CURRICULUM VITAE

Gunther Uhlmann

Education: Licenciado en Matemáticas, Univ. de Chile, Santiago, Chile 1973.
Ph.D., M.I.T., September 1976.

Professional Experience:

- Robert R. Phelps and Elaine F. Phelps Endowed Professorship, University of Washington, 2022–present.

- Walker Family Endowed Professor in Mathematics, University of Washington, 2006–2022.

- Professor of Mathematics, University of Washington, 1987–present.

- Adjunct Professor Applied Mathematics, University of Washington, 2008-present.

- Senior CARMIN position, IHES and IHP, Paris, France, Spring 2015.

- Si Yuan Professor, Institute for Advanced Study, Hong Kong University of Science and Technology, 2014-present.

- Chair of Excellence Fondation Mathématiques de Paris, 2012-2013.

- Finish Distinguished Professor, University of Helsinki, 2013-2017.

- Rothschild Distinguished Visiting Fellow, Cambridge University and Isaac Newton Institute for Mathematical Sciences, Cambridge, England, Fall 2011.

- Chancellor Professor, UC Berkeley, Fall 2010.

- University of California Irvine Excellent in Teaching Chair in Mathematics, 2010-2012.

- Associate Professor, University of Washington, 1984–1987.

- Assistant Professor, M.I.T., 1980–1985.

- Instructor, M.I.T., 1978–1980.

- Courant Instructor, Courant Institute, NYU, 1977–1978.

- Research Fellow, Harvard University, Winter, Spring 1977.

- Research Associate, M.I.T., Fall 1976.

Awards, Honors and Fellowships:

- Doctor Honoris Causa, University of Helsinki, 2022.

- Simons Foundation Fellowship, 2021-2022.

- AMS-SIAM Birkhoff Prize in Applied Mathematics, 2021.

- Clay Senior Scholar at MSRI, Fall 2019.

- Distinguished Visitor, Institute of Mathematical Sciences, National University of Singapore, August, 2018.

- Solomon Lefschetz Medal, Mathematical Council of the Americas, 2017.

- Plenary Lecture, V Latin America Congress of Mathematics, Barranquilla, Colombia, July, 2016.

- Plenary Lecture International Congress of Mathematical Physics, Santiago, Chile, July 2015.

- Senior CARMIN position, IHES and IHP, Paris, France, Spring 2015.

- Institute for Advanced Study Si Yuan Professor, Hong Kong University of Science and Technology, 2014-2018.

- Foreign Member of the Finnish Academy of Sciences, elected 2013.

- Simons Fellow, 2013-2014.

- Finnish Distinguished Professor, 2013-2017.

- Fellow, American Mathematical Society, elected 2012.

- Member Washington State Academy of Sciences, elected 2012.

- Chaire d'Excellence 2012-2013 of the Fondation Sciences Mathématiques de Paris.

- Einstein Public Lecture, AMS, March 2012.

- Ordway Visiting Professor, University of Minnesota, 2011-2012.

- Rothschild Distinguished Visiting Fellow, Cambridge University and Isaac Newton Institute for Mathematical Sciences, Cambridge, England, Fall 2011.

- Kleinman Prize, Society of Industrial and Applied Mathematics, 2011.

- Bocher Prize, American Mathematical Society, 2011.

- Fellow of Society of Industrial and Applied Mathematics, elected 2010.

- Chancellor Professor, University of California, Berkeley, Fall 2010.

- Clay Senior Scholar at MSRI, Fall 2010.

- Fellow American Academy of Arts and Sciences, elected 2009.

- Plenary Lecturer, International Congress of Industrial and Applied Mathematics, Zurich, Switzerland, July, 2007.

- Institute of Scientific Information (ISI) Highly Cited Researcher, 2001 list.

- Fellow, Institute of Physics, elected 2004.

- PIMS Distinguished Chair, University of British Columbia, November 2002.

- John Simon Guggenheim Fellowship, 2001-2002.

- Corresponding Member of the Chilean Academy of Sciences, elected 2001.

- International Congress of Mathematicians, invited speaker, Berlin, 1998.

- Conference Board of Mathematical Sciences (CBMS), principal speaker, 1995.

- Annual Prize of Mathematics of Venezuela, 1982.

- Fulbright Travel Fellowship, 1973.

- Fellowship from Ford Foundation through Technical State University, Chile, to pursue doctoral studies at M.I.T., 1973–1976.

Named, Distinguished, Public and Special Lectures

- Distinguished Lecture. City University of Hong Kong, October, 2022.

- Houston Kirk Colloquium, Washington University, Saint Louis, October, 2021.

- FONDAPRAT General Public Lecture, August, 2020.

- NAS Webinar on "Solving and Seeing", February, 2020.

- Floer Lectures, Ruhr Universität, Bochum, Germany, June 2019.

- The Ronald Di Perna Lecture, UC Berkeley, January, 2019.

- Public Lecture, Universidad de Chile, Santiago, Chile, December, 2018.

- Ng Kong Beng Public Lecture Series, Institute of Mathematical Sciences, National University of Singapore, August, 2018.

- Alexander Ziwet Lectures, University of Michigan, April, 2018.

- Public Lecture, Sydney Ideas, University of Sydney, Australia, March, 2018.

- Distinguished Lectures, University of California, Santa Barbara, February, 2018 (3 lectures).

- Plenary Lecture, SIAM Analysis of Partial Differential Equations, Baltimore, December, 2017.

- Hua Lookeng Distinguished Lecture, Institute of Applied Mathematics, Chinese Academy of Sciences, September, 2017.

- Distinguished Lecture, CMI-LMS Research School on Microlol Analysis and Applications, Cardiff, UK June, 2017.

- Distinguished Lecture, Scientific Computing and Imaging Institute, University of Utah, April, 2017.

- William Benter Distinguished Lecture, City University of Hong Kong, February, 2017.

- Public Lecture, IMA, University of Minnesota, February, 2017.

- Academy lecture, Royal Swedish Academy of Sciences, Stockholm, October, 2016.

- Plenary Lecture V Latin American Congress of Mathematics, Barranquilla, Colombia, July, 2016.

- Public lecture at the Institute for Computational and Experimental Research in Mathematics, Providence, Rhode Island, April 2016.

- The Louis Nirenberg Lectures on Geometric Analysis, CRM, Canada, March, 2016 (3 lectures).

- Public Lecture, South University of Science and Technology, Shenzhen, China, December, 2015.

- Public Lecture, Zhejiang University, Hangzhou, China, December, 2015.

- Lecture on the 50th Anniversary of Faculty of Sciences, University of Chile, Santiago, Chile, August, 2015.

- Keynote Lecture, Summer School on Inverse Problems, Helsinki, June, 2015.

- Perspectivas Matemáticas (Mathematical Perspectives), Instituto de Matemáticas UNAM, Mexico, April, 2015.

- Public Lecture, Institute for Advanced Study Commons, HKUST, Hong Kong, November 2014.

- Distinguished Lecture, Hong Kong Baptist University, November 2014.

- The Eight Baylor Lecture Series in Mathematics, Baylor University, October 2014 (2 lectures).

- Public Talk at SIAM-SEAS Meeting held at Florida Institute of Technology, April, 2014. 1

- PensandoChile, lecture to the association of Chilean Students, Stanford, March, 2014.

- Institute for Advanced Study Si Yuan Professor Inaugural Lecture, HKUST, Hong Kong, November 2013.

- First Lecture of Leading Ideas Speaker Series organized by the Banff Center and BIRS, Banff, Canada, September, 2013 (Public Lecture).

- Finish Distinguished Professor (FiDiPro) Inaugural Lecture, University of Helsinki, September, 2013.

- II Congreso del Futuro, Santiago, Chile, January, 2013 (Public Lecture).

- Invited Speaker First Mathematical Congress of the Americas, Guanajuato, Mexico, August 2013.

- Einstein Public Lecture, AMS, March 2012.

- Institute for Advanced Study Distinguished Lecture, Hong Kong University of Science and Technology, Hong Kong, November, 2012.

- Taft Lectures, University of Cincinnati, November 2012.

- Boeing Distinguished Lecture in Applied Mathematics, Department of Applied Math, UW, October, 2012.

- Public Lecture, Pacific Science Center Cafe, Kirkland, Washington, July, 2012.

- Minicourse, Journées de L'EDP, Biarritz, France, June, 2012.

- Minitutorial, SIAM Conference on Imaging Science, Philadelphia,May, 2012.

- Public Lecture, The Science Behind Harry Potter's Cloak, University of California, Irvine, April, 2012.

- Ordway Lectures, University of Minnesota, November 2011 and March 2012.

- Public Lecture, The Science Behind Harry Potter's Cloak, Física Para las Tardes de Invierno, Pontificia Universidad Católica de Chile, September, 2011.

- Rothschild Lecture, Cambridge University and Isaac Newton Institute for Mathematical Sciences, Cambridge, England, September 2011.

- Institute for Advanced Study Distinguished Lecture, Hong Kong University of Science and Technology, August 2011.

- The 10th van Winter Memorial Lecture, University of Kentucky, February, 2011.

- Physical Sciences Breakfast Lecture Series, University of California, Irvine, January, 2011 (Public Lecture).

- MSRI MUSEION Lecture, October, 2010.

- Invited Address, First Joing Meeting AMS-SOMACHI, Pucón, Chile, Dec. 2010.

- Distinguished Lecture Series, Graduate School of Applied Sciences Naval Postgraduate School, Monterey, California, July 2010.

- Invited Lecturer, SIAM Annual Meeting, Pittsburgh h, July, 2010.

- Plenary Speaker Summer Meeting Canadian Mathematical Society, June 2010.

- Arne Magnus Lectures, Colorado State University, April, 2010.

- Emil Grosswald Lectures, Temple, April 2009.

- Current Events Bulletin, Annual Meeting AMS, San Diego, January, 2008.

- Zygmund-Calderón Lectures, University of Chicago, April, 2008 (3 lectures).

- Plenary Lecture in Lars Ahlfors Centennial Conference Helsinki, Finland, August, 2007.

- Plenary Lecturer, International Congress of Industrial and Applied Mathematics 2007, Zurich, Switzerland, July, 2007.

- Lecture in Distinguished Lecturer Series, University of Central Florida, April, 2006.

- 10th Anniversary Celebration of Instituto de Matemáticas, Universidad Nacional Autónoma de México, Cuernavaca, Mexico, May, 2006.

- Richard Di Prima Annual Lecture, Rensselaer Polytechnic Institute, April, 2004.

- Frontiers in Math Lectures, Texas A&M, March, 2004 (3 lectures).

- PIMS Distinguished Chair Lectures, November 2002 (3 lectures).

- Plenary talk, invited by Korean Mathematical Society, at the conference "Mathematics in the New Millennium", October, 2001.

- Lecture in Distinguished lecture series, The Institute of Applied Mathematics, University of British Columbia, Canada, October 1997.

- Annual Memorial Lecture José Rubio de Francia, Universidad Autónoma de Madrid, Spain, June 1997.

- Invited address, Portland meeting American Mathematical Society, June 1991.

- Conference Board of Mathematical Sciences (CBMS), principal speaker, 1995 (10 lectures).

- Boeing Lecture, Wichita State University, April 1990.

Editorial Boards

- Member of Editorial Board, SIAM Journal Math. Anal., September 1995-December 2000.

- Member of Editorial Board, Journal of Inverse and Ill-Posed Problems, 1997-present.

- Associate member of Editorial Board of Cubo, 1999-2019.

- Member of Editorial Board of Inverse Problems, 2000-2010.

- Member of Editorial Board of Advances in Applied Math, 2002-2012.

- Member of Editorial Board of Inverse Problems and Imaging, 2006-present.

- Member of Editorial Board of Analysis and PDE, 2007-present.

- Member of Editorial Board, Revista Matemática Iberoamericana, 2008-2012.

- Member of Editorial Board, International Journal of Differential Equations, 2009-2015.

- Member of Editorial Board of Journal of Spectral Theory, 2010-present.

- International Advisory Board, Inverse Problems, 2011-present.

- Advisory Board, Versita de Gruyter Book Publishing Program in Mathematics, 2011-present.

- Member of Editorial Board of Evolution Equations and Control Theory, 2011-present.

- Member of Editorial Board of Asymptotic Analysis, 2012-present.

- Member of Editorial Advisory Board, Journal of Mathematical Physics, 2014-2020.

- Editor in Chief, Inverse Problems and Imaging, 2015-present.

- Member of Editorial Board of Mathematical Control and Related Fields, 2018-present.

- Member of Editorial Board of Ars Inveniendi Analytica, 2020-present.

- Member of Editorial Board of the Journal of the Association for Mathematical Research, 2022-present.

Grants:

- PI of NSF grant to support Conference "Conformal Geometry, Analysis and Physics" held al UW, Seattle, June, 2022 ($45,000$).

- PI od NSF grant, 2021-2024, ($274,000$).

- Simons Fellowship, 2021-2022 ($132,000$).

- PI of NSF grant to travel to "Applied Inverse Problems Conference" held in Grenoble, France, July 8-12, 2019.

- PI of NSF grant, 2018-2021 ($270,000$).

- PI of NSF grant, 2013-2019 Se

- Simons Fellowship, 2013-2014.

- PI of NSF grant to travel to "Applied Inverse Problems Conference" held in Helsinki, Finland, May 25-29, 2015.

- PI of NSF grant for travel to "Applied Inverse Problems Conference" held in Daejeon, Korea, July 1-5, 2013.

- PI of NSF grant to support the workshop "Coupled-Physics Inverse Problems", at the center of Modelamiento Matemático, Universidad de Chile, Santiago, Chile, Jan 3-5, 2013.

- PI of NSF grant to support the ""International Conference on Inverse Problems and PDE Control" held at Sichuan University, Chengdu, China, July 30-August 3, 2012.

- Co-PI of NSF Travel Grant for Pacific Rim Mathematical Association (PRIMA) second meeting in Shanghai, China, June, 2013.

- PI of of NSF and DOE grant to support a Pan-American Advanced Studies Institute (PASI) in January, 2012 in Chile, on "Inverse Problems and PDE Control".

- Co-PI of NSF grant to support The Banff International Research Station (BIRS), Banff, Canada, 2010-2015.

- Co-PI of NSF Collaborative Mathematics and Geosciences (CMG), " Nonlinear Elastic-Wave Inverse Scattering and Tomography - from Cracks to Mantle Convection", 2010-2014.

- PI of NSF Research Training Grant (RTG) on "Inverse Problems and Partial Differential Equations", 2009-2014.

- PI of NSF grant, 2008-2013.

- Co-PI of NSF Travel Grant for First Pacific Rim Mathematical Association (PRIMA) first meeting in Sydney, Australia, July, 2009.

- Co-PI of NSF Collaborative Mathematics and Geosciences (CMG), "Multi-Scale (Wave Equation) Tomographic Imaging with USArray Waveform Data, 2007-2011.

- Co-PI of NSF Focused Research Grant (FRG) on "Inverse Problems in Radiative Transfer", 2006-2010.

- PI of U.S. team of of Civilian Research & Development Foundation (CRDF) grant on "Geometric Rigidity, Inverse Problems and Integral Geometry", 2007-2009.

- PI of NSF grant to support the conference "Applied Inverse Problems 2007", held in Vancouver, Canada, June 25-29, 2007.

- Co-PI of Period of Concentration of PIMS Collaborative Research Group (CRG) on Inverse Problems, 2005-2007.

- Co-PI of Collaborative Mathematics and Geosciences (CMG) program 2003-2007.

- PI, International collaboration Novosibirsk-Seattle, 2003-2007.

- Co-PI (1977-1980) and PI (1980-2013) of NSF summer grants.

- Ky and Yu-Fen Fan Fund Travel Grant to support visit of Jin Cheng (Fudan University, China) for the month of February 2004.

- PI of NSF grant to support the workshop "Inverse Problems and Medical Imaging", 2003.

- PI of NSF and DOE grant to support a Pan-American Advanced Studies Institute (PASI) in Santiago, Chile, on "Partial Differential Equations, Inverse Problems and Non-Linear Analysis", 2003.

- PI of NSF and DOE grant to support a "Pan-American Advanced Studies Institute" (PASI) at MSRI, Berkeley, on Inverse Problems, 2001.

- Royalty Research Fund (RRF), "Electrical Impedance Tomography", one month support in summer 1998.

- Co- PI of grant from ONR in Accelerated Research Initiative on "Electromagnetic Properties of Sea Ice", 1993-1997.

Visiting Positions

- Universidad Federal de Pernambuco, Brazil, August 1979 (one month.)

- Universidad Nacional Autónoma de México, Mexico, August 1981 (two weeks.)

- Instituto Venezolano de Investigaciones Científicas, Venezuela,January 1982 (two weeks).

- Mathematical Sciences Research Institute (MSRI), Berkeley, 1982-1983 (participant for one year in program on Non-linear Partial Differential Equations and Geometry).

- Universidad de Chile, January, 1984 (two weeks).

- MSRI, October 1988 (participant for one month in the Symplectic Geometry program).

- MSRI, March 1991 (participant for two weeks in the Partial Differential Equations program).

- Universidad Autónoma de Madrid, Madrid, Spain, June-July 1997 (one month).

- Fields Institute, Toronto Canada, September-October 1997 (participant for two weeks in the Microlocal Analysis program).

- Professeur Invitée, Université de Versailles, France, June-July 2000 (one month).

- Erwin Schrödinger Institute, Vienna, Austria, March 2001 (participant for two weeks in Scattering Theory Programme).

- MSRI, April-May 2001 (participant for three weeks in Spectral Invariants program).

- Chair of organizing Committee of Inverse problems and Applications program at MSRI, August-December, 2001.

- MIT, Berkeley, Cambridge, March-April, 2002 (three weeks).

- University of Chicago, September-October, 2002 (one month).

- École Normale Supérieure, France, March, 2010 (two weeks).

- Chair of organizing committee of Inverse Problems and Applications program at MSRI, Berkeley, August-December 2010.

- Professeur Invitée, École Normale Supérieure, Paris, France, March-April, 2011.

- Universidad Autónoma de Madrid, participant for two weeks in Special Trimester on Inverse Problems and Applications and Scattering Theory (weeks).

- Issac Newton Institute, Cambridge, England, July 23-October 2, 2011.

- Ordway Visitor, University of Minnesota, November 2011 (two weeks) and March 2012 (two weeks).

- Fields Institute, participants in Thematic Program on Inverse Problems and Imaging, Fields Institute, Toronto, April 2012 (two weeks).

- Centro Modelamiento Matemático (CMM), Universidad de Chile, January 2013 (3 weeks).

- École Normale Superieure, Paris, France, January-April, 2013 (3 months).

- Institut Mittag Leffler, Sweden, April-May, 2013 (3 weeks).

- University of Helsinki, Finland, June, August, September (2 1/2 months).

- Stanford University, January-March, 2014 (2 months).

- École Normale Superieure, Paris, France, April-June, 2014 (3 months).

- University of Helsinki, August 2014.

- IAS and Department of Mathematics, Hong Kong University of Science and Technology, Fall 2014.

- Institut Henri Poincaré, Paris, France, April-June 2015 (two months).

- University of Helsinki, Finland, August 2015 (one month).

- IAS and Department of Mathematics Hong Kong University of Science and Technology, Fall 2015.

- University of Helsinki, Finland, June, 2015 and August, 2015 (2 months).

- IAS and Department of Mathematics Hong Kong University of Science and Technology, Fall 2016.

- IAS and Department of Mathematics Hong Kong University of Science and Technology, Fall 2017,

- National University of Singapore, August, 2018 (1 month).

- IAS and Department of Mathematics, Hong Kong University of Science and Technology, Fall, 2018.

- IAS and Department of Mathematics, Hong Kong University of Science and Technology, April-August, 2019.

- IPAM, UCLA¡ Fall 2021.

- Stanford University, March-April, 2022 (1 1/2 months.)

Minicourses :

- "Well-posedness of Cauchy problem for hyperbolic equations with double characteristics", Universidad Federal de Permambuco, Recife, Brazil, August 1979 (eight lectures).

- "Conical Refraction and Equations with Double Characteristics", IIMAS, Univ. Autónoma México, August 1981 (four lectures).

- "Scattering by a Potential", IVIC, Venezuela, January 1982 (four lectures).

- "Introduction to Microlocal Analysis", Universidad de Chile, January 1984 (four lectures).

- "Microlocal Analysis and Scattering theory", VIII Escuela Latinoamericana de Matemáticas on Partial Differential Equations Río de Janeiro, Brazil, July 1986 (five lectures).

- "Inverse Boundary Value Problems with Applications to Inverse scattering", École D'Été , Nantes, France, June 1991 (five lectures).

- "Nondestructive Evaluation and Inverse Problems", CBMS-NSF conference , June 1995, Principal Lecturer (10 talks).

- "The Dirichlet to Neumann Map and Inverse Problems", Summer Course in Cortona, Italy, July 1996 (17 lectures).

- "Inverse Problems in Anisotropic Media", Summer School on Partial Differential Equations with Applications in Mathematical Physics, Oulu, Finland, June 1997 (10 lectures).

- "Inverse Problems in Anisotropic Media", EuroSummerSchool on "New Analytic and Geometric Methods in Inverse Problems", Edinburgh, July 2000 (five lectures).

- "Microlocal Analysis and Inverse Problems", Mathematical Sciences Research Institute, Berkeley, August, 2001 (four lectures).

- "Electrical Impedance Tomography", Pan-American Advanced Studies Institute (PASI) on Inverse Problems, October-November, 2001 (three lectures).

- "Geometrical Optics and Inverse Problems", 3rd Summer School in Mathematical Analysis, Cuernavaca, Mexico, June 2002 (5 lectures).

- "The Dirichlet to Neumann Map and Inverse Problems", PIMS Distinguished Lectures, Vancouver, Canada, November 2002 (three lectures).

- "Inside-Out, Inverse Problems, Frontiers in Mathematics Lectures, Texas A&M, March 2004 (three lectures).

- "Electrical Impedance Tomography" Graduate Summer School on Inverse Problems, UW, August, 2005 (three lectures).

- "Travel Time Tomography", CIMPA School on Wave Propagation, Cuernavaca, Mexico, January 2006 (three lectures).

- Minicourse on "Applied Inverse Problems", Florence, Italy, May 2006 (5 lectures).

- "Invisibility", Taipei, Taiwan, March 2008 (3 lectures).

- "An Introduction to Calderón's Problem", Summer Graduate Workshop on Inverse Problems, MSRI, Berkeley, July 2009 (5 lectures).

- "The Calderón Problem with Partial Data", CIMPA School on Inverse Problems, Santiago Chile, January, 2010 (5 lectures).

- "The Radon Transform and the X-Ray Transform", Research Training Grant Summer School on Inverse problems and PDE, taught jointly with Peter Kuchment, UW, Seattle, June-July 2010 (14 lectures).

- "Inverse Problems", Workshop in special trimester on inverse problems, Universidad Autónoma de Madrid, Spain, June 2011 (4 lectures).

- "X-Ray Tomography and Inverse Transport", Research Training Grant Summer School on Inverse Problems in PDE, taught jointly with G. Bal and S. McDowall, UW, Seattle, June-July 2011 (14 lectures).

- "Photoacoustic and Thermoacoustic Tomography", Introductory Workshop Isaac Newton Institute, July 2011 (4 lectures).

- "Multi-Wave Methods Via Ultrasound", Pan American Advanced Institute on Inverse Problems and PDE Control, Santiago, Chile, January, 2012 (3 lectures).

- "Travel Time Tomography, Boundary Rigidity and Lens Rigidity", Fields Institute, Toronto, April 2012 (4 lectures).

- "Inverse Problems: Visibility and Invisibility", Journées de l' EDP, Biarritz, France, June, 2012 (6 hours).

- "RTG Summer School on X-ray tomography", University of Washington, Seattle, July 2012 (2 lectures).

- "Coupled-Physics Inverse Problems", Chengdu, China, July-August 2012 (5 lectures).

- "Cloaking via Transformation Optics", État de la Recherche, Inverse Problems and Imaging, Societé Mathématique de France. The minicourse was held at the Institute Henri Poincaré, Paris (4 hours).

- "Progress and Challenges in Inverse Problems", minicourse sponsored by the Fondation Sciences Mathématiques de Paris. The minicourse was held at the Institut Henri Poincaré (7.5 hours).

- "Microlocal Analysis and Inverse Problems", RTG Summer School, University of Washington, Seattle, July 2013 (14 lectures).

- "Index of refraction inverse problems arising in the Geosciences", MCPIT2013: Modelling, Control and Inverse Problems for the Planet Earth in all its states, Institute Henri Poincaré, Paris, November 2013 (5 hours).

- "Multiwave Imaging", Hong Kong University of Science and Technology, October-December 2014 (5 lectures).

- "Inverse Problems: Seeing the Unseen", PDE/Analysis Mini-School, University of North Carolina, Chapel Hill (5 lectures).'

- "Calderón's Inverse Problem", Institute Henri Poincaré, Paris, France, April-May, 2015 (15 hours, 3 of the 10 lectures were given by guests).

- "Inverse Problems: Visibility and Invisibility", Universidad Federico Santa Maria, Valparaiso, Summer School, International Congress of Mathematical Physics 2015 (4 lectures).

- "Multiwave Imaging"', Graduate Workshop on Inverse Problems, Colorado State University, Fort Collins, August, 2016 (4 lectures).

- "Introduction to Microlocal Analysis with Applications to Inverse Problems", University of Helsinki, August 2016 (4 lectures).

- "The Calderón Problem"', Fall School on Control and Inverse problems of PDE, Zhejiang University, Hangzhou, October 2016 (9 lectures).

- "Calder'on's Problem"', Tutorial, Applied Inverse Problems conference, Hangzou, China, May, 2017 (6 lectures).

- "Calderón's Problem: Visibility and Invisibility"', Institute of Mathematical Sciences, National University of Singapore, August, 2018 (4 lectures).

- Calderón's Inverse Problem, Giessen PDE week, Giessen, Germany, June 2019 (3 lectures).

Invited Plenary Talks in Conferences since 2000.

- RCP264: Inverse Problems and Nonlinearity, Montpellier, France, June 2000.

- AMS-IMS-SIAM Summer Research Conference on "Radon transforms and tomography", Mount Holyoke, Massachusetts, June 2000.

- Recent Developments in the Wave Field and Diffuse Tomographic Inverse Problems, EuroConference, Edinburgh, August, 2000.

- Hyperbolic Equations and Scattering: A Conference in Honor of Gerard Friedlander, MIT, Cambridge, Mass., September, 2000.

- Workshop on Scattering Theory, Erwin Schrödinger International Institute on Mathematical Physics, March, 2001.

- Function Spaces, Differential Operators and Nonlinear Analysis, Teistungen, Germany, July, 2001.

- Geometric Methods in Inverse Problems and PDE Control, IMA, Minnesota, July 2001.

- Q-Math8, Mathematical Results in Quantum Mechanics, Taxco, Mexico, December 2001.

- Geometric Analysis in the 21st Century, a conference in honor of Richard B. Melrose, MIT, Cambridge, Massachusetts, March 2002.

- INdAM workshop on "Inverse Problems and Applications", Cortona, Italy, June 2002.

- First Mummy Range Workshop on Electrical Impedance Tomography, Pingree Park, Colorado, August 2002.

- MaPhySto Workshop on Inverse Problems, Aaalborg, Denmark, September 2002.

- International Workshop on Spectra of Differential Operators and Inverse Problems, RIMS, Kyoto, Japan, October, 2002.

- Applied Inverse Problems: Theoretical and Computational Aspects, Lake Arrowhead, California, May 2003.

- Geophysical Inversion, Calgary, Canada, July 2003.

- Symposium on Inverse Problems, Fields Institute, Toronto, Canada, October 2003 (two lectures).

- Interdisciplinary Inverse Problems: Opening Conference for IPRPI, RPI, April 2004.

- Southern California PDE and Analysis Seminar (SCAPDE 2004), San Diego, CA, April, 2004.

- Perspectives in Inverse Problems, Finland, Helsinki, June 2004.

- First LNCC (Laboratório Nacional de Computação Científico) conference on Computational Modelling, Petropolis, Rio de Janeiro, Brazil, August 2004.G

- 9th international conference on Differential Geometry and Its Applications, Czeck Republic, Prague, September 2004.

- Pan American Advanced Studies Institute (PASI) on Partial Differential Equations and Non-Linear Analysis, Santiago, Chile, January 2005.

- The 2005 UAB International Conference on Mathematical Physics and Differential Equations, Birmingham, Alabama, March 2005.

- Midwest PDE seminar, Purdue University, April 2005.

- Scattering theory and Singular Spaces, Northwestern, May 2005.

- Waves 2005, Brown University, Providence, Rhode Island, June 2005

- Inverse Problems, Multi-scale Analysis and Homogenization, Seoul Korea, June 2005.

- New Directions in Partial Differential Equations, BIRS, Canada, July, 2005.

- Algebraic Analysis of Differential Equations (in honor of Prof. Takahiro Kawai on the occasion of his sixtieth birthday) RIMS, Kyoto, Japan, July 2005.

- Imaging from Wave Propagation, IMA, Minneapolis, Minnesota, October, 2005.

- Seminar on Inverse Problems and Applications in honor of Alberto P. Calderón, Rio de Janeiro, Brazil, March 2006.

- Inverse Problems in Applied Sciences- Towards Breakthrough, Sapporo, Japan, July 2006.

- Analysis and Probability in Quantum Physics, PASI 2006, Santiago, Chile, August, 2006.

- Hyperbolic Equations and Scattering, meeting in honor of V. Petkov, Bordeaux, France, May, 2007.

- Analyse des équations aux dérivées partielles, Évian-les-Bains, France, June 2007.

- Geometric Aspects of Analysis and Mechanics, a conference in honor of Hans Duistermaat 65th birthday, Utrecht, The Netherlands, August 2007

- Random Media Opening Workshop, SAMSI, North Carolina, September, 2007.

- 7th Symposium of Chilean Mathematics, Punta de Tralca, Chile, November, 2007.

- Bay Area Microlocal Analysis Seminar, February 2008.

- International Conference on Applied Mathematics: Modeling, Analysis and Computation, Hong-Kong, June, 2008.

- Workshop on Imaging Microstructures, June, 2008, Paris, France.

- From Wave Propagation to K-Theory: A conference in the Honour of the 60th Birthday of Richard Melrose, Stanford University, October 2008.

- Mathematics Research Communities (MRC) Meeting on Inverse Problems, Snowbird, Utah, June 2009.

- 1st PRIMA Congress, Sydney, Australia, July, 2009.

- 7th ISAAC Congress, London, England, July, 2009.

- The Mathematics Institutes' Modern Math Workshop, Dallas, Texas, October, 2009.

- Workshop on Inverse Problems and Applications, Valparaíso, Chile, January, 2010.

- 17th Southern California Geometric Analysis Conference, Irvine, California, February, 2010.

- International Workshop on Inverse Problems, Hong Kong, April, 2010.

- International Conference on Inverse Problems, Wuhan, China, April 2010.

- 8th AIMS International Conference on Dynamical Systems, Differential Equations and Applications, Dresden, Germany, May, 2010.

- 3 Lectures on Inverse Problems, University of Helsinki, F inland, June 2010.

- 5th Pacific Rim Conference on Mathematics, Stanford, California, June 2010.

- Microlocal Analysis in Imaging, RPI, New York, August, 2010.

- Texas Geometry and Topology Conference, College Station, Texas, November, 2010.

- 2nd Interdisciplinary Workshop on Applied Mathematics, Hangzhou, China, December 2010.

- Geometric Analysis, CIRM, Luminy, France, Jan. 2011.

- Spectral and Scattering Theory and Related Topics, RIMS, Kyoto, Japan, Feb. 2011 (A conference in celebration of H. Isozaki's 60th birthday).

- Asymptotic properties of solutions to hyperbolic equations, Imperial College, London, April 2011.

- Colloque Ondes en Limite Semi-classique, Paris, April, 2011.

- Applied Inverse Problems, College Station, Texas, May, 2011.

- Workshop on Inverse Problems, Universidad Autónoma de Madrid, pain, June 2011.

- International Conference on Interdisciplinary and Applied Mathematics, Zhejiang University, Hangzhou China, June 2011.

- Mathematics of Medical Imaging, Toronto, Canada, June, 2011.

- Recent Advances in Biomedical Imaging, Shanghai Jiao Tong University, Shanghai, China, August 2011.

- Analytic and Geometric Methods in Medical Imaging, Isaac Newton Institute, Cambridge, England, August, 2011.

- Geometric Analysis in Euclidean and Homogeneous Spaces (in honor of the 85th birthday of S. Helgason), Tufts University, Medford, January, 2012.

- Pan American Advanced Studies Institute (PASI) on Inverse Problems and PDE control, Santiago, Chile, January, 2012.

- Bay Area Microlocal Analysis Seminar, Berkeley, December 2012.

- Journées Mathématiques de Cergy on Inverse Problems, January, 2013.

- Opening Workshop of Inverse Problems Centre at University of College, London, March 2013.

- Paris-London Analysis Seminar, Imperial College, London, March, 2013.

- Inverse Problems and Applications, University of Linköping, Sweden, April, 2013.

- Analysis, Complex Geometry and Mathematical Physics: A Conference in Honor of Duong H. Phong, Columbia University, New York, May, 2013.

- Asymptotic Analysis in General Relativity, Université de Cergy-Pontoise, France, June 2013.

- Microlocal Analysis and Spectral Theory in honor of J. Sjöstrand,, Luminy, France, September 2013.

- Bay Area Microlocal Analysis Seminar, Stanford, January, 2014.

- SIAM SEAS 2014, Melbourne, Florida, March, 2014.

- Inverse Problems and Imaging, Institut Henri Poincaré, Paris, April, 2014.

- Three Days of Analysis and PDEs (in honor of A. Ruiz), Madrid, Spain, June, 2014.

- Recent Advances in Non-Linear and Non-Local Analysis: Theory and Applications, ETH, Zurich, Switzerland, June, 2014.

- Asymptotic Analysis in General Relativity, Grenoble, France, June, 2014.

- Multiwave Imaging, Grenoble, France, June, 2014.

- Distinguished Lectures on Inverse Problems, Helsinki, Finland, August 2014.

- Mathematics and Computation in Tomography, Oberwolfach, Germany, August 2014.

- Harmonic Analysis and Partial Differential Equations in honor of Carlos Kenig, U. Chicago, September, 2014.

- Inverse Problems and Spectral Theory in honor of P. Kuchment, College Station, Texas, October, 2014.

- International Conference on Inverse Problems and Optimal Control, Chinese University of Hong Kong, December, 2014.

- International Conference on Inverse Problems and Related Topics, National University of Taiwan, Taipei, December, 2014.

- Princeton-Tokyo Workshop on Geometric Analysis, University of Tokyo, Japan, March 2015.

- Wave Propagation and Inverse Problems, Mathematical and Computational Challenges in honor of William Symes, Michigan State University, April, 2015..

- IHP Summer Preschool on Inverse Problems at CIRM, Luminy, France, April 2015.

- Geometric Inverse Problems, Institute Henri Poincaré, Paris, June, 2015.

- International Congress of Mathematical Physics, Santiago, Chile, July 2015.

- Inverse Problems in the Physical Sciences, Centro de Modelamiento Matemático, Santiago, Chile, August, 2015.

- National Meeting of Mathematical Engineers, Universidad Católica de Chile, August, 2015.

- Hyperbolic Equations on Spacetimes: Stability, Microlocal Analysis and Quantum Field Theory, Erwin Schrödinger Institute, Vienna, September, 2015.

- Hong Kong Colloquium on Inverse Problems, Imaging and PDE's, IAS HKUST, November, 2015.

- Inverse Problems and Related Topics, Zhejiang University, Hangzhou, China, December 2015.

- Workshop on Inverse Problems in Scattering and Imaging, Purdue, West Lafayette, April, 2016.

- CMO-BIRS Workshop on Dirichlet to Neumann Maps: Spectral Geometry, Inverse Problems and Applications, Oaxaca, Mexico, June 2016.

- Opening Symposium of Center for Applied and Interdisciplinary Mathematics, University of Michogan, Ann Arbor, October, 2016.

- Control and Inverse Problems in PDE, Zhejiang University, Hangzhou, October 2016.

- Young Scholars IPIA East Asia Symposium, Taipei, November, 2016.

- Math+X Symposium on Mathematics on Seismology and Inverse Proble,s Rice University, Houston, January, 2017.

- Optical Imaging and Inverse Problems, IMA, University of Minnesota, February, 2017.

- Bay Area Microlocal Analysis seminar, Stanford, March, 2017.

- 100 Years of the Radon Transform, RICAM, Linz, Austria, March, 2017.

- Houston SIAM Imaging Sciences Symposium, Houston, October, 2017.

- Workshop on General Relativity and AdS/CFT, Fields Institute, Toronto, October 2007.

- Microlocal Analysis and Symplectic Geometry in honor of V. Guillemin 80th birthday, MIT, Cambridge, Massachusetts, November, 2017.

- International Conference on Inverse Problems (ICIP, 2018), Singapore, August, 2018.

- Inverse Problems, PDE and Geometry, University of Jyvaskyla, Finland, August, 2018.

- Recent Results in Mathematical Physics in honor of Rafael Benguria, Pontificia Universidad Catolica de Chile, Santiago, Chile, December 2018.

- Computational challenges in Gravitational Wave Astronomy, IPAM, UCLA, January 2019.

- Microlocal Methods in Analysis and Geometry, CRMS, Luminy, France, April, 2019.

- The 5th East Asia Simposium of IPIA Young Scholars Symposium, Beijing, China, June 2019.

- Modern Mehods in Imaging, In the Footsteps of Allan MacLeod Cormack on the Fortieth Anniversary of his Nobel Prizw, Tufts University, Medford, Massachusetts, August, 2019.

- Introductory Workshop on Microlocal Analysis, MSRI, Berkeley, September, 2019.

- International Zoom Conference on Pseudodifferential Operators, Ghent, Belgium, July 2020.

- Online Pre-Conference, "Inverse Problems and Nonlinearity", Helsinki, Finland, August, 2020.

- Inverse and Ill-Posed Problems: Theory and Numerics, Novisibirsk, Russia, October, 2020 (online),

- IAS Conference on Industrial and Applied Mathematics, HKUST, Hong Kong, January, 2021 (online).

- Recent Advances in Global Abalysis, a Conference in Honor of G. Mendoza, Temple U., February, 2021 (online).

- Tomographic Reconstructions and their Startling Applications, ESI, Vienna, March, 2021 (online).

- Mathematical and Numerical Aspects of Gravitation, IPAM, UCLA, October, 2021.

- Inverse Problems and Related Topics, International Centre for Theoretical Science, Tata Institute of Fundamental Research, India, October, 2021 (2 talks online).

- Eurasian Conference on Applied Mathematics, Novosibirsk, Russia, December, 2021 (online).

- Recent Advances and Future Directions in Mathematical Modeling and Inversion: From Theory to Real Applications, NTU, Singapore, February, 2022 (online).

- XXXIV Jornadas de Matemática de la Zona Sur, Osorno, Chile, April, 2022 (online).

- Inverse Problems: Modelling and Simulation, Malta, May, 2022 (online).

- Conference on the Intersection of Microlocal Analysis, Harmonic Analysis and Inverse Problems, in honor of A. Greenleaf, U. of Rochester, August 2022.

- Geometrical Applications of Microlocal Analysis, in honor of Rafe Mazzeo, Stanford, September, 2022.

- Global Harmonic Analysis, in honor of Steve Zelditch, Northwestern, September, 2022 (online).

- New Ideas in Computational Inverse Problems, BIRS, October, 2022 (online).

- Applied Analysis: A conference to celebrate the science of Robert Kohn, Flatiron Institute, NY, November, 2022.

- Inverse Problems in the Desert, Abu Dhabi, UAE, December, 2022.

- Modern Challenges in Inverse Problems, Novosibirsk, Russia, December, 2022 (online).

Colloquium and Seminar Talks since 2000.

- Colloquium, University of Kentucky, April 2000.

- Seminar, University of Kentucky, April 2000.

- Seminar, IIMAS, UNAM, Mexico, May 2000 (two talks)

- Applied Mathematics Colloquium, Université de Bordeaux, June 2000.

- Seminar talk, École Polytechnique, France, July 2000.

- Colloquium, Seoul National University, October 2000.

- Colloquium, Northwestern University, November 2000.

- Current Problems in Mathematics, UW, February 2001.

- Seminar, Yale University, February, 2001.

- Seminar, Johns Hopkins University, March 2001.

- Colloquium, Purdue University, April 2001.

- Colloquium, Michigan State University, April 2001.

- Seminar, MSRI (Spectral Invariants program), May 2001.

- Seminar, Erwin Schrödinger Institute in Vienna, Austria, July, 2001 (Scattering theory Program).

- Colloquium, University of California, Berkeley, October 2001.

- Colloquium, Stanford University, November 2001.

- Colloquium, Rensselaer Polytechnical Institute, January 2002.

- Colloquium, Brandeis-Harvard-MIT-Northeastern at MIT, April 2002.

- Colloqium, University of North Carolina, Chapel Hill, April 2002.

- Colloquium, University of Chicago, May 2002.

- Seminar, University of Bologna, Italy, July 2002.

- Colloqium, University of Chicago, Illinois, September, 2002.

- Colloquium, University of Minnesota, October, 2002.

- Calderón-Zygmund seminar, University of Chicago, October, 2002.

- Colloqium, University of California, Irvine, May 2003.

- Seminar, Northwestern University, November, 2003.

- General Colloquium, IPAM, UCLA, December, 2003.

- Colloquium, Penn State, September, 2004.

- Seminar (Differential Geometry and Dynamics), Penn State, September 2004.

- Colloquium, University of California, Santa Barbara, November, 2004.

- Colloquium, Yale University, September, 2005.

- Great Ideas Series, University of Washington, April, 2005.

- Colloquium Stanford University, April, 2006.

- Seminar, École Polytechnique, France, June 2006.

- Colloquium, University of California, Berkeley, October, 2006.

- Colloquium, University of Wisconsin, Madison, October, 2006.

- Colloquium, Colorado State University, Fort Collins, November, 2006.

- Colloquium, Purdue University, November, 2006.

- Colloquium, UC Irvine, February, 2007.

- Seminar, University of Missouri, Columbia, March, 2007.

- Colloquium, Caltech, April, 2007.

- Seminar, Stanford University, October, 2007.

- Seminar, UBC, November, 2007.

- Colloquium, UBC, November, 2007.

- Seminar, MIT, December, 2007

- Colloquium, Applied Math UW, March, 2008.

- Colloquium, University of Southern California, October 2008.

- Colloquium, University of Toronto, November 2008.

- Seminar, University of Toronto, November 2008.

- Colloquium, Michigan State University, September, 2009.

- Colloquium, University of Wyoming, Lamarie, September, 2009.

- Seminar, Colorado State University, Fort Collins, September, 2009.

- Colloquium, Texas A&M, September 2009.

- Undergraduate seminar, Hanoi University of Science, Vietnam, September, 2009.

- Colloquium, Hanoi University of Science, Vietnam, September, 2009.

- Seminar, MIT, October, 2009.

- Colloquium, Purdue, November, 2009.

- Colloquium, Northwestern University, November, 2009.

- UW-PIMS Colloquium, University of Washington, November, 2009.

- Colloquium, Purdue, November, 2009.

- Colloquium, Michigan State, December, 2009.

- Seminar, Universidad Católica de Chile, January, 2010.

- Colloquium, University of California, Irvine, March, 2010.

- Seminar, École Normale Supérieure, Paris, March, 2010.

- Colloquium, University of California, Berkeley, September 2010.

- Colloquium, Ohio State University, October, 2010.

- Seminar, University of British Columbia, Vancouver, November, 2010.

- Colloquium, University of British Columbia, Vancouver, November, 2010.

- Colloquium, Applied and Computational Mathematics, Caltech, Jan. 2011.

- Seminar, University of Kentucky, Feb. 2011.

- Colloquium, University of Utah, March 2011.

- Colloquium, University of Bordeaux, France, March 2011.

- Seminar, Laboratoire Jacques-Louis Lions, Paris, France, April 2011.

- Colloqium, University of Bourgogne, France, April, 2011.

- Applied Math Colloquium, Columbia University, New York, May, 2011.

- Colloquium, Universidad Autónoma de Madrid, Spain, May 2011.

- Seminar, Hong Kong University of Science and Technology, Hong Kong, August, 2011.

- Seminar, Centro de Modelamiento Matemático (CMM), Universidad de Chile, September 2011.

- Colloquium, University of Helsinki, October 2011.

- Seminar, University of Helsinki, October 2011.

- Colloquium, Columbia University, November 2011.

- Seminar, Department of Electrical and Computer Engineering, NSU, Singapore, December 2011.

- Colloquium, NUS, Singapore, December 2011.

- Seminar, Department of Physics NTU, Singapore, December 2011.

- Colloquium, Fujian Normal University, Fuzhou, China, December 2011.

- Colloquium, Fullerton College, January 2012.

- Undergraduate Colloquium, University of California, Irvine, March 2012.

- Seminar, University of Minnesota, Minneapolis, March, 2012.

- Colloquium, University of Texas, Austin, April 2012.

- Colloquium, University of North Carolina, Chapel Hill, April 2012.

- Applied Math Seminar, University of North Carolina, Charlotte, April 2012.

- Colloquium, Sony Brook, April, 2012.

- Mathematics Physics Seminar, Caltech, May, 2012.

- Applied Math Colloquium, University of Arizona, October 2012.

- Colloquium, Chinese University of Hong Kong, Hong Kong, November, 2012.

- Calderón-Zygmund Seminar, University of Chicago, November 2012.
- Bay Area Microlocal Analysis Seminar, Berkeley, December 2012.
- Colloquium, Texas A&M, December, 2012.
- Seminar, Centro de Modelamiento Matemático, Santiago, Chile, January, 2013.
- Colloquium, Université de Toulouse, France, January, 2013.
- Seminar, Laboratoire Jacques-Louis Lions, Paris 6, Jussieu, France, February, 2013.
- Colloquium, Université de Grenoble, France, February, 2013.
- Laurent Schwartz Seminar, IHES, France, February, 2013.
- Colloquium, Stockholm University and KTH, April, 2013.
- Two seminar talks, Institut Mittag Leffler, April, 2013.
- Seminar, MIT, May, 2013.
- Seminar, University of Cambridge, UK, May, 2013.
- Graduate Student Colloquium, University of Helsinki, November 2013.
- Seminar, Stanford University, February, 2014.
- Calderón-Zygmund Seminar, University of Chicago, February 2014.
- Seminar, Stanford University, March 2014.
- Seminar, Laboratoire Jacques-Louis Lions, Paris 6, Jussieu, France, June, 2014.
- Colloquium, Brandeis-Harvard-MIT-Northeastern at Northeastern, September, 2014.
- Colloquium, Baylor University, October, 2014.
- Colloquium, University of Pittsburgh, February, 2015.
- Undergraduate Seminar, UW, April, 2015.
- Colloquium, Tsinghua University, Beijing, November, 2015.
- Undergraduate Colloqium, Tsinghua University, November, 2015.
- Seminar, Beijing Institute of Technology, November, 2015.
- Colloquium, University of California, Irvine, January 2016.
- Analysis and PDE seminar, MIT, March 2016.
- Colloquium, Peking University, September, 2017.
- Joint Colloquium Institute of Mathematical Sciences and Department of Mathematics CUHK, November, 2017.
- Colloquium, National University of Singapore, November, 2017.
- Seminar, University of Sydney, Australia, March 2018.
- Colloquium, CAAM, Rice University, April, 2018.
- Colloquium PACM, Princeton University, April, 2018.

- Seminar, Centro de Modelamiento Matemático (CMM), Santiago, Chile, December, 2018.
- Colloquium, University of Illinois Urbana Champaign, January, 2019.
- Colloquium, San José State University, November, 2019.
- Colloquium, Emory University, March 2020.
- International Webinar on Inverse Problems, UCI, April, 2020.
- Webinar Monza, MIT June 2020.
- .Latinamerican Cyber-colloquium of Mathematics, June, 2020 (online).
- Colloquium, Rutgers U., September 2020 (online).
- Colloquium, RPI, September, 2020 (online).
- Colloquium, TIFR, Bangalore, India, October, 2020 (online).
- Colloquium Purdue University, October, 2021.
- Colloquium, Department of Physics, Universidad Católica de Chile, October, 2021.
- Colloquium, University of California, Irvine, November, 2021.
- Colloquium, DMCC, Universidad de Santiago de Chile, December, 2021.
- Colloquium, Computational Mathematics Science and Engineering (CMSE), Michigan State University, January, 2022.
- Seminar, Columbia University, February 2022.
- Modern Mathematics Lectures, Yau Center for the Mathematical Sciences, Tsinghua U., China, March 2022 (online).
- PIMS Geometric Analysis Seminar, U. Calgary, April, 2022.
- Analysis &PDE Seminar, Stanford, April, 2022.
- Harmonic Analysis and Differential Equations Seminar, UC Berkeley, April, 2022.
- Colloquium, UC Santa Cruz, April, 2022.
- MAS-MP Seminar, Aaarhus-Munich-Santiago, May 2022 (online).
- IAS Seminar on Inverse Problems, Imaging and PDEs, HKUST, Hong Kong, July, 2022.
- Seminar,Dispersive and Hyperbolic Equations, Rutgers University, September 2022.
- Colloquium Rutgers University, September 2022.
- International Zoom Inverse Problems Seminar, UC Irvine, September, 2022.
- PDE Seminar, U. Chile, Santiago, Chile, October, 2022 (online).
- Colloquium, Fudan University, Shanghai, China, December, 2022 (online).

Prize and Awards Committees

- Awards Committee for the Mathematical Congress of the Americas 2021.

- Chair Control and Optimization Panel, ICM 2018.

- Chair Selection Committee, 2016 Media V Award.

- Early Award Committee, International Congress of Mathematical Physics, 2015.

- Chair of 2015 Kleinman Prize Committee.

- Chair of 2014 Bocher Prize Committee.

- Member Awards Committee, Mathematical Congress of the Americas, 2012-2013.

- Member of 2012 Kleinman Prize Committee.

- Selection Committee for the 2013 SIAG/Imaging Science Prize.

- Member Selection Committee of SIAM's John Von Neumann Lecture, 2010-2012.

- Member Selection Committee CMR-Fields-PIMS Prize, 2009-2010, chair 2010.

- Chair AMS-SIAM committee to select winner of 2006. Birkhoff Prize.

- Chair Selection Committee of 2017 Calderón Prize.

Professional Experience:

- Member of Scientifc Committee AIP 2023.

- Member of the Executive Committee of Inverse Problems International Association ()IPIA), May, 2022-present.

- Member of the PIMS Network Wide Colloquium Committee, 2022-2023.

- Member of the PIMS Network Wide Colloquium Committee, 2021-2022.

- Member of PIMS Netword Wide Colloquium Committee, 2020-2021.

- Member of Scientific Committee of 5th East Asia Simposium of IPIA Young Scholars Symposium.

- Member of Scientific Committee, 'Microlocal Methods in Analysis and Geometry, Luminy, France, May, 2019.

- Member of Scientific Committee, Inverse Problems, PDE and Geometry, Jyvaskyla, Finland, August, 2018.

- Member of Scientific Committee, ICIP 2018, Singapore, August, 2018.

- Member if Scientific Committee, Applied Inverse Problems (AIP) 2017-2019.

- Scientific Committee, Sociedad Matemática de Chile, 2017-present.

- Scientific Committee, 75 Years of Mathematics in Mexico, an International Conference, Dec 4-8, 2017.

- Scientific Committee, AIP 2017, Hangzhou, China, May 29-June 2, 2017.

- Scientific Committee, Trimester on Inverse Problems, Institut Henri Poincaré, Paris, April 13-July 10, 2015.

- Scientific Committee, AIP, May 2015, Helsinki, Finland.

- Scientific Committee, Conference "Spectral and Analytic Methods in Inverse Problems", Institut Henri Poincaré, Paris, France, May, 2015.

- Member International Association of Mathematical Physics Early Award Committee, 2014-2015.

- Member Scientific Committee ee of workshop "Recent Progress in the Mathematical and Numerical Analysis of Inverse Problems", CIRM, Luminy, May 2014.

- Consultant to Mathematics of Planet Earth (MPE) 2013 initiative.

- Program Committee, SAMSI 2013 Summer Program on Neuroimaging Data Analysis, 2012-2013.

- Simons Foundation Review Advisory Panel, 2011-present.

- Nominating Committee American Mathematical Society, 2011-2013.

- Member of the Organizing Committee of Inverse Problems program at Mittag-Leffler Institute, Spring 2013.

- Member of Organizing Committee on Fields Institute Program on "Inverse Problems and Imaging", January-August, 2012.

- Member of Scientific Committee of Inverse Problems Program at the Newton Institute, Cambridge, England, Fall 2011.

- President, Inverse Problems International Association (IPIA), July 2010-April, 2022.

- Member Scientific Committee MCPIT2013, Institute Henri Poincaré, Paris, France, November 2013.

- Member of Scientific Committee, Applied Inverse Problems (AIP),Conference, July, 2013.

- 10 year review of "Centro Modelamiento Matematico (CMM)", Chile for CONICYT, Chile, 2011.

- Advisory Board Member of ICIP2010 held in Hong Kong, December 2010.

- Member of Scientific Committee, Applied Inverse Problems (AIP) Conference, College Station, Texas, May 2011.

- PIMS site director at University of Washington, 2003-2010.

- Member of Scientific Advisory Board Banff International Research Station (BIRS), 2008-2011.

- Member of committee to review the graduate program at Case Western Reserve, 2009.

- Scientific Committee of meeting on Inverse problems in PDE, CIRM, Luminy, 2009.

- Advisory Board, conference on Integral Geometry and Tomography, Stockholm, Sweden, August 2008

- International Advisory Committee of Functional Analysis, Differential Operators and Nonlinear Analysis (FSDONA) conference, Helsinki, August 2008.

- Member International Scientific Committee of the 6th International Conference on Inverse Problems in Engineering: Theory and Practice (ICIPE 2008)held in Dourdan (Paris), France on June 15-19, 2008

- Member of the International Program Committee of "Inverse Problems : Modeling and Simulation", Fethiye, TURKEY, May 2008.

- Member of Scientific Committee of 3rd Latin Congress of Mathematicians, 2008-2009.

- Reviewer of FONDAP Center "Centro de Modelamiento Matemático" (CMM) in Chile, September, 2006

- Member of International Program Committee of International Conference on Inverse and Ill-Posed Problems of Mathematical Physics, Novisibirsk, Russia, August, 2007.

- International Program Committee of VII Americas School in Differential Equations and Non-linear Analysis Cartagena, Colombia, July 23, 2007 - July 27, 2007.

- Chair committee to select speakers of AMS Western regional Meetings, 2006-2007.

- International Review Committee of FONDAP Center for Mathematical Modelling (CMM), Chile, March 2005.

- Committee to select speakers of AMS Western regional Meetings, 2005-2007.

- Member of Scientific Review Panel of PIMS, January 2002-July 2007.

- Steering committee of Applied Inverse Problems (AIP) conferences 2001-2007.

- Scientific Committee of PICOF'06, Nice, France.

- Scientific Committee 5th International Conference on Inverse Problems in Engineering: Theory and Practice, Cambridge, England, July 2005.

- Scientific Committee, International Conference Inverse Problems:Modeling and Simulation, Fethiye, Turkey, June, 2004.

- Member of organizing committee of special semester on inverse problems at IPAM, UCLA, Fall 2003.

- Member of International Advisory member for theme year in inverse problems in Finland, 2003-2004.

- International Scientific Committee, International Conference on Ill-Posed Inverse Problems in honour of the 70th anniversary of the birth of Prof. M.M. Lavrent'ev, Novosibirsk, Russia, August, 2002.

- Chair, Organizing Committee of Semester on Inverse Problems and Applications at MSRI, Berkeley, Fall 2001.

- Member of AMS Council 1992-1994.

- Reviewer, Mathematical Reviews 1981-1991.

Conferences and Special Years Organized

- Co-organized workshop in scattering theory at MIT, April 1984 (jointly with V. Guillemin, D. Jerison and R. Melrose).

- Co-organized special session on Inverse problems, AMS meeting, June 1991 (jointly with J. Sylvester).

- Co-Chairman Summer Research Conference on Electrical Impedance Tomography, July, 1995 (jointly with J. Sylvester and M. Vogelius).

- Organized a session on "Inside Out: Inverse Boundary Problems", for the AAAS 1997 Annual Meeting and Science Innovation Exposition.

- Organized the first "Inverse Problems Seminar of the Pacific Northwest", May 1999.

- Co-organizer of Special Session of AMS on "Microlocal Analysis and Applications", September 1999 (partly supported by MSRI).

- Co-organizer of Workshop on "Mathematics of Imaging", MSRI, Berkeley, November 1999jointly with A. Grunbaum).

- Co-organizer of the first "Pacific Northwest PDE" meeting, Vancouver, Canada, May 2000 (jointly with R. Froese and N. Ghoussoub.

- Co-organizer of the second "Pacific Northwest PDE meeting, UW, Seattle, May 19, 2001 (jointly with R. Froese and N. Ghoussoub).

- Co-organizer PIMS-MITACS workshop on "Inverse Problems and Imaging", June 9-10, 2001, Vancouver, Canada (jointly with M. Lamoureux and G. Margrave).

- Co-organizer IMA summer workshop on "Geometric Methods in Inverse Problems and PDE Control", July 16-27, 20001 (jointly with C. Croke, I. Lasieka and M. Vogelius).

- Co-organizer Introductory workshop on "Inverse Problems and Integral Geometry", MSRI, Berkeley, August 13-24, 2001 (jointly with L. Borcea, D. Colton, M. Eastwood A. Goncharev and S. Gindikin).

- Chair organizing committee Pan American Advanced Studies Institute (PASI) on Inverse Problems, MSRI, Berkeley, October 28-November 2, 2001.

- Chair of organizing committee of workshop on "Inverse Problems and Applications", MSRI, Berkeley, November 2-16, 2001.

- Co-chair of Instituto di Alta Matematica (INdAM) workshop on "Inverse Problems and Applications", Cortona, Italy, June 2-8, 2002 (jointly with G. Alessandrini).

- Co-chair of Special Session on "Inverse Boundary Problems and Applications", in First AMS-UNI meeting, Pisa, Italy, June 12-16, 2001 (jointly with G. Alessandrini).

- Coordinator of 2003 PIMS thematic year on inverse problems. As part of this thematic year I co-organizer five workshops on the theory and applications of inverse problems.

- Co-organizer of IPAM special semester in fall 2003 on "Inverse Problems: Computational Methods and Emerging Applications."

- Co-organizer of Special Session AMS on "Theoretical And Computational Aspects of Inverse Problems", Atlanta meeting, January, 2005.

- Co-chair of minysimposium on "Inverse Problems in Wave Propagation", Applied Inverse Problems, Great Britain, June, 2005 (jointly with W. Symes).

- Organizer of Summer Graduate School on Inverse Problems, University of Washington, August, 2005.

- Co-chair of 4th Pacific Northwest PDE meeting, UBC, Vancouver, December, 2005 (jointly with R. Froese and T. Toro.)

- Co-organizer of "Seminar on Inverse Problems and Applications" in honor of Alberto P. Calderón, Rio de Janeiro, Brazil, March 2006.

- Co-chair of BIRS workshop on "Inverse Problems and Applications", Banff, August 20-24, 2006 (jointly with G. Margrave).

- Co-chair of Symposium on Inverse Problems Honoring Alberto Calderón IMPA, Río de Janeiro, Brazil, January 10 to 19, 2007 (jointly with A, Sa Barreto and J. Zubelli).

- Co-organizer of Conference on "Microlocal Analysis and Harmonic Analysis in Inverse Problems", CIRM, Luminy, France, March 26-30, 2006.

- Organizer of Summer School on "Inverse Problems and Radiative Transfer", Seattle, June 18-22, 2007.

- Chair of Applied Inverse Problems 2007 Conference and First International Congress of IPIA, Vancouver, Canada, June 25-29, 2007.

- Co-organizer of meeting on "Mathematics of Oil Exploration", Monterrey, Mexico, October 17-18, 2007.

- Co-organizer of meeting on "Electromagnetic Metamaterials and their Approximations: Practical and Theoretical Aspects", Center for Scientific Computation and mathematical Modeling, University of Maryland, September 2008.

- Chair or Organizing Committee of "Mathematics Research Communities" meeting on Inverse Problems, Snowbird, Utah, June 2009.

- Organizer of Summer Graduate school on "Inverse Problems and Applications", MSRI, July 2009.

- Co-chair of summer school on "Seismic Imaging", Seattle, August, 2009.

- Co-chair of Research Training Grant (RTG) Summer School on Inverse Problems and PDE, UW, Seattle, July, 2010.

- Chair of organizing committee on program at MSRI, Berkeley, in Fall 2010 on "Inverse Problems and Applications".

- Chair of organizing committee of "Connections for Women" workshop at MSRI, Berkeley, August, 2010.

- Chair of organizing committee of "Introductory Workshop" at MSRI, August, 2010.

- Chair of organizing committee of "Inverse Problems and Applications" workshop at MSRI, November, 2010.

- Co-organizer of special session on "Inverse Problems and PDE Control", Pucón, Chile, December 2010.

- Co-organizer of workshop at Isaac Newton Institute on "Inverse Problems in Analysis and Geometry", Cambridge, England, August 2011.

- Co-Chair organizing committee of Pan American Advanced Studies Institute on Inverse Problems and PDE Control, Santiago, Chile, Jan. 2012.

- Organizer of minitutorial on "Harry Potter's Cloak Via Transformation Optics", SIAM Conference on Imaging Science, Philadelphia, May, 2012.

- Organizer of Forward Looking Panel Discussion, SIAM Conference on Imaging Science, Philadelphia, May, 2012.

- Co-Chair Organizing Committee of International Conference on Inverse Problems and PDE Control, Sichuan University, Chengdu, China, July-August, 2012.

- Co-Chair Organizing Committee of workshop on "Coupled-physics Inverse problems", CMM, Universidad de Chile, Santiago, Chile, January, 2013.

- Co-Chair Organizing Committee of Session on Inverse Problems, 2nd PRIMA Congress, Shanghai, China, June, 2013.

- Co-Chair Organizing Committee of Research Training Grant (RTG) Summer School on "Microlocal Analysis and Inverse Problems", University of Washington, Seattle, July, 2013.

- Organizer, Summer Graduate Workshop on "Introduction to the Mathematics of Seismic Imaging", July-August, 2013 (two weeks). This was part of the MSRI activities on the 2013 Mathematics of Planet Earth Year.

- Chair Organizing Committee of the workshop "Inverse Problems and Imaging" held at the Institut Henri Poincaré, Paris, June 7-11, 2014.

- Co-Chair Organizing Committee of the Workshop "Inverse Problems in the Physical Sciences", CMM, Santiago, Chile, August 2015.

- Co-Chair of workshop "Inverse Problems, Imaging and PDE's", IAS HKUST, Hong Kong, September 28-October 2, 2015.

- Co-chair of workshop, "Inverse Problems and Related Topics", Zhejiang University, Hangzhou, China, December 2015.

- Organizer of SIAM Special Session on "Inverse Problems and Applications" at JMM, Seattle, January 2016.Ch

- Co-Organizer, First East Asia Symposium of IPIA, Shen Zhen, China, December, 2015.

- Co-organizer Young Scholar Symposium, Second East Asia Symposium of IPIA, Taipei, November 2016.

- Chair Organizing Committee of workshop "Inverse Problems, Imaging and Partial Differential Equations"', IAS, HKUST, Hong Kong, December, 2016.

- Chair of IAS Program on "Inverse Problems, Imaging and Partial Differential Equations"', HKUST, Hong Kong, September 2016-February, 2017.

- Co-Organizer, Math+X Symposium on Seismology and Inverse Problems, Rice University, Houston, January, 2017.

- Co-organizer of Minisymosium on "Linear and non-linear tomography in non Euclidean geometries"', 100 Years of the Radon Transform, TiCAAM, Linz, Austria, March, 2017.

- Co-chair, Symposium for the Mathematics of Cryo-Electron Microscopy, IAS, HKUST, Hong Konh, September, 2017.

- Co-organizer, Microlocal Analysis and Symplectic Geometry in honor of V. Guillemin's 80th birthday conference, MIT, Cambridge, Massachusetts, November, 2017.

- Co-organizer, Frontiers of Non-Linear PDE, IAS, HKUST, Hong Kong, December, 2017.

- Co-organizer Math+X Symposium on Data Science and Inverse Problems in Geophysics, Rice University, Houston, January, 2018.

- Chair Organizing Committee, Inverse Problem Imaging and PDe's, IAS, HKUST, Hong Kong, March, 2018.

- Co-organizer, The third East Asia section of IPIA Young Scholars symposium, Hong Kong Baptist University, Hoing Kong, March 2018.

- Co-organizer, Theories and Numerics of Inverse Problems, National University of Singapore, August and September, 2018.

- Co-organizer, Math+X Symposium, Inverse Problems and Deep Learning in Space Exploration, Rice University, January, 2018.

- Co-chair, MMAA, Inverse Problems and Resonances in honor of Plamen Stefanov, Purdue University, March, 2019.

- Co-chair, Probing the Earth and Universe with Microlocal Analysis, BIRS, Banff, April, 2019.

- Co-chair, Mathematics of Optical Imaging, IMA, Minnesota, April, 2019.

- Chair, Inverse Problems, Imaging and PDEs, IAS, HKUST, Hong Kong May, 2019.

- Co-organizer, Math+X Symposium on Inverse Problems and Deep Learning, Mitigating Natural Hazards, Las Catalinas, Guanacuaste, Costa Rica, Jan. 2020.

- Co-organizer, special semester on "Mathematical and Computational Challenges in the Era of Gravitational Wave Astronomy", IPAM, Fall 2021.

- Co-organizer, "Mathematical and Numerical Aspects of Gravitation", IPAM, October, 2021.

- Co-organizer Workshop on "Mathematical and Numerical Aspects of Gravitation", IPAM, UCLA¡ October, 2021.

- Co-Chair of Conference on "Conformal Geometry, Analysis and Physics" in honor of Robin Graham, UW, Seattle, June, 2022.

- Co-Chair of Conference on "Harmonic Analysis and Waves" in honor of Hart Smith, UW, Seattle, August, 2022.

- Co-Chair, Special Semester on "Tomography Across the Scales", The Johann Radon Institute for Computational and Applied Mathematics (RICAM) program on inverse problems, Fall, 2022.

- Chair of "Hong Kong Workshop on Inverse Problems and Imaging", November, 2022.

PhD Students

- José Antoniano, PhD 1983.

- Fernando Brambila, PhD 1985.

- Kurt Bryan, PhD 1990.

- Charles Curtis, PhD 1994.

- Carlos Tolmasky, PhD 1996.

- Lizabeth Rachelle, PhD 1996.

- Jenn-Nan Wang, PhD 1997.

- Steve McDowall, PhD 1998.

- Eduardo Chappa, PhD 2002.

- Alexandru Tamasan, PhD 2002.

- Karthik Ramaseshan, PhD 2003.

- Michal Skokan, PhD 2004.

- Mikko Salo, PhD 2004 (coadvisor with L. Päivärinta).

- Bela Frygik, PhD 2006 (coadvisor with P. Stefanov).

- Matias Courdurier, PhD 2007.

- Venkateswaran Krishnan, PhD 2007 (coadvisor with P. Stefanov).

- Leo Tzou, PhD 2007.

- Ian Langmore, PhD 2008.

- Sean Holman, PhD 2009.

- James Vargo, PhD 2010.

- Ting Zhou, PhD, December 2010.

- Mark Hubenthal, PhD 2012.

- Jie Chen, PhD, 2013.

- Ilker Kocyigit, PhD 2013.

- Lee Patrolia, PhD 2013.

- Justin Tittlefitz, PhD 2013 (coadvisor with H. Smith).

- Yang Yang, PhD 2014.

- Kaloyan Marinov, PhD 2015.

- Ru-Yu Lai, PhD 2015.

- Peter Caday, PhD 2015 (coadvisor with P. Stefanov).

- Hanming Zhou, PhD 2015.

- Yernat Assylbekov, PhD 2016.

- Donsub Rim (joint with R. LeVeque)

- Benjamin Palacios, PhD 2018.

- Yifan Chang, Phd, 2018.

- Nikolaos Eptaminitakis, PhD, 2020 (coadvisor with C.R. Graham).

- Ashwin Takirere, PhD 2020.

- Li Li PhD 2021.

- Reed Meyerson, PhD 2021.

- Ravi Shankar, PhD 2021 (coadvisor with Y. Yuan).

- Kevin Chien, current PhD student.

- Haim Grebnev, current PhD student.

- Kelvin Lam, current PhD student.

- Kevin Tully, current PhD student.

- Ravil Mussabayev, current PhD student.

Postdoctoral Advising

- Edoh Amiran, 1986-1989.

- Ziqi Sun, 1987-1990.

- Ramon Mendoza, 1991-1992.

- Masaru Ikehata, 1992-1993.

- Clifford Nolan (NSF postdoc), 1997-2000.

- Elisa Francini, 1998-1999.

- Matti Lassas, 1998-1999.

- Gleb Dyatlov, Spring 2002.

- Stephen McDowall, Summer 2002.

- Peter Gibson (NSCER postdoc), 2001-2002.

- Kim Knudsen, 2004- 2005.

- Mikko Salo, 2005-2006.

- Horst Heck, 2005-2006.

- Xiaosheng Li, 2005-2008.

- Hongyu Liu, 207-2010.

- Alberto Mercado, 2007-2008.

- Ben Stephens, 2009-2012 (joint with Tatiana Toro).

- Tu Nyugen, 2009-2012 (joint with Tatiana Toro).

- Frederic de Gournay, 2010.

- Francois Monard, 2012-2015.

- Lauri Oksanen, 2012-2013.

- Mario Micheli, 2013-2014.

- Emelia Blasten, 2013-2014.

- Carlos Montalto, 2014-2017.

- Emelia Blaasten, 2015-2018.

- Yiran Wang, 2015-2018.

- Yi-Hsuan Lin, 2016-2018.

- Tuhin Ghosh, 2016-2019.

- Catalin Carstea, 2017-2018.

- Sombuddha Bhattacharyya, 2017-2020.

- Jiang Zhai, 2018-2021.

- Yang Zhang, 2020-present.

- Antti Kujanpää, 2022-present.

Publications.

1. "Pseudodifferential operators with involutive double characteristics", *Communications in PDE*, **2**(1977), 713–779.

2. With R. B. Melrose, "Lagrangian intersection and the Cauchy problem", *Comm. on Pure and Appl. Math.*, **32**(1979), 483–519.

3. "Parametrices for operators with multiple involutive characteristics", *Comm. in PDE*, **4**(1979), 571–582.

4. With R. B. Melrose, "Microlocal structure of involutive conical refraction", *Duke. Math. J.*, **43**(1979), 571–582.

5. With V. Guillemin, "Oscillatory integrals with singular symbols", *Duke. Math. J.*, **48**(1981), 251–267.

6. "Light intensity distribution in conical refraction", *Comm. on Pure and Appl. Math.*, **35**(1982), 69–80.

7. With G. Mendoza, "A necessary condition for local solvability for a class of operators with double characteristics", *J. Funct. Anal.*, **52**(1983), 252–256.

8. With G. Mendoza, "A sufficient condition for local solvability for a class of operators with double characteristics", *Amer. J. Math.*, **106**(1984), 187–217.

9. With C. Callias, "Singular asymptotics approach to partial differential equations with isolated singularities in the coefficients", *Research Announcements Bull. AMS.*, **11**(1984), 172–176.

10. "A boundary canonical transformation for a class of operators with double characteristiscs", "Analysis, Geometry and Probability", Proceedings of the First Chilean Symposium on Mathematics, *Lecture Notes in Pure and Appl. Math.*, **93**(1985), 53–68, Marcel Dekker Publisher.

11. With C. Callias, "Asymptotics of the scattering amplitude for singular potentials", MSRI preprint (1983).

12. With J. Antoniano, "A functional calculus for a class of pseudodifferential operators with singular symbols", *Proceedings of Symposia in Pure Mathematics*, **43**(1985), 5–16.

13. With J. Sylvester, "A uniqueness theorem for an inverse boundary value problem in electrical prospection", *Comm. on Pure and Appl.Math*, **39**(1986), 91–112.

14. "Product type conormal distributions in scattering theory", in *Proceedings VII ELAM in Dynamical Systems and Partial Differential Equations*, 155–160(1986), Universidad Simón Bolívar.

15. "On L^2-estimates for singular Radon transforms", preprint, MIT, (1985).

16. With J. Sylvester, "A global uniqueness theorem for an inverse boundary value problem", *Annals of Math.*, **125**(1987), 153–169.

17. With J. Sylvester, "Remarks on an inverse boundary value problem", Proceedings Oberwolfach Conference on topics in Pseudodifferential Operator, *Lecture Notes in Math.* **1256**(1987), 430–441, H. Cordes, B. Gramsch and H. Widom, editors.

18. With J. Sylvester, "Inverse boundary value problems at the boundary-continuous dependence", *Comm. on Pure and Appl. Math.*, **41**(1988), 197–219.

19. "Scattering by a potential", Lecture notes in Spanish, *Acta Científica Venezolana*, **36**(1985), 1–18.

20. "Microlocal Analysis and Scattering theory", Lecture notes in Spanish of series of talks given at VIII ELAM, Río de Janeiro, Brazil (1986).

21. With J. Sylvester, "Inverse boundary value problems", *Proceedings VIII ELAM, Lecture Notes in Math.*, **1324**(1986), 320–328.

22. With A. Nachman and J. Sylvester, "An n-dimensional Borg-Levinson theorem", *Comm. Math. Phys.*, **115**(1988), 595–605.

23. With A. Greenleaf, "Non-local inversion formulas for the X-ray transform", *Duke Math. Journal*, **58**(1989), 205–240.

24. With A. Greenleaf, "Estimates for singular Radon transforms and pseudodifferential operators with singular symbols", *Journal of Functional Analysis*, **89**(1990), 202–232.

25. With J. Lee, "Determining anisotropic real-analytic conductivities by boundary measurements", *Comm. Pure Appl. Math.*, **42**(1989), 1097–1112.

26. With A. Greenleaf, "Composition of some singular Fourier integral operators and estimates for restricted X-ray transforms", *Ann. Institut Fourier (Grenoble)*, **40**(1990),443–466 .

27. With Z. Sun, "Generic uniqueness for an inverse boundary value problem", *Duke Math. Journal*, **62**(1991), 131–155.

28. With J. Sylvester, "The Dirichlet to Neumann map and applications", SIAM proceedings series list, Inverse Problems in Partial Differential Equations (1990), 101–139.

29. With R. Melrose, "Introduction to Microlocal Analysis", Lecture Notes available.

30. With A. Greenleaf, "Microlocal techniques in integral geometry", *Contemporary Math*, **113**(1990), 121–135.

31. With Z. Sun, "Inverse scattering for singular potentials in two dimensions", *Transactions AMS*, **338**(1993), 363-374.

32. With Z. Sun, "Generic uniqueness for determined inverse problems in 2 dimensions", Proceedings satellite conference on inverse problems in the engineering sciences, ICM, Kyoto, Japan. Springer Verlag 145–152.

33. With G. Nakamura, "Identification of Lamé parameters from boundary measurements", *American Journal of Math.* **115**(1993), 1161–1187.

34. With J. Sylvester, "Inverse problems in anisotropic media" *Contemp. Math.* **122**, (1991), 105–117.

35. With G. Nakamura, "Uniqueness for identifying Lamé moduli by Dirichlet to Neumann map", Proceedings ICM 1990, satellite conference on inverse problems in the engineering sciences, ICM, Kyoyo, Japan, Springer Verlag 133–138.

36. "Inverse boundary value problems and applications", *Astérisque* **207**(1992) 153–211.

37. With A.Greenleaf, "Composition of some singular Fourier integral operators II", *Duke Math. J.* **64** (1991), 415–444.

38. With Z. Sun, "On an inverse boundary value problem for Maxwell's equations", *Arch. Rational Mech. Anal.* **119** (1992), 71–83.

39. With A. Greenleaf, "Microlocal analysis of the two-plane transform", *Contemp. Math.* **140** (1992), 65–71.

40. With Z. Sun, "Recovery of singularities for formally determined inverse problems", *Comm. Math. Phys.* **153** (1993), 431–445.

41. With A. Greenleaf, "Recovery of singularities of a potential from singularities of scattering data", *Comm. Math. Phys.* **157** (1993), 549–572.

42. With G. Nakamura, "Inverse boundary problems at the boundary for an elastic system", *SIAM J. Math. Anal.***26** (1995), 263-279.

43. With G. Nakamura, "Global uniqueness for an inverse boundary value problem arising in elasticity", *Inventiones Math.* **118** (1994), 457-474. Erratum: *Inventiones Math.*, **152** (2003), 205-207.

44. Inverse boundary value problems for first order perturbations of the Laplacian", *Lectures in Applied Mathematics* **30**(1992), 245–258.

45. With G. Nakamura and Z. Sun, "Global identifiability for an inverse problem for the Schrödinger equation in a magnetic field", *Math. Annalen* **303**(1995), 377–388.

46. With A. Greenleaf, "The modified Radon transform of Lax and Phillips in scattering theory", Proceedings of the Conference: "75 Years of the Radon transform", International Press (1994), P. Milchor and S. Gindikin editors, 161–166.

47. With G. Nakamura, "Inverse Boundary and Scattering Problems for an Elastic Medium", Proceedings of the Second International Symposium on "Inverse Problems in Engineering Mechanics", A.A. Balkema, Rotterdam-Brookfield (1994), 165-168, H.D. Bui, M. Tanaka, M. Bonnet, H. Maigre, E. Luzzato and M. Reynier editors

48. With G. Nakamura, "A layer stripping algorithm in elastic impedance tomography", *IMA Volume* **90** "Inverse Problems in Wave Propagation", Springer (1997) 375-384. Edited by G. Chavent, G. Papanicolau, P. Sacks and W. Symes .

49. With G. Nakamura, "Elastic impedance tomography", Proceedings of the 1995 Design Engineering Technical Conferences, vol DE-vol84-3, Part C (1995), 987–992. Edited by H. T. Banks et al.

50. With Z. Sun, "Inverse problems in non-linear media", Journées "Equations Aux Derivees Partielles", Saint-Jean des Monts (1996), XIV, 1–11.

51. With P. Stefanov, "Inverse backscattering for the acoustic equation", *SIAM J. Math. Anal.* **28** (1997), 1191-1204.

52. With Z. Sun, "Inverse problems in quasilinear anisotropic media", *Amer. J. of Math.* **119** (1997), 771-797.

53. "Inverse boundary value problems for elastic materials". Inverse problems in geophysical applications (Yosemite, CA, 1995),(197) 12–26, SIAM, Philadelphia, P.A.

54. With R. Brown, "Uniqueness in the inverse conductivity problem with less regular conductivities", *Comm. PDE* **22** (1997), 1009-1027.

55. With P. Stefanov, "Stability estimates for the hyperbolic Dirichlet to Neumann map in anisotropic media", *J. Funct. Anal.* **154** (1998), 330–358.

56. With P. Stefanov, "Rigidity for metrics with same lengths of geodesics", *Mathematical Research Letters* **5** (1998), 83–96.

57. With M. Cheney and M. Lassas, "Uniqueness for a wave propagation problem in a half space", *Inverse Problems* **14** (1998), 679–684.

58. With G. Nakamura and K. Tanuma, "Layer stripping for a transversely isotropic elastic medium", *SIAM J. Appl. Math.* **59** (1999), 1879–1891.

59. "Developments in inverse problems since Calderón's foundational paper", Essays on Harmonic Analysis and Partial Differential Equations in honor of Alberto P. Calderón, University of Chicago Press, (1999), 295–345, edited by M. Christ, C. Kenig and C. Sadosky.

60. "Inverse Boundary Value Problems for Partial Differential Equations", *Documenta Mathematica*, Extra Volume ICM 98, **Vol III** (1998) 77–86.

61. With G. Nakamura, "Inverse elastic scattering at a fixed energy", *Journal of Inverse and Ill Posed Problems* **7**(1999), 283–288.

62. "Inverse scattering in anisotropic media", in Surveys on Solution Methods for Inverse Problems, Springer Vienna/New York, edited by David Colton, Heinz W. Engl, Alfred Louis, Joyce R. McLaughlin, William Rundell (2001).

63. With M. Lassas, "On recovering a Riemannian manifold from the Dirichlet-to-Neumann map", *Annales Scientifiques de l'École Normale Supérieure*, **34** (2001), 771–787.

64. With A. Greenleaf, "The local Dirichlet-to-Neumann map via the two plane transform", *Duke Math. J.*, **108** (2001), 599–617.

65. With V. Sharafutdinov, "On deformation boundary rigidity and spectral rigidity of Riemannian surfaces with no focal points", *Journal Diff. Geometry* **56** (2000), 93–110.

66. with A. Greenleaf, "Characteristic space-time estimates for the wave equation", *Math. Zeitschrift* **236**(2001), 113–131.

67. "Recent progress in the anisotropic electrical impedance problem. Proceedings of the USA-Chile Workshop on Nonlinear Analysis (Vina del Mar-Valparaíso, 2000), 303–311 (electronic), *Electron. J. Differ. Equ. Conf.* **6** (2001).

68. With L. Päivärinta and A. Panchenko, "Complex geometrical optics solutions for Lipschitz conductivities", Revista Matemática Iberoamericana, **19** (2003), 57-72.

69. With M. Lassas and M. Taylor, "The Dirichlet-to-Neumann map for complete Riemannian manifolds with boundary", *Communications in Analysis and Geometry*, **11**(2003), 207-221.

70. With D. Finch, "The X-ray transform for a non-abelian connection in two dimensions", *Inverse Problems*, **17**(2001), 695-201.

71. "A time-dependent approach to the inverse backscattering problem, *Inverse Problems*, **17**(2001), 703–716.

72. "Travel time tomography", *Journal of the Korean Mathematical Society*, **38**(2001), 711-722.

73. With A. Bukhgeim, "Recovering a potential from partial Cauchy data", *Comm. PDE* **27**(2002), 653-668

74. With M. Lassas and V. Sharafutdinov, "Semiglobal boundary rigidity for Riemannian metrics", *Math. Annalen*, **325**(2003), 767-793.

75. "Scattering by a metric" chapter 6.1.5 of the *Encyclopedia on Scattering*, Academic Press, edited by R. Pike and P. Sabatier (2002), 1668-1677.

76. With A. Greenleaf and M. Lassas, "The Calderón Problem for Conormal Potentials I: Global Uniqueness and Reconstruction", *Comm. on Pure and Applied Math.*, **61** (2003), 328-352.

77. With A. Vasy, "Low energy inverse problems in three-body scattering", *Inverse Problems*, **18** (2002), 719–736.

78. With S. Hansen, "Propagation of polarization in elastodynamics with residua l stress", *Math. Annalen*, **326**(2003), 563-587.

79. With A. Vasy, "Fixed energy inverse problem for exponentially decreasing potentials", *Methods and Applications of Analysis*, **9**(2002), 239-247.

80. With H. Kang, "Inverse problems for the Pauli Hamiltonian in two dimensions", *Journal of Fourier Analysis and Applications*, **10**(2004), 201-215.

81. "Inverse boundary problems in two dimensions", *Function Spaces, Differential Operators and Nonlinear Analysis - The Hans Triebel Anniversary Volume*, Birkhäuser, Basel-Boston-Berlin, (2003), 183-203, edited by D. Haroske, T. Runst, H-J. Schmeisser.

82. With G. Nakamura, "Complex geometrical optics solutions and pseudoanalytic matrices", *Journal of Ill-Posed and Inverse Problems*, **10**(2002), 305–338.

83. With G. Dyatlov and A. Bugkheim, "'Reconstruction of the memory from partial boundary measurements", *Contemporary Mathematics*, **307**(2002), 39-46.

84. With P. Stefanov, "Optical tomography in two dimensions", *Methods and Applications of Analysis*, **10**(2003), 1-9.

85. With S. Hansen, "Determining acoustic and elastic parameters from travel times", *Proceedings of 2002 ASME International Mechanical Engineering Congress and Exposition (IMECE 2002)*.

86. With P. Stefanov, "Local uniqueness for the inverse obstacle problem at fixed energy and fixed angle", *Proc. Amer. Math. Soc.*, **132**(2004), 1351-1354.

87. With J.-N. Wang, Boundary determination of a Riemannian metric by the distance function", *Advances in Applied Mathematics*, **31**(2003), 379-387.

88. "The Cauchy data and the scattering relation", *IMA Publications*, **137**, "Geometric methods in inverse problems and PDE control" (2003), 263-288.

89. With C. Nolan, "Geometrical optics for anisotropic materials", *Contemporary Math.*, **333**(2003), 177-185.

90. With A. Vasy, "Inverse problems in 3-body scattering", *Contemporary Math.*, **333**(2003), 209-215.

91. With P. Stefanov, "Stability estimates for the X-ray transform of tensor fields and boundary rigidity, *Duke Math. J.*, **123**(2004), 445-467.

92. "The inverse kinematic problem in anisotropic media" in Mathematical and Numerical Aspects of Wave Propagation, Waves 03, 39-45, edited by G. C. Cohen, E. Heikkola, Patrick Joly and Pekka Neittaanmäki.

93. With H. Ammari, "'Reconstruction of the potential from partial Cauchy data for the Schrödinger Equation", *Indiana Math J.*, **53**(2004), 169-184.

94. With A. Vasy, "Inverse problems in N-body scattering", *Contemporary Math.*, **348**(2004), 135-154.

95. With A. Greenleaf and M. Lassas, "Anisotropic conductivities that cannot be detected by EIT", *Physiological Measurement*, **24**(2003), 413-420.

96. With A. Greenleaf and M. Lassas, "On nonuniqueness for Calderón's inverse problem", *Mathematical Research Letters*, **10**(2003), 685-693.

97. "On the local Dirichlet to Neumann Map", in New Analytic and Geometric Methods in Inverse Problems, Springer (2004), 261-279, edited by K. Bingham, Ya. V. Kurylev and E. Somersalo.

98. With D. Finch and Ih-Ren Lan, "Microlocal analysis of the restricted X-ray transform with sources on a curve", Inside Out, Inverse Problems and Applications, MSRI Publications Volume **47**, Cambridge University Press 2003, 193-218.

99. With L. Pestov, "Two dimensional, compact, simple Riemannian manifolds are boundary distance rigid", *Annals of Math*, **161**(2005), 1089-1106.

100. With Z. Sun, "Anisotropic inverse problems in two dimensions", *Inverse Problems*, **19**(2003), 1001-1010.

101. With G. Nakamura and J-N. Wang, "Reconstruction of cracks in an inhomogeneous, anisotropic elastic medium", *Journal de Mathématiques Pures et Appliquées*, **82** (2003), 11251-1276.

102. With H. Isozaki, "Hyperbolic geometry and the local Dirichlet-to-Neumann map", *Advances in Math.*, **188**(2004), 294-314.

103. With L. Pestov, "The boundary distance function and the Dirichlet-to-Neumann map", *Math. Research Letters*, **11**(2004), 285-298.

104. With J.-N. Wang and G. Nakamura, "Unique continuation property for elliptic systems and crack determination in anisotropic elasticity", *Contemp. Math.*, **362**(2004), 321-338.

105. With C. Kenig and J. Sjostrand, "The Calderón problem for partial Cauchy data", *Annals of Math.*, **22**(2007), 431-445.

106. With G. Nakamura and J.-N. Wang, "Oscillating decaying solutions, the Runge approximation property and their application to inverse problems", *Journal des Mathematiques Pures et Appliquées*, **84**(2005), 21–54.

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108. With H. Isozaki and H. Makazawa, "Inverse scattering in nuclear physics-optical model", *J. Math. Physics*, **45I** (2004), 2613–2632.

109. With J.-N. Wang and G. Nakamura, "Reconstruction of cracks in an inhomogeneous anisotropic elastic medium using point sources", *Advances in Applied Math*, **34**(2005), 591–615.

110. With P. Stefanov, "Boundary rigidity and stability for generic simple metrics", *Journal AMS*, **18**(2005), 975-1003.

111. With P. Stefanov, "Stable determination of the hyperbolic Dirichlet-to-Neumann map for generic simple metrics", *International Math Research Notices (IMRN)*, **17**(2005), 1047-1061.

112. With V. Sharafutdinov and M. Skokan, "Regularity of ghosts in tensor tomography", *Journal of Geometrical Analysis*, **15**(2005), 517-560.

113. With P. Stefanov, "Recent progress on the boundary rigidity problem", *Electr. Res. Announc. Amer. Math. Soc.*, **11**(2005), 64-70.

114. With M. V. de Hoop, "Characterization and source-receiver continuation of seismic reflection data", *Comm. Math. Phys.*, **263**(2006), 1-19.

115. With J. -N. Wang and G. Nakamura, "Oscillating decaying solutions for elliptic systems", *Contemporary Math.*, **408**(2006), 219-230.

116. With L. Pestov, "The scattering relation and the Dirichlet-to-Neumann map", *Contemporary Math.*, **412**(2006), 219-230.

117. With P. Stefanov, "Integral geometry of tensor fields on a class of non-simple Riemannian manifolds", *American J. Math.*, **130**(2008), 239-268.

118. With C. Kenig, D. Dos Santos Ferreira, J. Sjöstrand, " Determining the magnetic Schrödinger operator from partial Cauchy data", *Comm. Math Phys.*, **271**(2007), 467-488.

119. With J.-N. Wang, "Complex spherical waves for the elasticity system and probing of inclusions", *SIAM J. Math. Analysis*, **38**(2007), 1967–1980.

120. With T. Ide, H. Isozaki, S. Nakata, S. Siltanen, "Probing for electrical inclusions with complex spherical waves", *Comm. Pure and Applied Math.*, **60**(2007), 1415-1442.

121. With A. Greenleaf, Y. Kurylev and M. Lassas, "Full-wave invisibility of active devices at all frequencies", *Comm. Math. Phys.*, **275** (2007), 749-789.

122. With E. Chung, J. Qian, H. Zhao, "A new phase space method from recovering index of refraction from travel times", *Inverse Problems*, **23**(2007), 309-329.

123. With H. Heck, J.-N. Wang, " Reconstruction of obstacles immersed in an incompressible fluid", *Inverse Problems and Imaging*, **1**(2007), 63-76.

124. With C. Nolan, "Parametrices for symmetric systems with multiplicities", *Wave Motion*, **44**(2007), 231–247.

125. With N. Dairbekov, G. Paternain and P. Stefanov, "The boundary rigidity problem in the presence of a magnetic field", *Advances in Math.*, **216**(2007), 535–609.

126. With J.- Wang, "Reconstruction of discontinuities in systems", *Journal of Physics: Conference Series*, **73** (2007), 012024-012033.

127. With J. -N. Wang, "Complex geometrical optics solutions and reconstruction of discontinuities", *SIAM J. Appl. Math.*, **68**(2008), 1026–1044.

128. With B. Frigyik and P. Stefanov, "The X-Ray transform for a generic family of curves and weights", *J. Geometric Analysis*, **18**(2008), 9–108.

129. With P. Stefanov, "Boundary and lens rigidity, tensor tomography and analytic microlocal analysis", in Algebraic Analysis of Differential Equations, Fetschrift in Honor of Takahiro Kawai, edited by T. Aoki, H. Majima, Y. Katei and N. Tose, pp. 275-293 (2008).

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131. With F. Andersson, M. de Hoop and H. Smith, "A multi-scale approach to hyperbolic equations with limited smoothness", *Comm. PDE.*, **33** (2008), 988–1017.

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139. With R. Melrose, "Generalized backscattering and the Lax-Phillips transform", *Serdica Math. J.*, **34**(2008), 355-372.

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