta Methods for Fluid Flow Simulations</i> , Advisor (w/ Prof. D. Gottlieb), Division of Applied Mathematics, Brown University.

First position: Postdoctoral researcher at the Courant Institute of Mathematical Sciences, NYU.

Laura Lurati, PhD, 2006. *Spectral Methods for Dealing with Uncertainty and the Gibbs Phenomenon*. Advisor, Division of Applied Mathematics, Brown University.

First position: Industrial Postdoctoral researcher at Boeing and the Institute of Mathematics and its Applications (IMA), University of Minnesota.

Lucas Wilcox, PhD, 2006. *High-Order Accurate Methods for Solving the Time-Harmonic Maxwell's Equations*. Advisor, Division of Applied Mathematics, Brown University.

First position: Postdoctoral researcher and ICES Fellow, ICES, University of Austin, Texas.

Sehun Chun, PhD, 2008. *High-Order Accurate Methods for Solving Maxwell's Equations and their Applications*. Advisor, Division of Applied Mathematics, Brown University.

First position: Postdoctoral researcher at Imperial College, London, UK.

Akil Narayan, PhD, 2009. *A Generalization of the Wiener Rational Basis Functions on Infinite Intervals*. Advisor, Division of Applied Mathematics, Brown University.

First position: Visiting Assistant Professor of Mathematics, Purdue University, IL.

Alan Schiemenz, PhD, 2009. *Advances in the Discontinuous Galerkin Method: Hybrid Schemes and Applications to the Reactive Infiltration Instability in an Upwelling Compacting Mantle..* Advisor. Division of Applied Mathematics, Brown University.

First position: Postdoctoral researcher at Department of Geoscience, Brown University.

Andreas Klöckner, PhD, 2010. *High-performance high-order simulations of wave and plasma phenomena*. Advisor, Division of Applied Mathematics, Brown University.

Awarded the David Gottlieb Memorial Prize for Excellence in Graduate Studies

First position: Postdoctoral researcher at the Courant Institute of Mathematical Sciences, NYU.

Scott Field, PhD, 2011. *Applications of Discontinuous Galerkin Methods to Computational General Relativity*. Advisor, Department of Physics, Brown University.

Awarded the Anthony Houghton Prize for Excellence in Theoretical Physics Graduate Studies

First position: Postdoctoral researcher at the Department of Physics, University of Maryland, College Park.

Kamaljit Chowdhary, PhD, 2012. *Aleatoric and Epistemic Uncertainty Quantification/Sparse Gradient Image Recovery from Fourier and Edge Data*, Advisor, Division of Applied Mathematics, Brown University.

First position: Postdoctoral researcher at Sandia National Laboratory, CA.

Sheri Martinelli, PhD, 2012. *A Level-Sets-Based Wavefront Propagation Method for Underwater Acoustics* Advisor, Division of Applied Mathematics, Brown University.

	First position: Researchers at the Naval Underwater Warfare Center (NUWC), Newport, RI. Xueyu Zhu, PhD, 2007-present. Advisor, Division of Applied Mathematics, Brown University. Seshu Turipathi, PhD, 2010-present, Advisor, Division of Applied Mathematics, Brown University. Paul Cazeaux, PhD, 2010-present, Co-Advisor (w/ Yvon Maday, UPMC). University of Paris VI (UPMC) and the Division of Applied Mathematics.
Postgraduate	Palle Dinesen. 1999-2000. Current position: R&D Manager, Kaleido Technology, Denmark. Tim Warburton. 1999-2001 Current position: Associate Professor of Mathematics, Rice University, TX. Cedric Chauviere. 2001-2003 Current position: Maitre de Conferences, Department of Mathematics, Université Blaise Pascal, Clarmont-Ferrand, France. Luke Olson. 2003-2005. Current position: Associate Professor of Computer Science, University of Illinois, Urbana-Champaign. Gustaaf Jacobs. 2003-2006. Current position: Associate Professor of Mechanical Engineering, San Diego State University, San Diego. Jeronimo Rodriguez. 2005-2006. Current position: Assistant Professor of Applied Mathematics, University of Santiago de Compostella, Spain. Eugene Kashdan, 2005-2006 Current position: Quantitative analyst, Structured Credit Research, Israel. Stephen F. Lau. 2006-2008 Current position: Assistant Professor of Mathematics, University of New Mexico, Albuquerque. Yanlai Chen, 2007-2010 Current position: Assistant Professor of Mathematics, University of Massachusetts at Dartmouth, Massachusetts Benjamin Stamm, 2008-2010 Current position: Charles B. Morrey Assistant Professor of Mathematics, University of California, Berkeley. Khosro Shahbazi, 2008-2011. Current position: Assistant Professor of Engineering, South Dakota School of Mines and Technology, Rapid City, South Dakota. Bin Zhang, 2010-2011. Current position: Leave for personal reasons. Shun Zhang, 2010-present.
Visiting Students	Kim Dridi, 08/2000-02/2001 Department of Electromagnetics, Technical University of Denmark, Denmark.

Jesper Grooss, 08/2002-02/2003
 Institute of Mathematical Modeling, Technical University of Denmark, Denmark.

Allan Peter Engsig-Karup , 08/2004-03/2005
 Department of Mechanical Engineering, Technical University of Denmark, Denmark.

Eivind Brodal, 07/2005-12/2005; 08/2006-12/2006
 Physics Department, University of Tromsø, Norway.

Stefan Engblom, 10/2006-06/2007
 Department of Scientific Computing, Uppsala University, Sweden

Sabina Hoffmann, 10/2007-03/2008
 Department of Mathematics, University of Hamburg, Germany

Arnel Tampos, 09/2008-12/2008
 Department of Mathematics, University of Philippines, Philippines

Hendrik Riedmann, 04/2009-10/2009
 Department of Aeronautics, University of Stuttgart, Germany

Andreas Stock, 04/2009-10/2009
 Department of Aeronautics, University of Stuttgart, Germany

Meilin Liu, 09/2008 - 12/2009
 Nanjing University of Aeronautics and Astronautics, China

Gao Zhen, 09/2008 - 08/2010
 Ocean University of China, Qiandao, China

Weihua Deng, 09/2009-08/2010
 School of Mathematics and Statistics, Lanzhou University, China.

Qinwu Xu, 09/2011-02/2013
 School of Mathematical Sciences and Computing Technology, Central South University, China.

DATE OF PREPARATION

April 1, 2012