THE UNIVERSITY OF TEXAS AT AUSTIN
Cockrell School of Engineering
Resume

FULL NAME: Leszek Feliks Demkowicz TITLE: Professor

ENDOWED POSITION: W. A. "Tex" Moncrief, Jr. Chair in Computational Engineering and Sciences II
DEPARTMENT: Aerospace Engineering and Engineering Mechanics,
Professor of Mathematics (courtesy appointment)

EDUCATION:

Cracow University of Technology	Civil Engineering	M.S.	1976
Jagiellonian University at Cracow	Mathematics	M.S.	1978
The University of Texas at Austin	Engineering Mechanics	Non-Degree Program	1980-81
Cracow University of Technology	Engineering Mechanics	Ph.D.	1982
Cracow University of Technology	Engineering Mechanics	Habilitation Thesis	1987

PROFESSIONAL REGISTRATION: Not Registered

CURRENT AND PREVIOUS ACADEMIC POSITIONS:
Cracow University of Technology, Civil Engineering Department, Teaching Assistant, 1976-1980.
The University of Texas at Austin, Aerospace Engineering and Engineering Mechanics Department, Research Assistant, 1980-1981.
Cracow University of Technology, Civil Engineering Department, Teaching Assistant, 1981-1982.
Cracow University of Technology, Civil Engineering Department, Assistant Professor, 1982-1983.
The University of Texas at Austin, Aerospace Engineering and Engineering Mechanics Department, Lecturer, 1983-1985.=
Cracow University of Technology, Civil Engineering Department, Assistant Professor, 1985-1987.
The University of Texas at Austin, Aerospace Engineering and Engineering Mechanics Department, Lecturer, 1987-1990.
Cracow University of Technology, Civil Engineering Department, Associate Professor, 1990-1991.
Cracow University of Technology, Computer Center, Professor, 1991-1993.
The University of Texas at Austin, Aerospace Engineering and Engineering Mechanics Department, Associate Professor, 1993-1999.
The University of Texas at Austin, Aerospace Engineering and Engineering Mechanics Department, Professor, 1999-present.
The University of Texas at Austin, Mathematics Department, Professor, 2012-present.

OTHER PROFESSIONAL EXPERIENCE:
Computational Mechanics Company, Part-Time Senior Researcher, 1987-89.

MEMBERSHIPS IN PROFESSIONAL AND HONORARY SOCIETIES:
Professional Member, American Academy of Mechanics, 1985-present.
Member, American Institute of Aeronautics and Astronautics, 1990-present.
Member, Executive Committee, International Association of Computational Mechanics, 1990-present.
Member, Polish Association of Computational Mechanics, 1990-2010.
Member, Society for Industrial and Applied Mathematics, 1994-present.
Member, Society for Science and Engineering, 1994-present.
Member, US Association of Computational Mechanics, 1996-present.
Fellow, US Association for Computational Mechanics, 2001-present.
Fellow, International Association for Computational Mechanics, 2002-present.

Honorary member, Polish Association of Computational Mechanics, 2010-present.
Member, European Academy of Sciences, 2015-present.

PROFESSIONAL SOCIETY AND MAJOR GOVERNMENTAL COMMITTEES, EDITORIAL BOARDS, AND CONFERENCES ORGANIZED/CHAIRED:

Member, Committee of Mechanics of the Polish Academy of Sciences, 90-93.
Organizer, Second Workshop on Reliability and Adaptive Methods in Computational Mechanics, Cracow 91.
Associate Editor, *Computational Mechanics Advances*, 93-97.
President, Polish Association of Computational Mechanics, 91-93.
Vice President, Central European Association for Computational Mechanics, 92-94.
Executive Committee Member, Polish Association of Computational Mechanics, 93-97.
Scientific Committee Member, XI Polish Conference on Computer Methods in Mechanics, Kielce - Cedzyna, May 93.
Program Committee, 1995 IFIP Conference on Modelling and Optimization of Distributed Parameter Systems with Applications to Engineering, Warsaw, Poland, 95.
Organizer, Advances in Computational Mechanics, a conference to honor 60th birthday of Prof. J.T. Oden, Austin, Jan 97.
Scientific Committee Member, Third Workshop on Reliability and Adaptive Methods in Computational Mechanics, Paris, Sep 97.
Editorial Board Member, The Fourth Conference on Computational Structures Technology, Edinburgh, Scotland, Aug 98.
Organizer, Mini-symposium, 10th Conference on the Mathematics of Finite Elements and Applications, Brunel, UK, Jun 99.
Mini-symposium Organizer, 6th Annual Technical Meeting of Society of Engineering Science, The University of Texas at Austin, Austin, Texas, Oct 99.
Member of Program Committee, p and hp Finite Element Methods: Mathematics and Engineering Practice, Washington University, St. Louis, May 00.
Member of Program Committee, Second European Congress on Computational Mechanics, Cracow, Jun 01.
Organizer, Mini-symposium on Computational Acoustics and Electromagnetics, Second European Congress on Computational Mechanics, Cracow, Jun 01.
Member, Program Committee, Second European Congress on Computational Mechanics, Cracow, Jun 01.
Organizer, Mini-symposium on "Advances in Computational Mechanics," in honor of Prof. J. Tinsley Oden's 65th birthday, 14th US National Congress of Theoretical and Applied Mechanics, Jun 02, Blacksburg, VA.
Organizer, Mini-symposium on "p and hp Finite and Boundary Element Methods," 5th World Congress on Computational Mechanics (WCCM V), Vienna, Jul 02.
Organizer, Mini-symposium on "p- and hp Finite and Boundary Element Methods" 7th US National Congress of Computational Mechanics, Albuquerque, NM, Aug 03.
Organizer, Mini-symposium on "Finite Elements in Computational Electromagnetics' 11th conference on the Mathematics of Finite Elements and Applications (MAFELAP), Brunel University, Jun 03.
Co-editor, *Proceedings of Mini-symposium on "Finite Elements in Computational Electromagnetics," 11th Conference on the Mathematics of Finite Elements and Applications (MAFELAP)*, Brunel University, Jun 03, special issue of *CMAME*.
Member, Scientific Committee, 5th International Conference on Computation of Shell and Spatial Structures, Salzburg, Austria, Jun 05.
Member, Scientific Committee, 16th International Conference on Computer Methods in Mechanics, Czestochowa, Poland, Jun 05.
Co-chair, 8th US National Congress of Computational Mechanics, Austin, TX, Jul 05.
Associate Editor, *Journal of Computational Methods in Applied Sciences and Engineering*, 00-present
Associate Editor, *Computer Methods in Applied Mechanics and Engineerin*g, 91-present.
Associate Editor, *Computers and Mathematics with Applications*, 93-11.
General Council Member, International Association of Computational Mechanics, 94-present.
Member, Editorial Board, *Archives of Civil and Mechanical Engineering*, Polish Academy of Sciences – Wroclaw Branch, 03-present
Member, Editorial Board, *Schedae Informaticae*, Jagiellonian University, 02-present
Member, Editorial Board, *Computer Methods in Material Science and Engineering*, 06-present.
Scientific Committee Member, 7th World Congress of Computational Mechanics, Los Angeles, Jul 06

Scientific Committee Member, 9th US Congress of Computational Mechanics, San Francisco, Jul 07,
Minisymposium organizer, short course on "hp-Adaptive Finite Element Methods," organizer and lecturer, 9th US Congress of Computational Mechanics, San Francisco, Jul 07.
Guest Co-Editor, Special issue of *CMAME* in honor of 80th birthday of Prof. Ivo Babuska, 06
Scientific Committee Member, 9th US Congress of Computational Mechanics, San Francisco, CA, Jul 07.
Organizer, Mini-symposium on "Higher Order and hp Methods with Applications to Elliptic and Maxwell Problems," 9th US Congress of Computational Mechanics, San Francisco, CA, Jul 07.
Organizer and Lecturer, Short course on "hp-Adaptive Finite Element Methods for Elliptic and Maxwell Problems," 9th US Congress of Computational Mechanics, San Francisco, CA, Jul 07.
Scientific Committee Member, 10th US Congress of Computational Mechanics, Columbus, OH, Jul 09.
Scientific Committee Member, 17th International Conference on Computer Methods in Mechanics (CMM-2007), Lodz, Poland, Jun 07.
Scientific Advisory Board Member, 3rd Asian-Pacific Congress on Computational Mechanics (APCOM'07)
Member, Scientific Committee of the Basque Center for Applied Mathematics (BCAM), 09-11.
Co-organizer, Minisymposium on ``Higher Order and hp Finite Element Methods for Wave Propagation Problems", Mafelap, Jun 09.
Organizer, Minisymposium on ``Higher Order an hp Finite Element Methods for Coupled Multiphysics Problems ", 10th US Congress on Computational Mechanics, Columbus, Ohio, Jul 09.
Member, Scientific Committee, 19th International Conference on Computer Methods in Mechanics, Warsaw, Poland, May 11.
Member, Editorial Board, *Civil Environmental Engineering Reports*, University of Zielona Gora, Poland, 10-present.
Lecturer, short course on hp FE Methods, Cracow, Poland, Jun 10.
Lecturer, short course on DPG Method, Graz, Austria, Jul 10.
Member, Editorial Board, *Computational Mechanics*, 11-present.
Member, Editorial Board of *International Journal for Computational Methods in Engineering Science*, 11-present.
Lecturer, short course on DPG Method, Cracow, Poland, Jun 24-25, 2011.
Chairman, Workshop on Higher Order FE and Isogeometric Methods (HOFEIM 2011), Cracow, Poland, Jun 11.
Lecturer, short course on DPG Method, Minneapolis, Minnesota, Jul 11.
Organizer, Minisymposium on Higher Order FE Methods, 11th US national Congress on Computational Mechanics, Jul 11.
Scientific Committee member, 12th US National Congress on Computational Mechanics, Jul 13.
Editor-in-Chief, Computers and Mathematics with Application, 2012-2018.
Secretary/Treasurer, US Association for Computational Mechanics, 2012-2014.
Vice-president, US Association for Computational Mechanics, 2014-2016.
President, US Association for Computational Mechanics, 2016-2018.
Member, Scientific Committee of 20th International Conference on Computer Methods in Mechanics CMM2013, Poznan, 2-5 September 2013.
Member, International Scientific Committee of APCOM2013.
Member, Advisory Board of Advanced *Modelling and Simulation in Engineering Sciences* (published by Lavoisier).
Member, Scientific Committee of V International Conference on Computational Methods for Coupled Problems in Science and Engineering (COUPLED 2013)
Member, Scientific Committee of 12th U.S. National Congress on Computational Mechanics Jul 22-25, 2013; Raleigh, North Carolina
Co-organizer, Minisymposium on Innovative Higher Order Discretization Methods, 10th International Congress on Computational Mechanics, San Paolo, Jul 8-13, 2012.
Co-organizer, Minisymposium on ``Higher Order Discretization Methods", ECCOMAS, Vienna, Sep 2012.
Member, Scientific Council, Technical Transaction of Cracow University of Technology.
Co-organizer, Minisymposium on ``Recent Advances in High Order Finite Element Methods", SIAM CSE 13, Feb 2013.
Organizer, ICES/USACM Workshop on Least Squares and DPG Methods, Austin, Nov 2013.
Organizer, FE Rodeo, Austin, Feb 2014.
Member, Scientific Committee of HOFEIM, Munich, Jul 2014.
Member, Scientific Committee of IACM Congress, Barcelona, Jul 2014.
Member, Scientific Committee of COUPLED PROBLEMS, Jul 2015.
Member, PCM-CMM-2015 Congress International Advisory Board, Buenos-Aires, Apr 2015.

Member, Scientific Committee of International Conference on Continuous Media with Microstructure, Lagow, Poland, Mar 2015.
Member, Scientific Committee, USNCCM13, San Diego, Jul 2015.
Co-organizer, Minisymposium on ``Higher Order FE Methods", PCM-CMM-2015 Congress International Advisory Board, Buenos-Aires, Apr 2015.
Co-organizer, Minisymposium on ``Recent Advances in High Order FE Methods", USNCCM13, San Diego, Jul 2015.
Member, Scientific Committee, ECCOMAS Congress, Crete, 2016.
Member, Scientific Committee, 12 World Congress on Computational Mechanics, Barcelona, Jul 2016.
Member, Scientific Committee, 14th Us National Congress on Computational Mechanics, Montreal, Jul 2017.
Member, Scientific Committee, 13 World Congress on Computational Mechanics, New York, Jul 2018.
Co-organizer, Minisymposium on ``Higher Order Finite Element Methods for Chhalenging Problems in Science and Engineering'', 13 WCCM, New York, Jul 2018
Member, Scientific and local Organizing Committee, 15th Us National Congress on Computational Mechanics, Austin, Jul 2019.
Minisymposium co-organizer, 15th US National Congress on Computational Mechanics, Austin, Jul 2019.
Member, Scientific Committee, The 8th International Conference on Computational Methods for Coupled Problems in Science and Engineering (COUPLED PROBLEMS 2019), Sitges, Catalonia, Spain, Jun 2019
Member, Scientific Committee, ECCOMAS 5th Young Investigators Conference
Member, Scientific Committee of HOFEIM, Pavia, May 2019
Member, Scientific Committee of IACM Congress, Paris, Jul 2020.
Minisymposium co-organizer, WCCM-ECCOMAS Congress, Jan 2021.
Minisymposium co-organizer, SIAM CSE conference, Mar 2021.
Member, Computational Mechanics Section, Committee of Mechanics of Polish Academy of Sciences, 2021-2022.
Member, USACM Executive Committee, 2010-2022
Head, USACM von Neumann Award Committee, 2021.
Scientific Committee, 5th Workshop on Least Squares and Minimum Residual Methods, Santiago, Chile, Oct 2022.
Member, Editorial Board, Acta of Mechanica et Automatica, Jul 2021 – present.
Member, Editorial Board, Journal of Computational and Applied Mechanics, Jul 2021 – present.
Organizer, Minisymposium on Higher Order Methods for Challenging Problems in Science and Engineering, USACM Congress, Jul 26-29, 2021 (remote, 23 participants).
Member, Scientific Committee, CMM-SolMech 2022, September 5-8, 2022
Co-organizer, minisymposium on DPG methods, 8th European Congress on Computational Methods in Applied Sciences and Engineering, June 5-9, 2022, Oslo, Norway
Member, USNCCM17 Scientific Organizing Committee
Co-organizer, minisymposium on residual and higher order methods, USNCCM17, Albuquerque, July 2023.
Member, WCCM 2024 Scientific Organizing Committee
Member, Scientific Committee, Workshop on Minimum Residual and Least Squares Methods, Bilbao, Spain, June 2024.
Co-organizer, minisymposium on Finite Element Methods for Wave Propagation Problems, WCCM 2024, Vancouver, Canada, July 2024.
International Advisory Board , 43rd Solid Mechanics Conference (SolMech 2024), Wroclaw, Poland.
Advanced Modeling and Simulation in Engineering Sciences (AMSES), Springer, board member, 2024.
Member, Advisory Committee for COMPSSAFE2025, Kobe, Japan,, July 2025.
Member, Scientific Committee, 26th International Conference on Computer Methods in Mechanics, Lodz, Poland, July 2025.
Member, Executive Committee, International Association for Computational Mechanics, July 2024-July 2030.

OTHER PROFESSIONAL HIGHLIGHTS:
Reviewer, *CALCOLO*, 00-present.
Reviewer, *Communications in Numerical Methods in Engineering*, 87-present.
Reviewer, *Computers and Mathematics with Applications*, 93-present.
Reviewer, *Computational Mechanics*, 93-present.
Reviewer, *Computational Mechanics Advances*, 93-00.
Reviewer, *COMPTES RENDUS*, 93-present.
Reviewer, *Computers and Structures*, 93-present.

Reviewer, *Computer Methods in Applied Mechanics and Engineering*, 80-present.
Reviewer, *Cracow University of Technology Technical Reports*, 93-present.
Reviewer, *Differential Equations*, 93-present.
Reviewer, *Finite Elements in Analysis and Design*, 98-present.
Reviewer, *International Journal for Numerical Methods in Engineering*, 83- present.
Reviewer, *International Journal of Nonlinear Mechanics*, 94-present.
Reviewer, *International Journal of Solids and Structures*, 94-present.
Reviewer, *Journal of Acoustical Society of America*, 94-present.
Reviewer, *Journal of Computational and Applied Mathematics*, 93-present.
Reviewer, *Journal of Computational Physics*, 94-present.
Reviewer, *Mathematics of Computation*, 98-present.
Reviewer, *M2AN*, 98-present.
Reviewer, *Numerical Methods for Partial Differential Equations*, 98-present.
Reviewer, *SIAM Journal of Numerical Analysis*, 98-present.
Reviewer, *SIAM Journal of Scientific and Statistical Computing*, 93-present.

UNIVERSITY COMMITTEES/ADMINISTRATIVE ASSIGNMENTS:

University
Assistant Director, Texas Institute for Computational and Applied Mathematics, 93-03.
Member, CAM Admission Committee, 93-98.
Member, CAM Students Fellowships Committee, 93-98.
Member, CAM Graduate Studies Acting Subcommittee, 94-98.
Member, CAM Applied Math (Area A) Graduate Examination Committee, 96-present.
Assistant CAM Graduate Advisor, 95-present.
Member, Committee on Expansion and Restructuring of the CAM Program, 00-01.
Chairman, CAM Admissions and Fellowships Committee, 01-02
Member, CAM Chairs Committee, 93-04.
Member, CAM Research Fellowships Committee, 93-04.
Member, CAM Graduate Studies Subcommittee, 02-04
Member, ACES Building Expansion Committee, 03-04
Assistant Director, The Institute for Computational Engineering and Sciences, 03-present.
Member, ICES Advisory Board, 04-present.
Member, Committee on CAM Program Challenges, 06 – present
Chair, CAM Admission Committee, 07-08.
Member, CAM Strategic Plan Committee, 07-10.
Member CAM Graduate Studies Subcommittee, 07-10.
Head, CES Area A course committee, 08/09.
Member, CAM Area C course committee, 08-09.
Chair, CSEM Admission Committee, 12-13.
Vice President for Research Objectivity in Research Committee, 2013-2019.
Chair, ICES Moncrief Chair Search Committee, 12-present.
Member, CSEM Admission Committee, 15-16.
Member, CSE Engineering Awards Committee, 15-present.
Member, CSE Area A course committee, 20-21.
Member, Grand Challenge Award Review Committee, Oden Institute, 2021 -22.
Member, Distinguished Research Award Committee, Oden Institute, 2021-22.
Member, Moncrief Undergraduate Summer Internship Committee, Oden Institute, 2021-22.

College
Member, Cockrell School of Engineering Scholastic Appeals Committee, 94/95, Summer 96.
Member, Cockrell School of Engineering Mathematics and Science (Undergraduate) Committee, 95-98.
Member, Study Abroad Committee, 99/00.
Member, CSE Engineering Awards Committee, 15-present

Department
Member, Alumni Committee, 93/94.
Chairman, Math Graduate Examination Committee, 93-98, 09-10.
Member, Math Graduate Examination Committee, 98-08.
Member, ASE/EM Curriculum/ABET Planning, 00/01.
Member, Faculty Performance Evaluation Committee, 02/03.
Member, Faculty Evaluation Committee, 06/07.
Member, Post-Tenure Review Committee, 06/07.
Member, Mechanics Service Courses Committee, 93-present.
Area Coordinator, Computational Mechanics, 95-09.
Member, Faculty Hiring Committee, 10/11.
Member, Faculty Promotion Committee, 10/11.
ASE/EM BC Review Committee, 11/12.
ASE/EM Post Tenure Review Committee, 12/12.
ASE/EM Faculty Search Committee, 11/12.
Member, ASE/EM Faculty Promotion Committee, 12-13.
Member, ASE/EM Faculty Search Committee, 12-13.
Member, ASE/EM Faculty Promotion Committee, 12-13.
Assistant Professor Mentor, 12-15.
Chair, Faculty Annual Review Committee, 14.
Member, robotics (human-robot collaboration) search committee, 15-16.
Member, Post Tenure Committee 15-16.
Chair, ASE/EM Faculty Annual Review Committee, 16-17.
Member, Post Tenure Committee, 20-21.
Member, Promotion Committee, 20-22.
Area Coordinator, 21-22.
Member, Hiring Committee, 21-22.
Peer Teaching Evaluation (2): 22.-23
Member, Hiring Committee, 23-24
Peer Teaching Evaluator, 23-24
Memorial Resolution Writer for Prof. J.T. Oden and Prof. I. Babuska

HONORS AND AWARDS:
Polish Academy of Sciences Student Fellowship, 73-76.
Award of Minister of Science and Higher Education, 83.
Award of the Polish Academy of Sciences (4th Dept. of Technical Sciences), 86.
Award of Minister of Science and Higher Education, 87.
Award of Minister of Science and Higher Education, 91.
Award of Rector of Cracow University of Technology, 92.
Award of Institute of Fundamental Technological Research of Polish Academy of Sciences (for a Ph.D. supervision), 94.
Departmental Teaching Award, 98.
Polish State Professorship, 99.
Fellow, US Association for Computational Mechanics, 01.
Fellow, International Association for Computational Mechanics, 02.
Endowed Teaching Fellowship (Chevron Fellowship # 2), 97-09.
Russell Severance Springer Professorship, Dept. of Mech. Eng., University of Berkeley, Spring 06.
Zienkiewicz Medal - awarded by Polish Association for Computational Mechanics, May 09.
Status of honorary member - awarded by Polish Association of Computational Mechanics, May 09.
Computational Sciences Award - awarded by US Association for Computational Mechanics, Jul 09.
Elected to Executive Council of the International Association for Computational Mechanics (09-15).
ICES Distinguished Research Award, May 11.
Elected for Editor in Chief of Elsevier journal Computers *and Mathematics with Applications*, Dec 12.
Elected for secretary/treasurer, vice-president, president of US Association for Computational Mechanics (a six-year term), 12.
Appointed to Dept. of Math., UT, Professor (courtesy appointment)., 12.

``High order finite element methods", Mafelap 2013, A mini symposium in honor of my 60th birthday (30 talks).
``Algorithms for Wave Propagation: 12 U.S. National Congress on Computational Mechanics, A mini symposium in honor of my 60th birthday (14 talks).
Elected as a foreign member to Polish Academy of Arts and Science, 13.
W. A. ``Tex" Moncrief, Jr. Chair in Computational Engineering and Sciences II, Sep 2013.
IACM Computational Mechanics Award, Jul 2014.
Invited to join EU Academy of Sciences, 2015.
ICES Moncrief Grand Challenge Award, 2019.
IACM EC member 2024-2026, elected

PUBLICATIONS:

Refereed Journal Publications

1. Szefer, G., and Demkowicz, L. F., "Optimization of Elastic Plates by Means of Sobolev Space Theory," (in Polish), *Archiwum Inzynierii Ladowej*, 1979.
2. Demkowicz, L. F., "On Some Results Concerning the Reciprocal Formulation for the Signorini's Problem," *Computers and Mathematics with Applications*, Vol. 8, No.1, pp. 57-74, 1982.
3. Demkowicz, L. F., and Oden, J. T., "On Some Existence and Uniqueness Results in Contact Problems with Non-Local Friction," *Journal of Nonlinear Analysis*, Vol. 6, No.10, pp. 1075-1093, 1983.
4. Szefer, G., and Demkowicz, L. F., "Optimal Design of von Karman Plates," *Journal of Structural Mechanics*, Vol. 12, No.1, pp. 111-149, 1984.
5. Demkowicz, L. F., Karafiat, A., and Liszka, T., "On Some Convergence Results for FDM with Irregular Mesh," *Computer Methods in Applied Mechanics and Engineering*, Vol. 42, pp. 343-355, 1984.
6. Demkowicz, L. F., "Some Remarks on Moving Finite Element Methods," *Computer Methods in Applied Mechanics and Engineering*, Vol. 46, pp. 339-349, 1984.
7. Demkowicz, L. F., Oden, J. T., and Stroubolis, T., "Adaptive Finite Elements for Flow Problems with Moving Boundaries. Part 1: Variational Principles and a Posteriori Estimates," *Computer Methods in Applied Mechanics and Engineering*, Vol. 46, pp. 217-251, 1984.
8. Demkowicz, L. F., and Oden, J. T., "Extraction Methods for Second Derivatives in Finite Element Approximations of Linear Elasticity Problems," *Communications in Applied Numerical Methods*, Vol. 1, pp. 137-139, 1985.
9. Demkowicz, L. F., Oden, J. T., and Devloo, P., "On *h*-Type Mesh Refinement Strategy Based on a Minimization of Interpolation Error," *Computer Methods in Applied Mechanics and Engineering*, Vol. 53, pp. 67-89, 1985.
10. Demkowicz, L. F., and Oden, J. T., "On a Mesh Optimization Method Based on a Minimization of Interpolation Error," *International Journal for Engineering Science*, Vol. 24, No.1, pp. 55-68, 1986.
11. Demkowicz, L. F., and Oden, J. T., "An Adaptive Characteristic Petrov-Galerkin Finite Element Method for Convection-Dominated Linear and Nonlinear Parabolic Problems in One Space Variable," *Journal of Computational Physics*, Vol. 68, No. 1, pp. 188-273, 1986.
12. Demkowicz, L. F., and Oden, J. T., "An Adaptive Characteristic Petrov-Galerkin Finite Element Method for Convection-Dominated Linear and Nonlinear Parabolic Problems in Two Space Variables," *Computer Methods in Applied Mechanics and Engineering*, Vol. 55, No. 1-2, pp. 65-87, 1986.
13. Szefer, G., Mroz, Z., and Demkowicz, L.F., "Variational Approach to Sensitivity Analysis in Nonlinear Elasticity," *Archives of Mechanics*, Vol. 39, No. 3, pp. 247-259, 1987.
14. Demkowicz, L. F., and W. Rachowicz, "On a Characteristic Finite Element Method for Compressible Gas Dynamics," *Journal of Engineering Science*, Vol. 25, No. 10, pp. 1259-1281, 1987.
15. Demkowicz, L. F., Oden, J. T., and Rachowicz, W., "Toward a Universal *h-p* Adaptive Finite Element Strategy, Part 1. Constrained Approximation and Data Structure," *Computer Methods in Applied Mechanics and Engineering*, Vol. 77, pp. 79-112, 1989.
16. Oden, J. T., Demkowicz, L. F., Rachowicz, W., and Westermann, T., "Toward a Universal *h-p* Adaptive Finite Element Strategy, Part 2. A *Posteriori* Error Estimation," *Computer Methods in Applied Mechanics and Engineering*, Vol. 77, pp. 113-180, 1989.
17. Rachowicz, W., Oden, J. T., and Demkowicz, L. F., "Toward a Universal *h-p* Adaptive Finite Element Strategy, Part 3. Design of *h-p* Meshes," *Computer Methods in Applied Mechanics and Engineering*, Vol. 77, pp. 181-212, 1989.

18. Oden, J. T., Demkowicz, L. F., Rachowicz, W., and Westermann, T., "A Posteriori Error Analysis in Finite Elements: The Element Residual Method for Symmetrizable Problems with Applications to Compressible Euler and Navier-Stokes Equations," *Computer Methods in Applied Mechanics and Engineering*, Vol. 82, pp. 183-203, 1990.
19. Demkowicz, L. F., Oden, J. T., and Rachowicz, W., "A New Finite Element Method for Solving Compressible Navier-Stokes Equations Based on an Operator Splitting Method and *h-p* Adaptivity," *Computer Methods in Applied Mechanics and Engineering*, Vol. 84, pp. 275-326, 1990.
20. Oden, J.T., Demkowicz, L.F., and Bennighof, J., "Fluid-Structure Interaction in Underwater Acoustics," *Applied Mechanics Reviews*, Vol. 43, No. 5, pp. 374-380, 1990.
21. Oden, J. T., Demkowicz, L. F., Liszka, T., and Rachowicz, W., "*h-p* Adaptive Finite Element Methods for Compressible and Incompressible Flows," *Computing Systems in Engineering*, Vol. 1, Nos. 2-4, pp. 523-534, 1990.
22. Demkowicz, L. F., Oden, J. T., Rachowicz, W., and Hardy, O., "An *h-p* Taylor-Galerkin Finite Element Method for Compressible Euler Equations," *Computer Methods in Applied Mechanics and Engineering*, Vol. 88, No.3, 363-396, July 1991.
23. Safjan, A., Demkowicz, L. F., and Oden, J. T., "Adaptive Finite Element Methods for Hyperbolic Systems with Application to Transient Acoustics," *International Journal for Numerical Methods in Engineering*, Vol. 32, pp. 677-707, 1991.
24. Demkowicz, L. F., Oden, J. T., Ainsworth, M., and Geng, P., "Solution of Elastic Scattering Problems in Linear Acoustics Using *h-p* Boundary Element Methods," *Journal of Computational and Applied Mathematics*, Vol. 36, pp. 29-63, 1991.
25. Demkowicz, L. F., "A Note on Symmetry Boundary Conditions," *Letters in Applied Mathematics*, Vol. 4, No. 5, pp. 27-30, 1991.
26. Oden, J. T, and Demkowicz, L. F.," *h-p* Adaptive Finite Element Methods in Computational Fluid Dynamics," Second World Congress on Computational Mechanics, Stuttgart, August 1990, *Computational Methods in Applied Mechanics and Engineering*, Vol. 89, pp. 11-40, 1991.
27. Demkowicz, L. F., Karafiat, A., and Oden, J. T., "Solution of Elastic Scattering Problems in Linear Acoustics Using *h-p* Boundary Element Method," *Computer Methods in Applied Mechanics and Engineering*, Vol. 101, pp. 251-282 (Proceedings of Second Workshop on Reliability and Adaptive Methods in Computational Mechanics, eds. L. Demkowicz, J. T. Oden and I. Babuska, Cracow, October 1991).
28. Kuczma, M. S., and Demkowicz, L. F., "An Adaptive Algorithm for Unilateral Viscoelastic Contact Problems for Beams and Plates," *Computer Methods in Applied Mechanics and Engineering*, Vol. 101, pp. 183-192 (Proceedings of Second Workshop on Reliability and Adaptive Methods in Computational Mechanics, eds. L. Demkowicz, J. T. Oden and I. Babuska, Cracow, October 1991).
29. Edwards, G. M., Oden, J. T., and Demkowicz, L. F., "An *h-r* Adaptive Approximate Riemann Solver for the Euler Equations in Two Dimensions," *SIAM Journal of Scientific Computations*, Vol. 14, No. 1, pp. 185-217, 1993.
30. Demkowicz, L. F., and Oden, J. T., "Recent Progress on Applications of *hp*-Adaptive BE/FE Methods to Elastic Scattering," (with J.T. Oden), *International Journal for Numerical Methods in Engineering*, Vol. 37, pp. 2893-2910, 1994.
31. Demkowicz, L. F., "Asymptotic Convergence in Finite and Boundary Element Methods. Part 1: Theoretical Results," *Computers & Mathematics with Applications*, Vol. 27, No. 12, pp. 69-84, 1994.
32. Demkowicz, L. F., "Asymptotic Convergence in Finite and Boundary Element Methods. Part 2: The LBB Constant for Rigid and Elastic Problems," *Computers & Mathematics with Applications*, Vol. 28, No. 6, pp. 93-109, 1994.
33. Chang, Y. C., and Demkowicz, L. F., "Vibrations of a Spherical Shell. Comparison of 3-D Elasticity and Kirchhoff Shell Theory Results," *Computer Assisted Mechanics and Engineering Sciences*, Vol. 2, pp. 187-206, 1995.
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13. Geng, P., Oden, J.T., and Demkowicz, L.F., “Solution of Exterior Acoustics Problems by the Boundary Element Method at High Wave Numbers. Error Estimation and Parallel Computation,” Third U.S. National Congress on Computational Mechanics, Dallas, June 1995.

14. Demkowicz, L.F., and Gerdes, K., "A Study on *hp*-Infinite Elements for Exterior Boundary-Value Problems," Third U.S. National Congress on Computational Mechanics, Dallas, June 1995.
15. Demkowicz, L.F., and Chang, Y.C., "Solution of Viscoelastic Scattering Problems by Means of *hp*-Adaptive FE Methods," Third U.S. National Congress on Computational Mechanics, Dallas, June 1995.
16. Demkowicz, L.F., "*hp*-Adaptive Discretizations," University of Hannover, July 1995.
17. Demkowicz, L.F., "FE Modeling of Vibrations of Viscoelastic Bodies," University of Hannover, July 1995.
18. Demkowicz, L.F., "Applications of Finite and Boundary Element Methods in Acoustics. Mathematical Aspects," IFIP Conference on Modelling and Optimization of Distributed Parameter Systems with Applications to Engineering, Warsaw, July 1995.
19. Demkowicz, L.F., "hp Infinite Element Methods for the Helmholtz Equation," ONR Review Meeting, Orlando, February 1996.
20. Demkowicz, L.F., "Solution of Viscoelastic Scattering Problems Using hp Adaptive BE/FE Methods," ONR Review Meeting, Orlando, February 1996.
21. Demkowicz, L.F., "Mathematical Aspects of Coupled BE/FE Approximations," Finite Element Circus, Houston, March 1996.
22. Demkowicz, L.F., "Finite and Boundary Element Methods in Acoustics - a Comparison," MAFELAP, London, June 1996.
23. Demkowicz, L.F., "Solution of Viscoelastic Scattering Problems by Means of hp-Adaptive BE/FE Methods," MAFELAP, London, June 1996.
24. Demkowicz, L.F., "A Modified FE Assembling Procedure with Applications to Electromagnetics, Acoustics, and *hp*-Adaptivity," MAFELAP, London, June 1996.
25. Demkowicz, L.F., "Comparison of Boundary Element and Infinite Element Techniques for Exterior Boundary-Value Problems, in Context of hp-Adaptive Discretizations," SIAM Annual Meeting, Kansas, July 1996.
26. Demkowicz, L.F., "hp-Adaptive Finite Element Methods with Applications to Fluid-Structure Interaction Problems in Acoustics," General Motors Gear Center, Detroit, August 1996.
27. Demkowicz, L.F., "Infinite Element Approximations for Wave Propagation Problems," Symposium on Computational Nonlinear Mechanics (organizers: Wendland, Kleiber), STAMM 96 Warsaw, September 1996.
28. Demkowicz, L.F., "Applications of Finite and Boundary Element Methods in Acoustics. Mathematical and Computational Aspects," plenary lecture, XXXI Polish Solid Mechanics Conference, Mierki, Poland, September 1996.
29. Demkowicz, L.F., "Laudatio for Prof. J. Tinsley Oden," Advances in Computational Mechanics, Austin, January 1997.
30. Demkowicz, L.F., Vardapetyan, L., "Modeling of Electromagnetic Absorption/Scattering Problems Using hp-Adaptive Finite Elements," Advances in Computational Mechanics, Austin, January 1997.
31. Vardapetyan, L., Demkowicz, L.F., "Adaptive Finite Element Method in Electromagnetics," Finite Element Rodeo, Austin, Feb 28-Mar 1, 1997.
32. Demkowicz, L.F., "Stability of FE Approximations of Hyperbolic Systems. From Electromagnetics Through Acoustics to Compressible Flow," Finite Element Rodeo, Austin, Feb 28-Mar 1, 1997.
33. Demkowicz, L.F., Vardapetyan, L., "Modeling of Electromagnetic Absorption/Scattering Problems Using hp-Adaptive Finite Elements," Texas A&M University, April 15, 1997.
34. Demkowicz, L.F., "FE Methods for Wave Propagation Problems," a plenary lecture given at XIII Polish Conference on Computer Methods in Mechanics, May 5-8, 1997, Poznan, Poland.
35. Demkowicz, L.F., "Asymptotic Convergence in FE and BE Approximations," Cracow University of Technology, May 13, 1997.
36. Demkowicz, L.F., Vardapetyan, L., "Modeling of Electromagnetic Absorption/Scattering Problems Using hp-Adaptive Finite Elements," Cracow University of Technology, May 13, 1997.
37. Demkowicz, L.F., "FE Methods for Wave Propagation Problems," TH Zurich, Switzerland, May 15, 1997.
38. Demkowicz, L.F., "FE Methods for Wave Propagation Problems," TH Munich, Germany, May 20, 1997.
39. Demkowicz, L.F., "hp FE Approximations," Purdue University, June 27, 1997.
40. Demkowicz, L.F., Ihlenburg, F., "Proof of Convergence for the Coupled Finite/Infinite Element Methods for Helmholtz Exterior Boundary-Value Problems," IUTAM Symposium on Computational methods for Unbounded Domains, Boulder, CO, 1997.
41. Demkowicz, L.F., Ihlenburg, F., Pal, M., "Coupled FE/IE Methods for Exterior Wave Propagation Problems," Fourth U.S. National Congress on Computational Mechanics, San Francisco, August 6-8, 1997.
42. Demkowicz, L.F., "A Posteriori Error Analysis for Steady-State Maxwell's Equations," Workshop on New Advances in Adaptive Computational Methods in Mechanics, Paris, Sep 17-19, 1997.

43. Demkowicz, L.F., “Adaptive hp-FE Methods for Acoustics and Electromagnetics,” General Dynamics (Electric Boat Division), Dec 10, 1997.
44. Demkowicz, L.F., “Stabilized FE Methods for Linear Acoustics,” 10th International Conference on Finite Elements in Fluids, Tucson, Arizona, Jan 5-8, 1998.
45. Demkowicz, L.F., “Adaptive hp-FE Modeling for Maxwell's Equations,” NPACI All-hands Meeting, San-Diego, California, Jan 8-10, 1998.
46. Demkowicz, L.F., “Adaptive hp-FE Modeling for Maxwell's Equations,” AFOSR Electromagnetics Workshop, San Antonio, Jan 8-10, 1998.
47. Demkowicz, L.F., “Adaptive hp-FE Modeling for Maxwell's Equations,” FE Rodeo, Texas A&M University, College Station, Feb 28 - Mar 1, 1998.
48. Demkowicz, L.F., “Adaptive hp-FE Modeling in Electromagnetics,” University of Delaware, Mar 26, 1998.
49. Demkowicz, L.F., “Adaptive hp-FE Modeling for Maxwell's Equations,” 1998 EMCC Annual Meeting, Adelphi, Maryland, May 5-8, 1998.
50. Demkowicz, L.F., “Adaptive hp Finite Elements for Maxwell’s Equations,” ETH Zurich, May 11, 1998.
51. Demkowicz, L.F., “Adaptive FE Modeling for Electromagnetics,” Politechn ika Slaska, Gliwice, May 20, 1998.
52. Demkowicz, L.F., “Adaptive Finite Elements for Electromagnetics,” Cracow University of Technology, May 21, 1998.
53. Demkowicz, L.F., “Adaptive hp Finite Elements for Maxwell’s Equations,” University of Michigan, July 27, 1998.
54. Demkowicz, L.F., “hp-Adaptive Finite Element Methods for Large Scale Acoustic and Electromagnetic Simulations,” Supercomputing 1998, Orlando, Florida, Nov 9-12, 1998.
55. Demkowicz, L.F., “hp-Adaptive Finite Elements for Maxwell's Equations,” AFRL, Hanscom AFB, MA, Nov. 18, 1998
56. Demkowicz, L.F., “hp-Adaptive FE Modeling for Maxwell's Equations,” AFOSR Electromagnetics Workshop, San Antonio, Jan 7-9, 1999.
57. Demkowicz, L.F., “Computational and Applied Mathematics Program at The University of Texas at Austin, “Workshop on Computational Science and Engineering, Ascona, Switzerland, May 2-7, 1999.
58. Demkowicz, L.F., “Adaptive hp-Finite Element Modeling for Maxwell's Equations, “Workshop on Computational Science and Engineering, Ascona, Switzerland, May 2-7, 1999.
59. Demkowicz, L.F., “Solution of Maxwell's Equations Using hp-Adaptive Edge Elements” Laboratory for EMF and Microwave Electronics, TH Zurich, May 8, 1999.
60. Demkowicz, L.F., “Coupled Finite/Boundary Elements Versus Coupled Finite/Infinite Elements, a Comparison,” IUTAM Symposium on Advanced Mathematical and Computational Mechanics Aspects of the BEM, Cracow, Poland, May 30-June 3, 1999.
61. Demkowicz, L.F., “Adaptive hp-Finite Element Modeling for Maxwell's Equations,” University of Wales at Swansea, GB, June 11, 1999.
62. Demkowicz, L.F., “Adaptive hp-Finite Element Modeling for Maxwell's Equations,” Mathematics of Finite Elements and Applications, Brunel, GB, June 22-25, 1999.
63. Demkowicz, L.F., “Two-Dimensional Infinite Element for Maxwell's Equations,” Mathematics of Finite Elements and Applications, Brunel, GB, June 22-25, 1999.
64. Demkowicz, L.F., “Analysis of a Finite-Infinite Element Method for Exterior Helmholtz Problems,” Mathematics of Finite Elements and Applications, Brunel, GB, June 22-25, 1999.
65. Demkowicz, L.F., Walsh, T., Charles, R., “hp-Adaptive BE Modeling of the Human Ear Acoustics,” 5-th U.S. National Congress on Computational Mechanics, Boulder, August 4-6,1999.
66. Demkowicz, L.F., Bajer, A., “Contact/Impact Problems, Energy Conservation and Planetary Gears,” 5-th U.S. National Congress on Computational Mechanics, Boulder, August 4-6,1999.
67. Demkowicz, L.F., Rachowicz, W., Kim, C.W., “A Posteriori Error Estimation for hp-Adaptive FE Simulations of Maxwell's Equations,” 5-th U.S. National Congress on Computational Mechanics, Boulder, August 4-6,1999.
68. Demkowicz, L.F., Rachowicz, W., Bajer, A., Gerdes, K., “A 3D hp-Adaptive Finite Element Package. Fortran 90 Implementation (3Dhp90),” 5-th U.S. National Congress on Computational Mechanics, Boulder, August 4-6,1999.
69. Demkowicz, L.F., Bajer, A., “Contact/Impact Problems, Energy Conservation and Planetary Gears,” 1st European Congress on Computational Mechanics, Munich, Aug 30 - Sep 3, 1999.
70. Demkowicz, L.F., “Application of hp-Adaptive Discretizations to Wave Propagation Problems,” XXII Congresso Nacional de Matematica Aplicada e Computacional, Santos, Brazil, Sep 13-17, 1999 (invited talk).

71. Demkowicz, L.F., “A 3D hp-Adaptive Finite Element Package. Fortran 90 Implementation,” XXII Congresso Nacional de Matematica Aplicada e Computacional, Santos, Brazil, Sep 13-17, 1999 (invited talk).
72. Demkowicz, L.F., “Convergence of Maxwell's Eigenvalues,” AMS 1999 Fall Central Sectional Meeting, Austin, Oct 8-10, 1999.
73. Demkowicz, L.F., “A Fully Automatic hp-Adaptivity for Maxwell's Equations. Is It Possible?” 36th Annual Technical Meeting, Society of Engineering Science, Austin, Oct 25-27, 1999.
74. Vardapetyan, L., Demkowicz, L.F., “Full-Wave Analysis of Dielectric Waveguides at a Given Frequency,” 36th Annual Technical Meeting, Society of Engineering Science, Austin, Oct 25-27, 1999.
75. Demkowicz, L.F., Ainsworth, M., “Convergence Analysis for a Two Grid Iterative Solver for Maxwell's Equations,” 36-th Annual Technical Meeting, Society of Engineering Science, Austin, Oct 25-27, 1999.
76. Demkowicz, L.F., “hp-Adaptive FE Modeling for Maxwell's Equations,” AFOSR Electromagnetics Workshop, San Antonio, Jan 13-15, 2000.
77. Demkowicz, L.F., “Large Scale Simulations of Acoustic and Electromagnetic Waves,” NPACI All-Hands meeting, San Diego, Feb.9-11,200.
78. Demkowicz, L.F., Rachowicz, W. “hp-Adaptive FE Package for Electromagnetics,” Finite Elements in Flow Problems, Austin, April 30 - May 4, 2000
79. Demkowicz, L.F., Rachowicz, W. “hp-Adaptive FE Package for Electromagnetics,” p and hp Finite Element Methods: Mathematics and Engineering Practice, Washington University, St. Louis, May 31 - June 2, 2000.
80. Demkowicz, L., “hp-Adaptive Finite Element Modeling in Electromagnetics,” Schlumberger SPC, Sugar Land, May 18, 2000, (invited talk).
81. Demkowicz, L., “Adaptive hp FE Modeling for Maxwell's Equations,” Numerical Modelling in Continuum Mechanics, Prague, July 31-August 3, 2000 (invited talk).
82. Demkowicz, L., Vardapetyan, L., “Towards an hp-adaptive Finite Element Method for FEull-Wave Analysis of Waveguides,” Workshop on FE Methods in Electromagnetics, Linz, August 16, 2000 (invited talk).
83. Demkowicz, L., Rachowicz, W., “A Three-Dimensional hp-Adaptive FE Package for Electromagnetics,” Workshop on FE Methods in Electromagnetics, Linz, August `16, 2000 (invited talk).
84. Demkowicz, L., “Adaptive hp FE Modeling for Maxwell's Equations with Applications to Scattering and Waveguides,” International Workshop on Scientific Computing in Electrical Engineering (SCEE-2000) Warnemuende, August 20-23, 2000 (invited talk).
85. Demkowicz, L., Walsh, T., “Parallel hp BE Modeling of the Human Auditory System,” Konrad-Zuse-Zentrum, Berlin, August 24, 2000 (invited talk).
86. Demkowicz, L. “Babuska = Brezzi ??,” TICAM Seminar, Oct 31, 2000.
87. Walsh, T., Demkowicz, L., “Parallel Adaptive hp BE Modeling of the Human Auditory System,” demo presented at the NPACI booth, Supercomputing 2000, Dallas, Nov.7-8, 2000.
88. Bajer, A., Demkowicz, L. “Modeling of Gears with hp Finite Elements,” demo presented at the NPACI booth, Supercomputing 2000, Dallas, Nov.7-8, 2000.
89. Demkowicz, L., “Adaptive hp FE Modeling For Maxwell's Equations,” Worcester Polytechnic Institute Mathematical Science Colloquium, Nov 10, 2000 (invited seminar).
90. Demkowicz, L., “Adaptive hp FE Modeling For Maxwell's Equations,” Penn State University, Dept. of Mathematics, Applied and Computational Mathematics Series, December 8, 2000 (invited seminar).
91. Demkowicz, L., “Adaptive hp FE Modeling For Maxwell's Equations, A progress Report,” AFOSR Electromagnetic Workshop, San Antonio, Jan 11- Jan 13, 2001.
92. Demkowicz, L. “Adaptive hp FE Modeling For Maxwell's Equations, A progress Report,” GAMM Workshop on Computational Electromagnetics, Kiel, Jan 26 - Jan 28, 2001 (invited talk).
93. Demkowicz, L., “Adaptive hp FE Modeling for Maxwell’s Equations,” Applied and Computational Mathematics Seminar, University of California at Irvine, Feb. 23, 2001.
94. Walsh, T., Demkowicz, L., “Parallel Adaptive hp BE Modeling of the Human Auditory System,” demo presented at the NPACI All Hands Meeting, San Diego, Feb. 25-Feb .27, 2001.
95. Bajer, A., Demkowicz, L. “Modeling of Gears with hp Finite Elements,” demo presented at the NPACI All Hands Meeting, San Diego, Feb.25-Feb.27, 2001.
96. Demkowicz, L., “Optimal p Interpolation Error Estimates for Edge Finite Elements of Variable Order in 2D,” FE Rodeo, Southern Methodist University, Dallas, Mar.2-Mar.3,
97. Demkowicz, L., “Optimal p Interpolation Error Estimates for Edge Finite Elements of Variable Order in 2D,” Brown University, Division of Applied Mathematics, Scientific Computing Seminar, Mar. 23, 2001, (invited talk).

98. Demkowicz, L., Bajer, A., “Modeling of Electromagnetic Devices Using hp-Adaptive Finite Elements,” Schlumber, Sugar Land, May 2001.
99. Demkowicz, L., “Adaptive hp Modeling for Time Harmonic Maxwell's Equations. A Progress Report,” International Conference on Spectral and Higher Order Methods, (ICOSAHOM-01), Upsalla, Jun. 10-Jun. 16, 2001 (invited plenary talk).
100. Demkowicz, L., Bajer, A., “Dynamic Contact Problems, Energy Conservation, and Planetary Gear Trains,” Second European Conference on Computational Mechanics, Cracow, Jun.25 - Jun.29, 2001 (invited parallel keynote lecture).
101. Walsh, T., Demkowicz, L., Charles, R. “hp Boundary Element Modeling of the External Human Auditory System. Goal Oriented Adaptivity with Multiple Load Vectors,” Second European Conference on Computational Mechanics, Cracow, Jun.25 - Jun.29, 2001.
102. Bajer, A., Demkowicz, L., “Modeling of Planetary Gear Trains as a Dynamic Contact/Impact Problem for Elastic Bodies,” Second European Conference on Computational Mechanics, Cracow, Jun.25 - Jun.29, 2001.
103. Bajer, A., Rachowicz, W., Walsh, T., Demkowicz, L., “A Two-Grid Parallel Solver for Time Harmonic Maxwell's equations and hp Meshes,” Second European Conference on Computational Mechanics, Cracow, Jun.25 - Jun.29, 2001.
104. Demkowicz, L., “hp Interpolation Error Estimates for Maxwell's Equations in 2D,” Second European Conference on Computational Mechanics, Cracow, Jun.25 - Jun.29, 2001.
105. Demkowicz, L., Rachowicz, W., Cecot, W., “A Three-Dimensional Infinite Element Method for Maxwell's Equations,” Sixth U.S. National Congress on Computational Mechanics, Dearborn, Michigan, July 31-Aug 4, 2001.
106. Demkowicz, L., Walsh, T., Charles, R. “hp Boundary Element Modeling of the External Human Auditory System. Goal Oriented Adaptivity with Multiple Load Vectors,” Sixth U.S. National Congress on Computational Mechanics, Dearborn, Michigan, July 31-Aug 4, 2001.
107. Demkowicz, L., Bajer, A., “Modeling of Planetary Gear Trains as a Contact/Impact Problem for Elastic Bodies,” Sixth U.S. National Congress on Computational Mechanics, Dearborn, Michigan, July 31-Aug 4, 2001.
108. Demkowicz, L., “Electromagnetic Device Modeling Using hp-Adaptive Edge Finite Elements,” Schlumberger, Sugarland, TX, August 8, 2001.
109. Demkowicz, L, “hp-Adaptive Finite Element Methods. Part 1: de Rham Diagram,” TICAM Seminar, Sep. 6, 2001.
110. Demkowicz, L, “hp-Adaptive Finite Element Methods. Part 2: Optimal hp Interpolation” TICAM Seminar, Sep. 11, 2001.
111. Demkowicz, L, “hp-Adaptive Finite Element Methods. Part 3: Automatic hp-Adaptivity” TICAM Seminar, Sep. 13, 2001.
112. Demkowicz, L, “hp-Adaptive Finite Element Methods. Part 4: hp Data Structures” TICAM Seminar, Sep. 18, 2001.
113. Demkowicz, L, “Fully Automatic hp-Adaptive Finite Element Simulations for Maxwell's Equations,” AFOSR Electromagnetics Workshop, San Antonio, TX, Jan. 17-19, 2002.
114. Demkowicz, L, “Fully Automatic hp-Adaptive Finite Elements. Integration of hp-Adaptivity with a Multigrid Solver,” Seminari di Analisi Numerica, Dipartimento di Maternatica, Pavia, Feb. 26, 2002.
115. Demkowicz, L, (invited plenary talk), “hp-Adaptive Finite Element Methods with Applications to Electromagnetics and Acoustics,” NPACI AHM2002, San Diego, CA, Mar 6-8, 2002.
116. Demkowicz, L, (invited seminar), “Fully Automatic hp-Adaptive Simulations for Maxwell's Equations” Air Force Institute of Technology, Department of Mathematics and Statistics Seminar, Apr 11, 2002.
117. Demkowicz, L, and Prado, D., “Integration of hp-Adaptivity with a Multigrid Solver,” 14th US National Congress of Theoretical and Applied Mechanics, Blacksburg, VA, Jun 23-28, 2002.
118. Demkowicz, L, (invited talk), “Fully Automatic hp-Adaptive Simulations for Maxwell's Equations,” Workshop on Computational Electromagnetics, Baltimore, MD, Jun 27-28, 2002.
119. Demkowicz, L, “hpAdaptive Finite Element Methods,” three seminars, Jagiellonian University, Cracow University of Technology and Academy of Mining and Steel Works, in Cracow, Jul 1-5, 2002.
120. Demkowicz, L, Prado, D., and Rachowicz, W., ““Fully Automatic hp Adaptive Finite Elements. Integration of hpAdaptivity with a Multigrid Solver,” Fifth World Congress on Computational Mechanics (WCCM V) Vienna, Jul 7-12, 2002.

121. Demkowicz, L, (a series of three invited lectures), "Fully Automatic hp-Adaptive Finite Elements for TimeHarmonic Maxwell's Equations," LMS Durham Symposium on Computational Methods for Wave Propagation in Direct Scattering Durham, England, July 15-25 2002.
122. Demkowicz, L, (invited talk), "Fully Automatic hp-Adaptive Simulations" IMACS workshop on "Adaptive Methods for PDE," the Fields Institute for Research in Mathematical Sciences, Toronto, Canada, 69 August 2002.
123. Demkowicz, L., "Fully Automatic hp-Adaptive Finite Element Simulations for Maxwell's Equations", Shlumberger, Sugarland, TX, August 27, 2002.
124. Demkowicz, L., "Fully Automatic hp-Adaptive Simulations" Sandia Labs, Nov 12, 2002 (invited seminar).
125. Demkowicz, L., "Parallel hp-Adaptive FE Simulations of Electromagnetic Waves", Supercomputing 2002, Baltimore, Nov 19, 2002.
126. Demkowicz, L., D. Pardo, "Fully Automatic hp-Adaptive Simulations for Maxwell's Equations", AFOSR Electromagnetics Workshop, San Antonio, TX, Jan 9-11, 2003.
127. Demkowicz, L. "Fully Automatic hp-Adaptive Simulations of Wave Propagation Problems", NPACI AHM, San Diego, CA, March 19 (invited talk).
128. Demkowicz, L., "Exact sequences, de Rham diagram, Maxwell equations, and hp-adaptivity", 15th International Conference on Computer Methods in Mechanics, CMM-2003, Wisla, Poland, June 3, 2003 (invited plenary talk).
129. Demkowicz, L., "Fully Automatic hp-Adaptive Elements", Universitat der Bundeswehr Munchen June 11 (invited seminar).
130. Demkowicz, L., "Fully Automatic hp-Adaptive Elements", Technische Universitaet Muenchen, June 11 (invited seminar).
131. Demkowicz, L. "Fully Automatic hp-Adaptive Simulations for Maxwell's Equations" International Workshop on Numerical and Symbolic Scientific Computing, St. Wolfgang / Strobl (Austria), June 18, 2003 (an invited talk).
132. Demkowicz, L. "hp-Adaptive Finite Elements, a Quest for Exponential Convergence" Eleventh conference on the Mathematics of Finite Elements and Applications (MAFELAP), June 22, 2003 (invited plenary talk).
133. Demkowicz, L. "Fully Automatic hp-Adaptive Simulations for Maxwell's Equations" Eleventh conference on the Mathematics of Finite Elements and Applications (MAFELAP), June 22, 2003 (a presentation in minisymposium)
134. Demkowicz, L. "Fully Automatic hp-Adaptive Simulations" Baker-Hughes, Houston, TX, July 23, 2003 (invited seminar).
135. Demkowicz, L. "hp-Adaptive Finite Element Codes at ICES" ICES Seminar, July 25, 2003.
136. Demkowicz, L. "Exact Sequences, De Rham Diagram, Maxwell Equations, hp Adaptivity", 7th US National Congress on Computational Mechanics, July 29, 2003 (invited plenary talk).
137. Demkowicz, L. "Fully Automatic hp-Adaptivity for Maxwell Equations" 7th US National Congress on Computational Mechanics, July 29, 2003 (minisymposium talk).
138. Demkowicz, L., "Fully Automatic hp-Adaptive Simulations for Maxwell's Equations in Three Dimensions," AFOSR Electromagnetics Workshop, 8-10 Jan. 2004
139. Demkowicz, L., "Fully Automatic hp-Adaptive Simulations for Maxwell's Equations", Baker Hughes workshop on Computational Electromagnetics, Houston, TX, Feb. 19, 2004 (invited talk).
140. Demkowicz, L., "Fully Automatic hp-Adaptive Simulations for Maxwell's Equations in Three Dimensions", Electromagnetics Workshop, Oberwolfach, Feb. 22-28, 2004 (invited talk).
141. Demkowicz, L., "Polynomial Extensions and Projection-Based Interpolation in Three Dimensions", Finite Element Rodeo, Austin, TX, Mar 5-6, 2004.
142. Demkowicz, L., "H^1, H(curl) and H(div)-conforming Projection Based Interpolation", IMA workshop on Compatible Spatial Discretizations for Partial Differential Equations, Minneapolis, MN, May 11-15, 2004 (invited poster).
143. Demkowicz, L., "Projection Based Interpolation," Cracow University of Technology, June 2, 2004 (invited seminar).
144. Demkowicz, L., "A Dynamic Data Driven Computational Infrastructure for Reliable Computer Simulations," ICCS 2004, Cracow, June 6-9, 2004.
145. Demkowicz, L., "hp Finite Elements, Maxwell's Equations, Exact Sequences and the de Rham Diagram, Projection-Based Interpolation, Automatic hp-Adaptivity and Other Stories," University of Linz, June 15, 2004 (invited seminar).

146. Demkowicz, L., "H^1, H(curl) and H(div)-conforming Projection Based Interpolation," University of Linz, June 16, 2004 (invited seminar).
147. L. Demkowicz, "Fully Automatic hp-Adaptive Simulations for Elliptic and Maxwell Problems," Math Dept, SMU, Sep 14, 2004 (invited seminar)
148. L. Demkowicz, "Fully Automatic hp-Adaptive Simulations for Time-Harmonic Maxwell Equations. I. An overview of hp-adaptivity, II. Frontiers," Woudschoten Conference, Netherlands, Oct 6-8, 2004 (invited plenary lectures)
149. L. Demkowicz, "hp-Adaptive FE Methods for Maxwell Equations," CEM miniworkshop at NADA, Stockholm, Oct 11, 2004 (invited lecture)
150. L. Demkowicz, J. Kurtz, M. Paszynski and D. Pardo, "Fully Automatic hp-Adaptive Finite Elements for Time-Harmonic Maxwell's in Three Dimensions," AFOSR Electromagnetic Workshop, San Antonio, Jan 5-Jan 7, 2005. 5 posters: Part 1: Computation of EA and RCS for 2D problems using energy driven hp-adaptivity. Part 2: A new implementation of fully automatic of hp-adaptivity in 3D Part 3: High accuracy simulations resistivity logging instruments using a self-adaptive goal-oriented hp FEM (with Carlos Torres-Verdin) Part 4: Validation of goal-oriented hp-adaptivity. Part 5: Performance tests of parallel hp adaptive codes (invited posters)
151. L. Demkowicz, "Fully Automatic hp-Adaptive Simulations for Elliptic and Maxwell Problems," Math Dept., BYU, March 17, 2005 (invited seminar)
152. L. Demkowicz, "Fully Automatic hp-Adaptive Simulations for Elliptic and Maxwell Problems," "Workshop on Multiscale Methods," ICES, May 5-6, 2005.
153. Co-author of four papers presented at the 8th US Congress On Computational Mechanics, Austin, Jul 24-28, 2005.
154. L. Demkowicz, "Fully Automatic hp-Adaptive Simulations for Elliptic and Maxwell Problems, a Progress Report," miniworkshop on "Convergence of Adaptive Algorithms," Oberwolfach, Germany, August 20-27, 2005.
155. L. Demkowicz, "Fully Automatic hp-Adaptive Simulations for Elliptic and Maxwell Problems, a Progress Report," TU Cracow, Aug 23, 2005 (invited seminar)
156. L. Demkowicz, J. Kurtz, "A Fully Automatic hp-Strategy for 3D Elliptic and Maxwell Problems," University of Linz, Linz, Austria, Oct 18, 2005.
157. L. Demkowicz, "Fully Automatic hp-Adaptive Finite Element Method for Elliptic and Maxwell Problems" (a short course), Baker-Hughes Research Institute, Novosibirsk, Russia, Nov. 2-3, 2005.
158. L. Demkowicz, "Fully Automatic hp-Adaptive Simulations for Elliptic and Maxwell Problems," Dept. of Mech. Eng., Boeing Company, Seattle, Dec 6, 2005.
159. L. Demkowicz, "Fully Automatic hp-Adaptive Simulations for Elliptic and Maxwell Problems," Dept. of Mech. Eng., University of California at Berkeley, Dec 7, 2005.
160. L. Demkowicz, "Resolution of PML-induced Boundary Layers By Means of hp-Adaptivity," Air Force Workshop on Electromagnetics, San Antonio, Jan 12, 2006.
161. L. Demkowicz, "Fully Automatic hp-Adaptive Simulations for Elliptic and Maxwell Problems. A Progress Report," workshop on "Advances in Computational Scattering," Banff, Canada, Feb. 21, 2006.
162. L. Demkowicz, "Fully Automatic hp-Adaptive Simulations for Elliptic and Maxwell Problems," Dept. of Mathematics, North Carolina University, Apr. 11, 2006.
163. L. Demkowicz, "Fully Automatic hp-Adaptive Finite Element Methods," Center for Computational Engineering Sciences, RWTH Aachen, May 31, 2006.
164. L. Demkowicz, "Automatic hp-Adaptivity for Elliptic and Maxwell Problems," Congres National d'Analyse Numerique, Guidel, Brittany, France, May 3, 2006, (plenary lecture in honor of Michel Crouzeix).
165. L. Demkowicz, "Automatic hp-Adaptivity for Elliptic and Maxwell Problems," Mafelap, Brunel University, West London, GB, Thu, Jun 15, 2006 (a plenary lecture).
166. Coauthor of three more presentations given at Mafelap, Brunel University, West London, GB, 2006
167. L. Demkowicz, "Polynomial Exact Sequences and Projection-Based Interpolation with Application to Maxwell Equations," a series of 6 lectures given during the C.I.S.E. summer school on "Mixed Finite Elements, Compatibility Conditions, and Applications," Cetraro (Cosenza), Italy, Jun 26- Jul 1, 2006.
168. L. Demkowicz, "Discrete Compactness and hp-Convergence of Maxwell Eigenvalues," Dept. of Mathematics, University of Graz, Graz, Austria, Jul 4, 2006.
169. Co-author of four presentations given during the 7th World Congress on Computational Mechanics in Los Angeles, Jul 17-21, 2006.
170. L. Demkowicz, "Fully Automatic hp-Adaptive Simulations for Elliptic and Maxwell Problems" invited seminar at Department of Civil Engineering, University of Minnesota, Sept. 29, 2006.

171. L. Demkowicz, “hp Finite Elements for Maxwell Equations. Discrete Compactness and hp-Convergence of Maxwell Eigenvalues”, invited seminar at Math Dept., University of Maryland, Oct. 24, 2006.
172. L. Demkowicz, “hp-Adaptivity, Compressible Flow and Kutta-Joukovsky Condition”, Boeing, Seattle, WA, Oct. 9, 2006.
173. L. Demkowicz, “hp-Adaptive Finite Elements. A Quest for Exponential Convergence”, invited colloquium talk, McGill University, Montreal, Nov. 10, 2006.
174. L. Demkowicz, “hp Finite Elements for Maxwell Equations. Discrete Compactness and hp-Convergence of Maxwell Eigenvalues” invited seminar at Dept. of Mathematics, McGill University, Montreal, Nov. 11, 2006.
175. L. Demkowicz, “Automatic hp-Adaptivity for Elliptic and Maxwell Problems”, invited seminar at Dept. of ME, Berkeley, March 8, 2007.
176. L. Demkowicz, “hp Finite Element Method for Elliptic and Maxwell Problems”, a short course (10 lectures) at Dept. of ME, Berkeley, Feb.-Mar. 2007.
177. L. Demkowicz, “Automatic hp-Adaptivity for Elliptic and Maxwell Problems”, invited seminar, Stanford, Mar. 21, 2007.
178. L. Demkowicz, “hp-Adaptive Finite Elements, Moving Forward. Geometry Reconstruction and Coupled Problems”, invited keynote talk, International Workshop on High-Order Finite Element Methods, Herrsching am Ammersee, Germany, May, 2007.
179. L. Demkowicz, “hp-Adaptive Finite Elements, Moving Forward. Geometry Reconstruction and Coupled Problems”, invited seminar, Stanislaw Staszic University of Science and Technology, Cracow, Poland, July 12, 2007.
180. L. Demkowicz, “hp-Adaptive Finite Element Methods for Maxwell Equations. An Update”, invited talk, 6th International Congress on Industrial and Applied Mathematics ETH Zurich, Switzerland, Mini-symposium on “Adaptive and multilevel methods in electromagnetics, July 2007.
181. L. Demkowicz, “hp-Adaptive Finite Elements for Wave Propagation Problems”, invited keynote talk, 9th U.S. Congress for Computational Mechanics, San Francisco, CA, July 2007.
182. L. Demkowicz, “hp-Adaptive Finite Element Methods for Elliptic and Maxwell Problems”, a short course (3 lectures), 9th U.S. Congress for Computational Mechanics, San Francisco, CA, July 2007.
183. co-author of five other talks given by my collaborators and students at the 9th U.S. Congress for Computational Mechanics, San Francisco, CA, July 2007.
184. L. Demkowicz, “Application of hp-Adaptivity to Coupled Wave Propagation”, MAMOS, Austin, October 15-19, 2007.
185. L. Demkowicz, “Polynomial Extensions Operators on a Cube”, Joint McGill CSE/Applied Math Seminar, Montreal, November 9, 2007.
186. L. Demkowicz, “hp-Adaptive Finite Elements for Multiphysics Wave Propagation Problems”, CAMS Seminar, Dept. of Mathematics University of Nevada at Las Vegas, February 21, 2008.
187. L. Demkowicz, “hp-Adaptive Finite Elements for Coupled Acoustics/Elasticity Problems”, Perspectives in Numerical Analysis, Helsinki University of Technology, Helsinki, May 27-29, 2008.
188. L. Demkowicz, J. Kurtz, “Finite Element Simulations of Acoustic, Elastic, Poroelastic and Electromagnetic Waves in Axisymmetri Borehole Environments”, Baker-Hughes Institute, Novosibirsk, June 8, 2008.
189. L. Demkowicz, “hp-Adaptive Finite Elements for Coupled Acoustics/Elasticity Problems”, VSB - Techical University of Ostrava, Ostrava, June 20, 2008.
190. L. Demkowicz, “Multiscale Analysis of Vibrations of Streamers”, Summer Workshop on Multiscale Modeling and Analysis, ICES, Austin, August 4-8, 2008.
191. L. Demkowicz, ``hp-Adaptive Finite Elements for Compressible Navier-Stokes Equations. Is It Really Possible?", Boeing, Seattle, Oct 13, 2008.
192. L. Demkowicz, ``Compressible Flow, hp-Adaptivity and Kutta-Joukowsky Condition", MIT, ASE Dept., ACDL seminar, Nov 14, 2008.
193. L. Demkowicz, ``hp-Adaptive Finite Elements for Compressible Navier-Stokes Equations. Is It Really Possible?", MIT, ASE Dept., ACDL seminar, Nov 14, 2008.
194. L. Demkowicz, ``hp-Adaptive Finite Elements for Multiphysics Wave Propagation Problems", Santiago Numerico I, invited plenary lecture, Santiago, Cille, Jan 13, 2009.
195. L. Demkowicz, ``hp Convergence of Maxwell Eigenvalues", FE Rodeo, Austin, Feb 29, 2009.
196. L. Demkowicz, ``Modeling of Sonic Tools with hp-Adaptive Finite Elements", Acoustics seminar, ME Dept., UT Austin, Mar 13, 2009.
197. L. Demkowicz, ``hp-Adaptive Finite Elements for Multiphysics Wave Propagation Problems", Melosh Lecture, Duke University, Fri, Apr 24, 2009.

198. L. Demkowicz, ``hp-Adaptive Finite Elements for Multiphysics Wave Propagation Problems", Melosh Lecture, Duke University, Fri, Apr 24, 2009.
199. L. Demkowicz, ``hp-Adaptive Finite Elements for Wave Propagation Problems", Plenary lecture, Computer Methods in Mechanics IX, Zielona Gora, May 13, 2009.
200. L. Demkowicz, ``A New Discontinuous Petrov-Galerkin Method with Optimal Test Functions for Convection-Dominated Diffusion and Other Problems (A Method for All Seasons?) ‘', ICES Seminar, May 28, 2009.
201. L. Demkowicz, ``A New Discontinuous Petrov-Galerkin Method with Optimal Test Functions for Convection-Dominated Diffusion and Other Problems (A Method for All Seasons?)", Plenary (Babuska) Lecture, Mafelap, June 9-12, 2009.
202. L. Demkowicz, ``Construction of H 1 -conforming Hierarchical Shape Functions for Elements of All Shapes and Transfinite Interpolation", Mafelap, June 9-12, 2009.
203. L. Demkowicz, ``Mixed hp-Adaptive Finite Element Methods For Linear Elasticity with Weakly Imposed Symmetry", Mafelap, June 9-12, 2009.
204. L. Demkowicz, ``G1 Interpolation and Reconstruction", Mafelap, June 9-12, 2009.
205. L. Demkowicz, ``A New Discontinuous Petrov-Galerkin Method with Optimal Test Functions for Convection-Dominated Diffusion and Other Problems", Cracow University of Technology, June 25, 2009.
206. L. Demkowicz, ``Modeling of Human Head Acoustics", 10th US Congress on Computational Mechanics, Columbus, Ohio, Jul 16-19, 2009.
207. L. Demkowicz, series of four lectures on ``hp-Adaptive Finite Element Methods", given at hp Berlin Workshop, Humboldt University, Jul 28-30, 2009.
208. L. Demkowicz, ``A New Class of DPG Methods for Convection--Dominated Diffusion and Compressible Navier--Stokes Equations", Dept. of Math., SFU, Vancouver, Sep.18, 2009, invited seminar.
209. L. Demkowicz, ``A New Class of DPG Methods for Convection--Dominated Diffusion and Compressible Navier--Stokes Equations", Boeing, Seattle, Sep. 21, 2009, invited seminar.
210. L. Demkowicz, ``A New Class of DPG Methods for Convection--Dominated Diffusion and Compressible Navier--Stokes Equations", WONAPDE, Conception, Chile, Jan 11-Jan 15, 2010, invited opening plenary lecture.
211. L. Demkowicz, ``A New Class of DPG Methods with Application to Convection--Dominated Diffusion Problems", Dept. of Math., U. Florida at Gainesville, Apr 12, invited seminar.
212. L. Demkowicz, ``A New Class of DPG Methods with Application to Convection--Dominated Diffusion Problems", Dept. of Applied Math., Brown U., Apr 23, 2010, invited seminar.
213. L. Demkowicz, ``A New Class of DPG Methods with Application to Challenging Singular Perturbation Problems", Dept. of Math., LSU, May 13, 2010, invited seminar.
214. L. Demkowicz, ``A New Class of DPG Methods with Application to Convection--Dominated Diffusion Problems", Dept. of Math., Dipartimento di Matematica "F. Brioschi", Technical U Milano, Jun 28, invited seminar.
215. L. Demkowicz, ``Solution of Dual-Mixed Elasticity Equations Using Arnold--Falk--Winther Element and Discontinuous Petrov--Galerkin Method, A Comparison", Workshop on ``Non-Standard Numerical Methods for PDE's", Pavia, Italy, Jun 28-Jul 2, 2010, invited keynote lecture.
216. L. Demkowicz, ``hp-Adaptive Finite Elements for Wave Propagation Problems", Dept. of Math., Technical U of Graz, Austria, Jul 13, invited seminar.
217. L. Demkowicz, ``Analysis of the Discontinuous Petrov-Galerkin (DPG) FE Method in Multidimensions", ICES seminar, Oct 14, 2010.
218. L. Demkowicz, ``hp-Adaptive Finite Elements for Wave Propagation Problems", Technical U of Lisbon, Sep 2010.
219. L. Demkowicz, ``Analysis of the Discontinuous Petrov-Galerkin (DPG) FE Method in Multidimensions", U. of Lisbon, Sep 2010.
220. L. Demkowicz, ``DPG method for singular perturbation problems" (with J. Gopalakrishnan), invited talk, IMA workshop on ``Innovative Discretization Methods", Nov 2, 2010.
221. L. Demkowicz, ``Convergence proof for DPG method for Laplace equation" (with J. Gopalakrishnan), FE Circus, IMA, Nov 6, 2010.
222. L. Demkowicz, ``A new class of DPG FE methods with application to challenging singular perturbation problems", Los Alamos, invited seminar, Feb 2011.
223. L. Demkowicz, ``A new class of DPG FE methods with application to challenging singular perturbation problems", Dept. of Math., Cornell, invited seminar, Mar 16, 2011.

224. L. Demkowicz, ``Progress report on the DPG method for compressible NS equations" (with B. Moser), PECOS review meeting, Austin, Mar 2011.
225. L. Demkowicz, ``DPG method for wave propagation" (with O. Ghattas), Annual Air Force Report Meeting, Washington, Jun 1, 2011.
226. L. Demkowicz, ``hp-Adaptive Finite Elements for Coupled Wave Propagation Problems, 4th. International Conference on Coupled Problems in Science and Engineering (Coupled Problems 2011), invited plenary talk, Kos Island, Greece, Jun 22, 2011.
227. L. Demkowicz, ``How to construct a robust DPG method for the confusion problem" (with N. Heuer), Cracow, Poland. Workshop on Higher Order Finite Element and Isogeometric Methods (HOFEIM 2011), Jun 28, 2011,
228. L. Demkowicz, ``A new class of adaptive DPG FE methods with application to singularly perturbed problems", keynote talk, 11th US congress on Computational Mechanics, Jul 26, 2011.
229. Co-author of five presentations on DPG method given at 11th US congress on Computational Mechanics, Jul 26, 2011.
230. L. Demkowicz, ``Discrete stability and DPG method", 2nd Congress of Polish Mechanics, invited plenary talk, Poznan, Poland, Aug 28-31, 2011.
231. L. Demkowicz, ``Discrete Stability, DPG Method and Least Squares", SCOREC, RPI, Oct 2, 2011 (invited seminar).
232. L. Demkowicz, ``Discrete Stability, DPG Method and Least Squares", Math Dept., SMU, Oct 26, 2011 (invited seminar).
233. L. Demkowicz, ``Discrete Stability, DPG Method and Least Squares", Math Dept., Bilbao, Spain, Dec 13, 2011(invited seminar).
234. L. Demkowicz, ``DPG Method with Optimal Test Functions. A Progress Report", Workshop on ``High Order Numerical Approximation for PDEs", Hausdorff Center, U Bonn, Germany, Feb 9, 2012.
235. Co-author of four presentations at FE Rodeo, Rice U, Mar 2-3, 2012.
236. L. Demkowicz, ``DPG Method with Optimal Test Functions. A Progress Report", Math. Dept., Portland U, Mar 9, 2012 (invited seminar).
237. L. Demkowicz, ``DPG Method with Optimal Test Functions. A Progress Report", Boeing, Seattle, Mar 12, 2012 (invited seminar).
238. L. Demkowicz, ``Discrete Stability, DPG Method and Least Squares", 8th International Conference on Scientific Computing and Applications, Las Vegas, Apr 3, 2012 (plenary talk).
239. L. Demkowicz, ``DPG Method with Optimal Test Functions. A Progress Report", Barett Lectures, Math. Dept., U Tennessee, May 11 (invited lecture).
240. L. Demkowicz, ``Discontinuous Petrov-Galerkin Method with Optimal Test Functions", 10th International Congress on Computational Mechanics, San Paolo, Jul 10, 2012 (invited semi-plenary lecture).
241. L. Demkowicz, ``Discontinuous Petrov-Galerkin Method with Optimal Test Functions", 5th LNCC Meeting on Computational Modelling, Petropolis, Brasil, July 16-19, 2012 (an invited short course).
242. L. Demkowicz, ``SUPG and DPG", Boeing, Seattle, Aug 17, 2012 (invited seminar).
243. L. Demkowicz, ``Discrete Stability, DPG Method and Least Squares'', Florida International University, Nov 2, 2012 (invited seminar).
244. L. Demkowicz, ``DPG Method for Helmholtz Equation", Oberwolfach workshop on ``Efficient and Robust Approximation of the Helmholtz Equation", Nov 24 - Dec 1, 2012.
245. L. Demkowicz, ``DPG Method for Wave Propagation Problems", Oberwolfach workshop on ``Computational Electromagnetics and Acoustics", Jan 19 - Jan 26, 2013.
246. L. Demkowicz, ``A Tutorial on Discontinuous Petrov Galerkin Method (DPG) with Optimal Test Functions", A conference in honor of Prof. Raycho Lasarov 70th birthday, Texas A&M U, Jan 25 - Jan 26, 2013.
247. L. Demkowicz, ``Discontinuous Petrov Galerkin Method (DPG) with Optimal Test Functions", 2013 SIAM Conference on Computational Science and Engineering, Boston, Feb 25, 2013.
248. L. Demkowicz, ``Discontinuous Petrov Galerkin Method (DPG) with Optimal Test Functions. A Progress Report", Advances in Computational Mechanics, A Conference Celebrating the 70th Birthday of Thomas J.R. Hughes, San Diego, Feb 28, 2013 (keynote speaker).
249. L. Demkowicz, ``Global-Local Properties of the DPG Method", FE Rodeo, LSU, Baton Rouge, March 8-9, 2013.
250. L. Demkowicz, ``Discontinuous Petrov Galerkin Method (DPG) with Optimal Test Functions", Dept. of Math., U Houston, Mar 21, 2013 (invited seminar).
251. L. Demkowicz, ``Struggle with Discrete Stability and Convergence", Dept. of Math., Penn State, Apr 26, 2013 (invited seminar).

252. L. Demkowicz, ``Discontinuous Petrov Galerkin Method (DPG) with Optimal Test Functions", Dept. of Math., Penn State, Apr 26, 2013 (invited seminar).
253. L. Demkowicz, ``Discontinuous Petrov Galerkin Method (DPG) with Optimal Test Functions", Dept. of Math., U Rennes, Jun 11, 2013 (invited seminar).
254. L. Demkowicz, ``DPG Method for Wave Propagation Problems, A Better Understanding", Mafelap 2013, Brunel U, London, Jun 9 - Jun 14, 2013, also co-author of one more talk there.
255. L. Demkowicz, ``hp-Adaptive Finite Element Technology for Multiphysics Coupled Problems'', Fifth International Conference on Coupled Problems in Science and Engineering, Jun 16 - Jun 20, 2013 (keynote talk).
256. L. Demkowicz, ``Discontinuous Petrov Galerkin Method (DPG) with Optimal Test Functions", Cracow University of Technology, Jul 2, 2013 (invited seminar).
257. L. Demkowicz, ``DPG Method for Wave Propagation Problems, A Better Understanding", 12th US Congress on Computational Mechanics, Raleigh, Jul 21 - Thu, 25, 2013, also co-author of three more talks there.
258. L. Demkowicz, ``Progress on DPG Method for Wave Propagation Problems", Air Force Annual Report Meeting, Washington DC, Jul 2-31, 2013.
259. L. Demkowicz, ``Discontinuous Petrov Galerkin Method (DPG) with Optimal Test Function for the Stokes Problem", Jounées Singulières Augmentées en l'honneur de Martin Costabel, Aug 26-30, Rennes, 2013 (invited talk).
260. L. Demkowicz, ``Discontinuous Petrov Galerkin Method (DPG) with Optimal Test Functions.
261. A Finite Element Method for All Seasons?", Israeli Symposium on Computational Mechanics (ISCM-34), Beer Sheva, Oct 10, 2013 (invited plenary talk).
262. L. Demkowicz, ``DPG Method for Wave Propagation Problems. A Better Understanding," ICES/USACM Workshop on Least Squares and DPG Methods, Austin, Nov 6, 2013.
263. L. Demkowicz, ``DPG Method. Fundamentals," Purdue University, Apr 25, 2014 (invited seminar).
264. L. Demkowicz, ```Discontinuous Petrov Galerkin (DPG) Method with Optimal Test Functions
265. Singular Perturbation Problems and Convection-Dominated Diffusion, "Indiana-Illinois Workshop on Scientific Computing, Purdue University, Apr 26, 2014 (invited talk).
266. L. Demkowicz, ``A 3D hp Finite Element Code for Multiphysics Coupled Problems with Elements of All Shapes, Orientation Embedded Shape Functions, the Discontinuous Petrov Galerkin (DPG) Method and Other Stories," ICERM Workshop, Brown University, May 13, 2014, (invited talk).
267. L. Demkowicz, `Finite Elements for Maxwell Equations (A personal journey)", von_Mises Lecture, Humboldt University, Berlin, Jun 13, 2014 (invited public lecture).
268. L. Demkowicz, ``Discontinuous Petrov Galerkin Method (DPG) with Optimal Test Functions. A Finite Element Method for All Seasons?'', Chinese Academy of Sciences, Beijing, Jun 23, 2014 (invited seminar).
269. L. Demkowicz, ``Discontinuous Petrov Galerkin (DPG) Method with Optimal Test Functions,", Peking University, Short course (3 lectures), Beijing, Jun 26, 2014.
270. L. Demkowicz, ``Discontinuous Petrov Galerkin (DPG) Method with Optimal Test Functions,'', Xiangtan University, Short course (3 lectures), Xiangtan, Jun 30 – Jul 3, 2014.
271. L. Demkowicz, ``Discontinuous Petrov Galerkin (DPG) Method with Optimal Test Functions. Fundamentals," (2 lectures), Workshop on ``Building bridges: Connections and challenges in modern approaches to numerical partial differential equations", Durham, Jul 8-14, 2014 (invited talks).
272. L. Demkowicz, ``Discontinuous Petrov-Galerkin Method with Optimal Test Functions. Progress Report," HOFEIM, Munich, Jul 16, 2014 (invited talk).
273. L. Demkowicz, ``Discontinuous Petrov-Galerkin Method with Optimal Test Functions. Progress Report," International Congress on Computational Mechanics, Jul 23, 2014 (semi-plenary lecture).
274. L. Demkowicz, ``DPG Method for Wave Propagation with Applications to Inverse Problems,", Air Force Program on Computational Mathematics Annual Report Meeting, Jul 30, 2014.
275. L. Demkowicz, ``Discontinuous Petrov-Galerkin (DPG) Method with Optimal Test Functions with Applications to Compressible Flow", FOR 1779 Symposium on Active Drag Reduction via Wavy Surface Oscillations, Aachen, Germany, 20-21 November 2014, (invited talk).
276. L. Demkowicz, ``Lp Version of the DPG Method", FE Rodeo, SMU, Feb 27, 2015.
277. L. Demkowicz, ``Another hp3D, Orientation Embedded Shape Functions for Elements of All Shapes, and How to Code the Primal DPG Method", Pratt School of Engineering, Civil & Environmental Engineering Seminar, Duke University, April 10, 2015 (invited seminar).

278. L. Demkowicz, ``Discontinuous Petrov-Galerkin (DPG) Method with Optimal Test Functions", Polish Academy of Sciences, Meeting of Section on Computational Methods and Optimization, Cracow, May 29, 2015 (invited two lectures).
279. L. Demkowicz, ``Recent Developments for the Discontinuous Petrov-Galerkin (DPG) Method with Optimal Test Functions", Pan American Congress on Computational Mechanics - PANACM 2015, Buenos Aires, April 26-29, 2015 (invited semi-plenary lecture).
280. L. Demkowicz, ``Discontinuous Petrov-Galerkin (DPG) Method with Optimal Test Functions, Tutorial and Perspectives'', Advanced Numerical Methods in the Mathematical Sciences, Institute for Scientific Computation, Texas A\&M University, College Station, May 4-8, 2015 (invited two lectures).
281. L. Demkowicz, ``Discontinuous Petrov Galerkin (DPG) Method with Optimal Test Functions with Application to Coupled Wave Propagation Problems'', VI International Conference on Coupled Problems in Science and Engineering, Venice, May 8-20, 2015 (invited talk).
282. L. Demkowicz, ``DPG Method for Wave Propagation Problem. An Overview", The 12th International Conference on Mathematical and Numerical Aspects of Wave Propagation Karlsruhe Institute of Technology, July 20-24, 2015, (invited opening plenary talk).
283. L. Demkowicz, ``Discontinuous Petrov Galerkin (DPG) Method with Optimal Test Functions. A New Perspective", 13th U.S. National Congress on Computational Mechanics, Jul 27-30, 2015.
284. L. Demkowicz, ``Discontinuous Petrov Galerkin (DPG) Method with Optimal Test Functions for Wave Propagation Problems', AFOSR Computational Math Program Annual Meeting, Aug 2-5, 2015.
285. L. Demkowicz, "Discontinuous Petrov Galerkin Method with Optimal Test Functions. Five punchlines and a Question'', Numerical and Multiscale Issues for Partial and Integral Differential Equations, Dept. of Mathematics and ICES, The University of Texas at Austin, October 14-17, 2015.
286. L. Demkowicz, "DPG Method for Maxwell Equations", "Advances in Scientific Computing and Applied Mathematics" (ASCAM 15), October 9-12, 2015, Las Vegas, Nevada. (invited talk).
287. L. Demkowicz, ``A DPG Version of the Double Adaptivity Strategy of Wolfgang and Related Stories'', 2nd Workshop on Minimum Residual and Least Squares Methods, Technical University of Delft, Nov 1-4, 2015.
288. L. Demkowicz, ``Discontinuous Petrov Galerkin Methods for Wave Propagation Problems'', Miniworkshop on Computational Mathematics and Mechanics TU Aachen, Nov 5, 2015 (invited talk).
289. L. Demkowicz, ``DPG Version of the Double Adaptivity Strategy of Dahmen et al.'', FE Rodeo, Texas A& M University, Mar 4-5, 2016.
290. L. Demkowicz, ``DPG Version of the Double Adaptivity Strategy. Is Discrete Stability Necessary?'', Advances in Mathematics of Finite Elements, Austin, Mar 22, 2015 (poster presentation).
291. L. Demkowicz, ``hp-Adaptive Finite Elements for Coupled Wave Propagation Problems'', Israel Navy Underwater Acoustics Meeting, Tel Aviv, May 25, 2016 (invited plenary talk).
292. L. Demkowicz, ``DPG Version of the Double Adaptivity Strategy. Is Discrete Stability Necessary?'', HOFEIM 2016, Jerusalem, May 30-Jun2, 2016 (invited talk).
293. L. Demkowicz, ``DPG Version of the Double Adaptivity Strategy. Is Discrete Stability Necessary?'', Mafelap 2016, Brunel University, London, Jun 13-16, 2016.
294. L. Demkowicz, ``DPG Version of the Double Adaptivity Strategy'', 9th World Congress on Computational Mechanics, Seul, Jul 24-29, 2016.
295. L. Demkowicz, ``DPG Method for Wave Propagation Problems'', AFOSR Program in Computational Mathematics, Annual Report Meeting, Washington, Aug 8-12, 2016.
296. L. Demkowicz, ``DPG Version of the Double Adaptivity Strategy." Int'l Conf. Numerical Analysis and Inverse Problems in honor of 60th birthday of Peter Monk. Michigan Technological University, Houghton, Aug 15-19, 2016 (invited talk).
297. L. Demkowicz, ``DPG Method for Wave Propagation Problems'', ETH Summer School on Numerical Wave Propagation, Zurich, Aug 22-26, 2016 (a series of six lectures).
298. L. Demkowicz, ``Space-Time DPG Method for Transient Navier-Stokes Equations'', Workshop on ``Space-Time Methods for PDEs" at the Radon Institute for Computational and Applied Mathematics (RICAM), Linz, Nov 7-11, 2016 (invited talk).
299. L. Demkowicz, ``DPG Method, an Overview'', Kirtland Air Force Base, Albuquerque, Apr 24, 2017 (invited seminar).
300. L. Demkowicz, ``DPG Method, a New FE Paradigm for Difficult Problems'', Polish Academy of Sciences, Cracow, May 26, 2017 (invited seminar).
301. L. Demkowicz, ``A DPG Approach to the Full Vectorial Transverse Mode Instability Model of Optical Laser Amplifiers'', SNCCM 14, Montreal, Jul. 20, 2017 U(invited talk).

302. L.Demkowicz, ``The DPGstar Method'', DPG/Least Squares Workshop, Portland, Oct 2017.
303. L. Demkowicz, ``Polish Applied Mathematicians in United States'', Congress of Polish Academy of Arts and Sciences (plenary talk), Krakow, Oct 2017.
304. L.Demkowicz, ``The Discontinuous Petrov Galerkin Method with Optimal Test Functions'', Spring School, Dept. of Math., University of South Carolina, Feb 2018, (invited talk).
305. L.Demkowicz,``COMPUTATIONAL ENGINEERING AND SCIENCE (Answering challenges of 21st Century with Simulations), Catholic University of Chile, Santafo, Apr 2018 (inauguration talk opening a new Institute on Computational Mathematics).
306. L.Demkowicz, ``Why should you be interested in the DPG Method ?'', Engineering Sciences Center, Sandia National Laboratories, Albuquerque, May 16, 2018 (invited seminar).
307. L. Demkowicz, ``Trace Theorems for the Exact Sequence Spaces and Polyhedral Domains'', Workshop on ``FEEC and High Order Methods", Dept. of Math., University of Oslo, Jun 2018 (ivited speaker).
308. L.Demkowicz, ``Current Research Results on the DPG Method for Wave Propagation Problems'', Workshop on Numerical analysis of complex PDE models in Science, Vienna, Jun 2018 (invited speaker).
309. L. Demkowicz, ``The Discontinuous Petrov Galerkin Method with Optimal Test Functions'', Emerging Trends in Applied Mathematics and Mechanics 2018, Jagiellonian University in Cracow, Krakow, Jun 2018 (plenary talk).
310. L.Demkowicz, ``Multigrid Solver for High Frequency Wave Propagation Problems'', Emerging Trends in Applied Mathematics and Mechanics 2018, Jagiellonian University in Cracow, Krakow, Jun 2018 (invited talk).
311. L. Demkowicz, ``A DPG Approach to Simulation of Raman Gain in Optical Amplifiers'', WCCM Congress, Jul 2018 (invited talk).
312. L.Demkowicz,``Multigrid Solver for High Frequency Wave Propagation Problems'', AFOSR Comp. Math. annual report meeting , Washington, Aug 2018.
313. L. Demkowicz, ``Trace Theorems for Exact Energy Spaces'', Oberwolfach, Nov 2018.
314. L. Demkowicz, S. Petrides, ``Adaptive Multilevel Solvers for the Discontinuous Petrov-Galerkin Method with an Emphasis on High-frequency Wave Propagation Problems'', FE Rodeo, Austin. Mar 2019.
315. L. Demkowicz,``The Double Adaptivity Paradigm'', HOFEIM, Pavia, May 30, 2019 (invited talk).
316. L. Demkowicz,``The Double Adaptivity Paradigm'', Department of Computer Science, AGH University of Science and Technology, Cracow, June 6, 2019 (invited seminar).
317. L. Demkowicz, ``From Banach to Babuska and Brezzi'', Miskolc Technical University, Jun 2019 (invited seminars).
318. L. Demkowicz, ``The Discontinuous Petrov-Galerkin (DPG) Method with Optimal Test Functions with Applications to Linear Elasticity and Thermoviscoelasticity'', Miskolc Techical University, Jun 2019 (invited seminar).
319. L. Demkowicz, ``Adaptive Multilevel Solvers for the Discontinuous Petrov-Galerkin Method with an Emphasis on High-frequency Wave Propagation Problems'', MAFELAP, Brunel University, Jun 2019 (invited talk).
320. L. Demkowicz,``The Double Adaptivity Paradigm'', IPPT, Polish Academy of Sciences, Warsaw, June 28, 2019 (invited seminar).
321. L. Demkowicz,``The Double Adaptivity Paradigm'', 15th US Congress on Computational Mechanics, Jul 2019 (invited talk).
322. L. Demkowicz, J. Gopalakrishnan, ``DPG Solvers for Maxwell Equations and Other Wave Propagation Problems'', AFOSR Comp. Math. annual report meeting , Washington, Aug 2019.
323. L. Demkowicz, ``Progress report on the DPG method'', 4th Polish Congress of Mechanics and 23rd International Conference on Computer Methods in Mechanics, Cracow, Sep. 8-12, 2019 (plenary talk)
324. L. Demkowicz, ``The Double Adaptivity Paradigm'', 4th Workshop on Minimum Residual and Least Squares Methods, Humbold University, Berlin, Sep. 16-18, 2019.
325. L. Demkowicz, ``The Double Adaptivity Paradigm'', Conference on Computational Mathematics and Applications, University of Nevada, Las Vegas, Oct. 25-27, 2019 (plenary talk).
326. L. Demkowicz, ``Equivalence of different fractional norms'', FE Rodeo, Baylor University, Waco, Feb. 28-29, 2020.
327. L.Demkowicz, P. Zanetti, `` Construction of DPG Fortin Operators Revisited'', FE Circus, Nov. 6-7, 2020 (remote).
328. L.Demkowicz, P. Zanetti, `` Construction of DPG Fortin Operators Revisited'', WCCM-ECCOMAS 2020 , Jan 9-16, 2021 (remote).
329. L. Demkowicz, N. Roberts, ``The DPG Method for Convection-Reaction Problems", SIAM CSE conference, Mar 1-5, 2021 (remote).

330. J. Salazar, L. Demkowicz,`` Double Adaptivity Approach. Conforming or Weakly Conforming Test Functions", SIAM CSE conference, Mar 1-5, 2021 (remote).
331. S. Henneking, J. Grosek, L. Demkowicz, `` Parallel Simulations of High Power Optical Fiber Amplifiers", SIAM CSE conference, Mar 1-5, 2021 (remote).
332. J. Munoz-Manute, D. Pardo, L. Demkowicz, `` A DPG-Based Time Marching Scheme for Linear Hyperbolic Problems", SIAM CSE conference, Mar 1-5, 2021 (remote).
333. S. Petrides, L. Demkowicz, `` A Multigrid Preconditioner for DPG Methods", SIAM CSE conference, Mar 1-5, 2021 (remote).
334. J. Li, L. Demkowicz, `` Banach Version of the DPG Method", SIAM CSE conference, Mar 1-5, 2021 (remote).
335. J. Mora-Paz, L. Demkowicz, `` Simulation of Hyperelastic Materials using DPG'', SIAM CSE conference, Mar 1-5, 2021 (remote).
336. L.Demkowicz, `` The DPG Method for Convection-Reaction Problems", Polish Academy of Sciences, April 16, 2021 (remote), invited seminar.
337. L. Demkowicz, `` The DPG Method for Convection-Reaction Problems", The Seminario Matematica Fisico di Milano, May 10, 2021 (remote), invited seminar.
338. L. Demkowicz, ``The DPG Method for Convection-Reaction Problems", The International Conference on Computational Science, Jun 16-18, 2021 (remote), keynote talk.
339. L.Demkowicz, S. Henneking, `` Parhp3D - The Parallel MPI/openMPI implementation of the 3D hp-adaptive FE Code'', 14th International Conference on Metal Structures, ICMS 2021, Jun 16-18 (remote), plenary talk.
340. L. Demkowicz, `` The DPG Method for Convection-Reaction Problems", USACM Congress, Jul 26-29, 2021 (remote), also co-author of 4 other talks.
341. L.Demkowicz, J. Gopalakrishnan et al, ``Simulation of High Power Optical Fiber Amplifiers, AFOSR Computational Math Annual Program Review, Arlington, Aug 9-13, 2021 (in person).
342. L. Demkowicz, ``Trouble with Traces in the Convection-Reaction Problem'', Workshop in honor of 95th Birthday of Prof. Ivo Babuska, Albuquerque, Oct 11, 2021.
343. L. Demkowicz, J. Munoz-Matute, ``Hands on Comparision Between Time-Stepping and Space-time Discretizations of Convection-Reaction with DPG'', Oberwolfach workshop on *Space-Time Methods for Time-Dependent Partial Differential Equations*, Feb 10, 2022.
344. L. Demkowicz, J. Badger, ``Separation of Variables, Spectral Theorem, Residue Theorem and Leaky Modes'', FE Rodeo, South Methodist University, March 5, 2022
345. L. Demkowicz, J. Badger, ``Leaky Modes and the Residue Theorem '', Mini-Workshop on Fiber Modeling Efforts, AFRL, Kirtland AF Base, Mar 21, 2022
346. L. Demkowicz, `` Non-Polynomial Trial Shape Functions in the DPG Method'', invited talk, ECCOMAS 2022, Oslo, Jun 5, 2022.
347. L. Demkowicz, `` Discrete Stability - The Perpetual Challenge in Numerical Approximation of Partial Differential Equations'', a public lecture at Poznan University of Technology, Jun 13, 2022.
348. L. Demkowicz, `` *Parhp3D* - a Parallel MPI/openMPI Implementation of the 3D *hp*-Adaptive FE Code'', Oberwolfach workshop on *Hilbert Complexes: Analysis, Applications, and Discretizations*, Oberwolfach, Jun 23, 2022.
349. L. Demkowicz, `` Simulation of Optical Amplifiers Based on Full Envelope Approximation'', invited seminar, AGH Academy of Science and Technology, Jun 28, 2022.
350. L. Demkowicz, ``Separation of Variables, Spectral Theorem, Residue Theorem and Leaky Modes'', invited seminar, Cracow University of Technology, Jun 30, 2022.
351. L. Demkowicz, `` *Parhp3D* - a Parallel MPI/openMPI Implementation of the 3D *hp*-Adaptive FE Code'', Workshop on *hp* Methods, University of Salzburg, Jul 13, 2022.
352. S. Henneking, L. Demkowicz, `` A Scalable Open-Source hp-Adaptive FE Software for Complex Multiphysics Applications, a blitz talk and poster, NSF CSSI PI Meeting , Jul 25, 2022
353. L.Demkowicz, J. Gopalakrishnan et al, ``Simulation of High Power Optical Fiber Amplifiers, AFOSR Computational Math Annual Program Review, Arlington, Aug 17, 2022.
354. L. Demkowicz, ``DPG Progress at Oden'', Workshop on Minimum Residual & Least-Squares Finite Element Methods, Santiago, Chile, October 5-7, 2022.
355. L. Demkowicz, ``Stability Analysis for Electromagnetic Waveguides'', Oden seminar, Jan 24, 2023.
356. L. Demkowicz, ``Stability Analysis for Electromagnetic Waveguides'', Dept. of Math., Portland State University, Colloquia Salientia, Feb 20, 2023.
357. L. Demkowicz, ``Stability Analysis for Electromagnetic Waveguides'', Oberwolfach Workshop Optimization Problems for PDEs in Weak Space-Time Form, March 5-10, 2023.

358. L. Demkowicz, ``Stability Analysis for Electromagnetic Waveguides'', FE Rodeo, Texas A&M University, Mar 24-25, 2023.
359. L. Demkowicz, `` Full Envelope DPG Approximation for Electromagnetic Waveguides.Stability and Convergence Analysis'', AFOSR Laser System Modeling & Simulation Workshop, Albuquerque, Mar 14-16, 2023.
360. L. Demkowicz, `` Full Envelope DPG Approximation for Electromagnetic Waveguides.Stability and Convergence Analysis'', Livermore Labs, Apr 25, 2023.
361. L. Demkowicz, `` Full Envelope DPG Approximation for Electromagnetic Waveguides.Stability and Convergence Analysis'', invited seminar at Cracow University of Technology, May 18, 2023.
362. L. Demkowicz, `` Full Envelope DPG Approximation for Electromagnetic Waveguides. Stability and Convergence Analysis'', HOFEIM 2023, May 29-Jun 1, 2023.
363. L. Demkowicz, `` Full Envelope DPG Approximation for Electromagnetic Waveguides. Stability and Convergence Analysis'', invited seminar at AGH University of Science and Technology, Jun 7, 2023.
364. L.Demkowicz,`` Full Envelope DPG Approximation for Electromagnetic Waveguides. Stability and Convergence Analysis'', 17th U.S. National Congress on Computational Mechanics, Albuquerque, Jul 26, 2023.
365. L. Demkowicz, ``Stability Analysis for Electromagnetic Waveguides'', PUCV · Institute of Mathematics, Pontificia Universidad Católica de Valparaíso, Jan 11, 2024.
366. L. Demkowicz, ``Full Envelope DPG Approximation for Electromagnetic Waveguides. Stability and Convergence Analysis, WONAPDE 2024, Conception, Chile, Jan 18, 2024.
367. L. Demkowicz, ``Double Adaptivity Method'', Workshop at Sumwalt College of USC, Columbia, SC, Feb. 16, 2024.
368. L. Demkowicz, ``Stability Analysis for Acoustic Waveguides with Impedance BC'', FE Rodeo, Rice U, Houston, Mar 9, 2024.
369. L. Demkowicz, ``Separation of Variables with Non-Self Adjoint Operators with Applications to Analysis of Waveguides'', Babuska Forum, Oden Institute, Mar 22, 2024.
370. L. Demkowicz, `` Stability Analysis for Acoustic Waveguides with Impedance BC'', Optical Fibers Workshop, Kirtland AF base, Albuquerque, May 6, 2024.
371. L. Demkowicz, ``Separation of Variables with Non-Self Adjoint Operators with Applications to Analysis of Waveguides'', Applied Math, Brown U, May 10, 2024.
372. L. Demkowicz, ``Separation of Variables with Non-Self Adjoint Operators with Applications to Analysis of Waveguides'', Cracow U. Tech., Jun 21, 2024.
373. L. Demkowicz, ``DPG Research at Oden Institute'', Workshop on Minimum Residual and Least Squares Methods, Bilbao, Spain, Jun 26, 2024.
374. L. Demkowicz, ``A Nonlinear Mixed Problem Framework for DPG Methods'', Hamburg U. Tech., Jul 12, 2024.
375. L. Demkowicz, `` A Nonlinear Optimal Control Framework for the DPG Method'', WCCM 24, Vancouver, Canada, Jul 22, 2024.
376. L. Demkowicz, `` Stability Analysis for Acoustic Waveguides with Impedance BC'', WCCM 24, Vancouver, Canada, Jul 24, 2024.
377. L. Demkowicz, ``Research on Optical Fibers at Oden Institute'', AFOSR Annual Report Meeting, Washington, D.C., Aug 14. 2024.

SHORT COURSES:

1. Short Course on *hp* Adaptive FE Methods - Theory and Applications in Mechanics (with W. Rachowicz, one day course), Technical University of Poznan, Sep 92.
2. "hp-Adaptive Finite Element Methods for Elliptic and Maxwell Problems," (two-day course). US Congress on Computational Mechanics, Austin, Jul 05.
3. "hp-Adaptive Finite Element Methods for Elliptic and Maxwell Problems," (one day course), US Congress on Computational Mechanics, San Francisco, Jul 07.
4. "hp-Adaptive Finite Element Methods for Wave Propagation Problems," (with J. Kurtz, 5-day course), Helsinki University of Technology, Helsinki, Jun 08.
5. ``Short Course on *hp* Finite Elements", (with W. Rachowicz, 3-day course) Zielona Gora, Poland, Jun 09, before CMM IX.

6. ``Short Course on *hp* FE Methods", (with W. Rachowicz, M. Paszynski and W. Cecot, a week long course), Cracow, Comp. Science Dept., AGH Academy of Science and Technology, Jun 10.
7. A series of 10 lectures on DPG method, Dept. of Math., Technical U of Graz, Austria, Jul 10.
8. A series of four lectures on DPG method, KAUST, Oct 10.
9. "Short Course on 3D *hp*-Adaptive Finite Elements and Discontinuous Petrov-Galerkin Method", (with P. Gatto and K. Kim, 5 days course), Cracow University of Technology, Cracow, Poland, Jun 11.
10. `Short Course on a New Class of Adaptive DPG FE Methods with Application to Singularly Perturbed Problems" (one day course), 11th US congress on Computational Mechanics, Jul 11.
11. ``Short course on DPG Method", 5th LNCC Meeting on Computational Modelling, Petropolis, Brasil, July 16-19, 2012.
12. ``Short Course on hp-Adaptive Finite Element Technology for Multiphysics Coupled Problems and Discontinuous Petrov Galerkin Method", AGH Academy of Science and Engineering, Cracow, Jul 1-5, 2013.
13. ``Short Course on Discontinuous Petrov Galerkin Method with Optimal Test Functions", Peking University, Beijing, Jun 26, 2014.
14. ``Short Course on Discontinuous Petrov Galerkin Method with Optimal Test Functions", Xiangtan University, Xaingtan, Juln30-Jul3, 2014.
15. ``Short Course on Discrete Stability and Mathematical Foundation of FE Method", Cracow University of Technology, May 2015.
16. Short course on ``Discontinuous Petrov-Galerkin (DPG) Method with Optimal Test Functions. A Tutorial and Perspectives'', Technical University of Delft, Nov.1, 2015.
17. Short course on ``Finite Element Methods for Fluid-Structure and Other Wave Propagation Problems (Including Underwater Acoustics), Israel Navy Underwater Acoustics Meeting, Tel Aviv, May 26, 2016.
18. Short course on ``Discrete Stability and Mathematical Foundation of FE Method", Cracow University of Technology, Jun 6-10, 2016.
19. Short course on ``Discrete Stability and Mathematical Foundation of FE Method", Cracow University of Technology, May 22-26, 2017 (lecturer, 7 participants).
20. Oberwolfach seminar on ``DPG Method", Jun 5-9, 2017 (co-organizer and lecturer, 23 participants).
21. Short course on ``DPG Method'', 14t U.S. National Congress on Computational Mechanics, Montreal, Jul 16 (6 participants).
22. Short course on ``Discrete Stability and Mathematical Foundation of FE Method", Cracow University of Technology, Jun 25-29,2018.
23. ECCOMAS short course on ``Mathematical Foundations of the FE Method'', PACM, Warsaw, Jun 24-28, 2019.
24. Short course on the DPG Method. Aachen University, Jul 16, 2020.
25. Short course on ``Implementation of the DPG Method in a FE Code Supporting *H1*,*H(curl)*,*H(div)*, and *L2*-Conforming Finite Elements'' (with S. Henneking), Poznan University of Technology, Jun 14-15, 2022 (6 lectures, 15 participants)

RESEARCH TOPICS:

Adaptive Finite Element Methods
Computational Fluid Dynamics (Compressible and Incompressible Flows)
hp-Adaptive Finite Element Methods
Computational Acoustics and Electromagnetics
Vibrations in Elasticity and Viscoelasticity

GRANTS AND CONTRACTS:
1. "Applications of Adaptive Methods to Solid–Fluid Interaction Problems," Komitet Badan Naukowych, Project PB 1548/3/91, total 1,500,000,000 zl (a large, interdisciplinary project involving 6 Ph.D.'s), 1990-1993.
2. "High-Order, Adaptive Computational Methods for Structural Acoustics," with J. T. Oden, Office of Naval Research, $848,784, 1995-1998.
3. "Entropy Controlled Adaptive Finite Element Simulations for Compressible Gas Flow," National Science Foundation, $75,000, 1995-1998.
4. "Modeling and Design for Reduced Cross Talk in Mixed Signal Analog/Digital IC Packages for Wireless Applications," ARPA, PI: Dean P. Neikirk, support for a CAM student.
5. Symposium on "Advances in Computational Mechanics," ONR, $5,000, 1996.

6. Symposium on “Advances in Computational Mechanics,” O’Donnell Foundation, $1,000, 1996.
7. Symposium on “Advances in Computational Mechanics,” DOD-ARMY, $4,950, 1997.
8. “hp-Adaptive Finite/Infinite Element Methods in Computational Electromagnetics,” Motorola, $20,000, July 1997.
9. “Development of Large-scale Simulation of Electromagnetic and Acoustic Fields,” a project within the NPACI program (PI: J.T. Oden), NSF, around $99,328, 10/1/97 – 9/30/98; $109,049, 10/9/98 – 9/30/99, $120,000, 10/1/99 – 9/30/00.
10. “An hp Adaptive Finite Element Simulator for Maxwell's Equations with Application to 3-D Scattering and Resonating Cavities Problems,” Air Force, $99,614, 2/1/98 – 9/30/98; $102,173, 10/1/98 – 9/30/99, $102,173, 10/1/99 – 9/30/00.
11. UT Special Research Grant, “Simulation of Dynamic Contact/Impact Problems,” $500, 8/99.
12. “Development of Large-Scale Simulation of Electromagnetic and Acoustic Fields,” a project within the NPACI program (PI: J.T. Oden), NSF, continued with funding from the last year.
13. “Fully Automatic hp-Adaptive Simulations for Maxwell's Equations,” Air Force 2000, Sept. 2000, $75,000; 10/1/01 – 9/30/02 installment $75,000; 10/1/02 – 9/30/03 installment $75,000; 10/1/03 – 9/30/04 installment $75,000; 10/1/04 - 9/30/05 installment: $75,000; 10/1/05 – 9/30/06 installment $67,774.
14. “Parallel Finite Element Simulator for Planetary Gear Trains,” UT Research Grant, $6,000, Nov. 2000.
15. “Electromagnetic Device Modeling,” Schlumberger, $15,000, June 2001 - 2002.
16. “Development of Fully Automatic, Goal Oriented, hp-Adaptive Strategies for the Simulation of Logging Devices,” research grant from Baker-Hughes (Joint with C. Torres-Verdin), 5/1/04 – 4/30/05, $30,000; 5/1/05 – 4/30/06, $30,000.
17. Adaptive Multi-Scale Modeling Based on Goal Oriented Error Estimation and Control, joint with J. Tinsley Oden: PI, $1,162,243, (Demkowicz’ Portion $50,000 annually), 08/15/05-7/31/08
18. Eight US Congress on Computational Mechanics,” NSF conference support grant, $30,000.
19. A (confidential) project with PGS Marine Technology, 4/1/05 - 7/31/05 research grant (joint with S. Prudhomme), my share: $11,000.
20. “Collaborative Research: DDDAS-TMRP: Dynamic Data-Driven System for Laser Treatment of Cancer,” (PI: J. T. Oden; Co-PI: C. Bajaj, K. Diller), 09/01/05-09/30/08, my portion $31,984, for this year: $10,661
21. “Adaptive Multi-Scale Modeling Based on Goal Oriented Error Estimation and Control,” (PI: J. T. Oden, Co-PI's: L. Demkowicz, J. Bass), Department of Energy, $1,162,243, 08/15/05-08/14/08, my portion: $134,438.
22. “Investigation of Discretization and Adaptivity Issues Facing Next Generation Compressible CFD Procedures,” (Joint project with T. Hughes), sponsored by Boeing, my share: $10,000.
23. A (confidential) project with PGS Marine Technology, (with S. Prudhomme), my share: $60,000.
24. “Bone Conducted Vibrations and Sound Propagation in the Human Head,”, AFOSR (university partner for an SBIR project), my share: $30,000.
25. Research gift, Baker Hughes, 2007, $15,000.
26. “Bone Conducted Vibrations and Sound Propagation in the Human Head”, AFOSR, 10/1/07-9/30/09, $250,000.
27. “Modeling of Railgun”, IAT, Sep 07-May 08. $20,000.
28. DOE, Predictive Engineering Science (PECOS) (PI: Bob Moser), 9/1/08-5/30,13, my share: 1 month salary + partial support for three students, circa $50,000 annually.
29. Research gift, Baker-Hughes, 2008, $15,000.
30. KAUST (PI: Omar Ghattas), 2007/2008, my share: $25,000.
31. “Scalable Algorithms for Large-scale Uncertainty Quantification in Inverse Wave Propagation", co-Pi, AFOSR, 9/1/2012--8/31/2015, my portion: $337,050.
32. “Research on Robust Discretization Methods for Compressible Flow", contract with Boeing, 1/1/2012-12/30/2012, $30,000.
33. “Discontinuous Petrov Galerkin (DPG) Method with Optimal Test Functions. Space-Time Formulations and Elements of Irregular Shapes", NSF, 7/1/2014 – 8/31/2017, $235,000.
34. “HP3D Code Element Library for Sandia National Labs”, Sandia, 9/4/2015-3/3/2017, $25,000
35. “Insulation Integrity for Power Dense, Medium Voltage, Electric Machinery”, PI: Aleta Wilder, ONR, 6/1/2015 – 8/31/2018, my portion: $102,000.
36. “Nonlocal and fractional order methods for large-eddy simulation, and fluid structure interaction”, PI: John Foster, Army, 8/1/2015 – 7/31/2018, my portion: $60,000.
37. AFRL Grant No. FA9550-17-1-0090, ``Discontinuous Petrov Galerkin (DPG) Solvers for Maxwell Equations and Related Wave Propagation Problems, coPI, 12/15,2016-12/14/2019, my share: $324,780.

38. AFRL Grant No. g, “Analysis of the Discontinuous Petrov Galerkin Method as a Transverse Mode Solver For Optical Fibers in Conjunction with Generalized Polynomial Chaos’’, 2018-2019, coPI, my share - $98,000.
39. NSF Grant Np. 1819101, ``Discontinuous Petrov Galerkin (DPG) Method with Optimal Test Functions. Compressible Flows and Ductile to Brittle Phase Transitions’’, 9/1/2018-8/31/2021, $358,552.
40. DOD-Air Force Research Lab , ``Simulation of High Power Optical Amplifiers’’, 9/1/2019-31/8/2022, $750,000, my share: $375,000.
41. Sandia National Labs, Laboratory Directed Research and Development (LDRD) Proposal: ``An Anisotropic Adaptive Voronoi Meshing Method’’, 04/01/2019 - 9/30/2019, $30,000.
42. Sandia National Labs, ``A Scalable MPI/OpenMP hp-Adaptive Finite Element Software Library for Complex DoD Multiphysics Applications’’, 04/01/2019 - 9/30/2019, $50,000.
43. Sandia National Labs, ``Discontinuous Petrov-Galerkin Methods Applied to the Boltzmann Equation, May 1 – Aug 31, 2021, $50,000.
44. NSF Grant 2103524, CSSI: Elements:Software A Scalable Open-Source hp-Adaptive FE Software for Complex Multiphysics Applications, 09/01/2021 - 08/31/2024, $589,762.
45. Sandia National Labs, ``Discontinuous Petrov-Galerkin Methods Applied to the Boltzmann Equation, Sep 1, 2021– Aug 31, 2022, $ 44,691.
46. AFOSR, `` "Versatile Mathematical Tools for Directed Energy Simulations, May 1, 2023 – Aprl 30, 2026, with $739,701, my share: 364,500.
47. NSF, “FRG: Systems Collaborative Research: Variationally Stable Neural Networks for Simulation, Learning, and Experimental Design of Complex Physical”, Sep 1, 2023 – Aug 31, 2026, my share: 300,000.

Ph.D. SUPERVISIONS COMPLETED:

1. Banas, K., Sep 1994, “Entropy Controlled Finite Element Simulations of Inviscid, Compressible Gas Flow,” Institute of Fundamental Technological Research, Polish Academy of Sciences.
2. Chang, Yao-Chang, Spring 1996, “Scattering of Acoustic Waves on Viscoelastic Structures Modeled by Means of hp-Adaptive BE/FE Methods,” UT Austin.
3. Gerdes, Klaus, Spring 1996, “Solution of the 3D Laplace and Helmholtz Equation in Exterior Domains of Arbitrary Shape Using hp Infinite/Finite Elements,” UT Austin.
4. Vardapetyan, Leon, Fall 1999, (co-Supervised) “hp-Adaptive Finite Element Method for Electromagnetics with Applications to Waveguiding Structures,” UT Austin.
5. Walsh, Timothy, Fall 2000, “hp Boundary Element Modeling of Human Auditory System,” UT Austin.
6. Bajer, Andrzej, Spring 2001, “Parallel Finite Element Simulator of Planetary Gear Trains,” UT Austin.
7. Pardo, David, Spring 2004, “Integration of hp-Adaptivity with a Two-Grid Solver. Applications to Electromagnetics,” UT Austin.
8. Xue, Dong, Spring 2005, “Control of Geometry Error in hp Finite Element (FE) Simulations of Electromagnetic (EM) Waves,” UT Austin.
9. Kurtz, Jason (CAM), Spring 2007, “Fully Automatic hp-Adaptivity for Acoustic and Electromagnetic Scattering in Three Space Dimensions,” UT Austin.
10. Jhurani, Chetan Kumar (CAM), 2009, ``Multiscale Modeling Using Goal-oriented Adaptivity and Numerical Homogenization", UT Austin.
11. Qiu, Weihan (CSEM, co-supervised) , Spring 2011,``Mixed hp-Adaptive Finite Element Methods for Elasticity and Coupled Problems", UT Austin.
12. Paolo Gatto, (CSEM), Fall 2012, “Modeling Bone Conduction of Sound in the Human Head Using hp Finite Elements", UT Austin.
13. Jamie Bramwell, (CSEM, co-supervised), Spring 2013, “A Discontinuous Petrov-Galerkin Method for Seismic Tomography Problems", UT Austin.
14. Jesse Chan, (CSEM, co-supervised), Summer 2013, “A DPG Method for Convection-Diffusion Problems", UT Austin.
15. Kyungjoo Kim, (EM, co-supervised), Summer 2013, “Finite Element Modeling of Electromagnetic Radiation and Induced Heat Transfer in the Human Body", UT Austin.
16. Nathan Roberts, (CSEM, co-supervised), Summer 2013, “A Discontinuous Petrov-Galerkin Methodology for Incompressible Flow Problems", UT Austin.
17. Truman Ellis, (CSEM, co-supervised), Spring 2016, ``A Space-Time DPG Method for Fluid Dynamics’’, UT Austin.

18. Sriram Nagaraj (CSEM), Spring 2018, ``DPG Methods for Nonlinear Fiber Optics'', UT Austin.
19. Federico Fuentes (CSEM), Spring 2018, ``Various applications of discontinuous Petrov-Galerkin (DPG) finite element methods'', UT Austin.
20. Brendan Keith (CSEM), Summer 2018, ``A Saddle-Point Paradigm for Finite Element Analysis and Its Role in the DPG Methodology'', UT Austin.
21. Socratis Petrides (CSEM), March 2019, ``Adaptive multilevel solvers for the discontinuous Petrov-Galerkin method with an emphasis on high-frequency wave propagation'', UT Austin.
22. Jaime Mora-Paz (CSEM), November 2020, ``PolyDPG: A discontinuous Petrov-Galerkin methodology for polytopal meshes with applications to elasticity'', UT Austin.
23. Stefan Henneking (CSEM), March 2021, `` A Scalable hp-Adaptive Finite Element Software with Applications in Fiber Optics'', UT Austin.
24. Jacbob Badger (CSEM), April 2024, ``Scalable DPG Mulitgrid Solver with Applications in High-Frequency Wave Propagation'', UT Austin.
25. Jiaqi Li (CSEM), April 2024, ``A Nonlinear Mixed Problem Framework for Discontinuous Petrov–Galerkin (DPG) Methods, UT Austin.

M.S. SUPERVISIONS COMPLETED:
Billings, Ron, June 1997, No Thesis/No Dissertation
Pal, Mihaela, June 1998, No Thesis/No Dissertation
Kim, Chang-wan, Aug. 1999, Master's Thesis
Gauger, Ute, Dec. 2000, Master's Thesis
Xue, Dong, May 2002, Master's Thesis
Mardanova, Irina, Fall 2003, Master's Thesis
Larson, Chad, Spring 2005, (CAM, course based)
Gyoung-Sub Kim, 2008 (CAM Master Thesis)

PH.D. STUDENTS IN PROGRESS:
Salazar, Jacob (CSEM, Ph.D. candidate)
Zhang, Jonathan (CSEM, passed written quals)

OTHER STUDENT RESEARCH COMMITTEES:
Ph.D. – 46+

OTHER RESEARCH SUPERVISION (from 1993):

Postdoctoral Students:
Zboinski, Grzegorz, Summer 94
Banas, Krzysztof, Summer 96, 97.
Cecot, Witold, Summer 98, 99, 01.
Vardapetyan, Leon, 99-00.
Walsh, Timothy, 01.
Bajer, Andrzej, 01.
Solin, Pavel, 02-03.
Pardo, David, 05.
Paszynski, Maciej, 03-05.
Michler, Christian, (co-supervised with Torres-Verdin), 05-08.
Matuszyk, Pawel, (co-supervised with Torres-Verdin), Jul 08 – Aug 11.
Kurtz, Jason, 07-09.
Weggler, Lucy, Fulbright exchange graduate student, 08/09.
Niemi, Antii, 09-10.
Muga, Ignacio, 09/10.
Vaziri, Ali, 2016-2017
Munoz-Matute, Judit, 2019-2024
Ankit Chakraborty, 2022-2024

Undergraduate Research Assistants:
Montoya, Oscar, 03/04.
Rodvig, Mordechai, 06/07.
Joplin, Andre, 07/08.
Hatten, Noble, 09/10.
Xiaoyi, Lu, Summer 13.
Koduri, Nihal, Summer 13,14.
Thomspon, Timothy, Summer 18
Jialiang Zhou, Summer 20 (remotely)
Krissh Chawla, Spring 24