CURRICULUM VITAE
Chrysoula Tsogka

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Education

1996 - 1999	*Ph.D.* in Applied Mathematics, University Paris IX, France. My Ph.D research was carried out in the team ONDES (current POEMS) of INRIA. **Dissertation**: *Mathematical and numerical modeling of 3D elastic wave propagation in complex media with cracks.*
1995 - 1996	*M.S.* in Applied Mathematics, University Paris IX, France.
1990 - 1995	*B.Eng.* in Chemical Engineering, National Technical University of Athens, Greece.

Honors/Awards

2012	*SIGEST paper award* for our paper "Filtering Deterministic Layer Effects in Imaging", SIAM MMS (7) 2009, 1267– 1301.
2009	European Research Council (ERC) starting grant for my project ADAPTIVES (2010-2015).

Professional Appointments

SINCE AUG 2017	**UC Merced** Project Scientist, Applied Mathematics
2016 - PRESENT	**Stanford University** Visiting Professor, Department of Mathematics.
2014 - PRESENT	**University of Crete** Professor, Department of Mathematics and Applied Mathematics. (Since Feb 2016 on leave.)
2007 - 2014	**University of Crete** Associate Professor, Department of Applied Mathematics.

2004 - 2006	**University of Chicago** Assistant Professor, Department of Mathematics.
2003 - 2004	**Stanford University** Visiting Researcher.
2001 - 2003	**CNRS/FRANCE** Tenured researcher in the Laboratoire de Mecanique et d'Acoustique (LMA).
2000 - 2001	**Stanford University** Postdoctoral fellow.

Other affiliations

2017 - PRESENT	**AIM** Scientific research board of the American Institute of Mathematics
2008 - PRESENT	**FORTH** Associated faculty member with the Institute of Applied and Computational Mathematics.
2010 - 2016	**ACMAC** Associated faculty member.

Short term visits (one month or longer)

FALL 2017	Institute for Computational and Experimental Research in Mathematics in Providence, RI, USA.
SUMMER 2015	Department of Mathematics, Stanford University, USA.
JULY 2012	Department of Mathematics, Stanford University, USA.
DEC 2011	École Normale Supérieure, Paris, France.
NOV 2010	Institut des Hautes Etudes Scientifiques, Bures sur Yvette, France.
AUG 2010	Mathematical Science Research Institute (MSRI), Berkeley, USA.
DEC 2009	Department of Mathematics, Stanford University, USA.
JULY 2008	Department of Mathematics, Stanford University, USA.
SUMMER 2006	Department of Mathematics, Stanford University, USA.
NOV 2006	Department of Mathematics, Stanford University, USA.
OCT 2005	Institute for Mathematics and its Applications (IMA), University of Minnesota, USA.
SUMMER 2005	Department of Mathematics, Stanford University, USA.

MAY 2005	POEMS, INRIA-Rocquencourt, France.
FALL 2003	Institute for Pure and Applied Mathematics (IPAM), UCLA, USA.
AUG 2002	Department of Mathematics, Stanford University, USA.

Research activities

I obtained my Ph.D. in Applied Mathematics from the University of Paris IX, France, in December 1999 with the highest level of distinction. My thesis is in the area of Numerical Analysis and in particular I worked on numerical methods for wave propagation problems. My main contributions concern the development of fictitious domain methodologies for modelling scattering from complex surfaces, as well as, that of absorbing boundary conditions and perfectly matched layers for modelling wave propagation in unbounded media.

Shortly after my Ph.D. the focus of my research activities has turned to inverse wave propagation problems. To be more precise, I have been working on the development, analysis and implementation of coherent and incoherent methodologies for imaging with waves. The challenge has been to design statistically stable methods for imaging in complex inhomogeneous media as they appear in applications. The uncertainty about the environment is modelled by considering the propagation medium as a realization of a random process. Moreover, the regimes considered are those in which multiple scattering of the waves by the medium inhomogeneities is important, which results to a major impediment for the imaging process. My contributions in this area concern the development of novel imaging methodologies, such as the coherent interferometry, as well as, the design of original filtering techniques for coherent signal enhancement. I have also been working on passive ambient noise correlation based imaging methods and in particular on understanding the stability and the resolution provided by these techniques. My most recent activities concern imaging with intensity-only measurements with applications in optics.

My research has found applications in several areas ranging from non-destructive evaluation of materials to optics, underwater acoustics and geophysics. More recently, I have been also working on radar imaging of frequency and direction dependent reflectors as well as satellite imaging through the turbulent atmosphere.

Teaching and Training Activities

As a professor at the University of Chicago I taught the undergraduate course of Mathematical Methods for the Physical Sciences. While at the University of Crete I have been teaching undergraduate courses in Numerical Analysis and Numerical Modeling as well as graduate courses on Numerical Methods for Partial Differential Equations and on Mathematical Methods for Imaging. As an expert in imaging I have been invited at several occasions to give tutorials and introductory courses. Let me mention the CEMRACS Summer School on Imaging in Random media, the Oberwolfach Seminar on Mathematical and Computational Problems in Interoferometric Imaging, and

the introductory workshop of the MSRI program on Inverse Problems and Applications. While I was in CNRS, I co-directed the Ph.D thesis of Jean-Philippe Groby (now permanent researcher in CNRS). In the University of Crete I have been supervising four Ph.D students, three of them graduated recently (June-July 2016).

Below follows a detailed list of my teaching and training activities.

Teaching

MATH20100	*Mathematical Methods for the Physical Sciences*, University of Chicago.
EM181	Introductory course on *Numerical Analysis*, University of Crete.
EM291	Undergraduate course on the *Numerical Solution of ODEs*, University of Crete.
EM292	Undergraduate course on the *Numerical Solution of PDEs*, University of Crete.
EM386	Advanced undergraduate course on *Numerical Modelling*, University of Crete.
IMAGING	Graduate course on the *Mathematical methods of Imaging*, University of Crete.
NPDEs	Graduate course on *Numerical Methods for PDEs*, University of Crete.
NumAnal	Graduate course on *Numerical Analysis*, University of Crete.

Tutorials and Summer Courses

August 2015	*Passive correlation based imaging*, Franco-German Summer School on Inverse Problems for Waves, Ecole Polytechnique, France, August 24-28, 2015. (2 lectures).
August 2010	*Imaging in random media*, Connections for Women: Inverse Problems and Applications, MSRI, Berkeley, CA, August 19-20, 2010. (2 lectures).
May 2008	*Computational issues in array imaging*, NSF-CBMS Conference on Imaging in Random Media, Houston, TX, United States, May 12-16, 2008. (2 lectures).
July 2006	*Imaging in random media*, CEMRACS Summer School, CIRM, Marseille, France, July 24-28, 2006. (2 lectures).
June 2006	*Mathematical and Computational Problems in Interferometric Imaging*, Oberwolfach Seminar, June 4-10, 2006, Oberwolfach, Germany. (5 lectures).
January 2003	*Inverse Problems: Time reversal*, École des Ondes: Direct and Inverse Scattering Problems, INRIA, France. (2 lectures).
November 2001	*Numerical methods: Mixed finite elements and fictitious domain method*, École des Ondes: Direct and Inverse Scattering Problems, INRIA, France. (2 lectures).

Graduate students

- Jean-Philippe Groby, Ph.D. (27/9/2005) in Mechanics (option: Acoustics), Université de la Méditerranée-Aix Marseilles II. **Thesis topic**: *Modeling of the action of seismic waves in a city.* Currently CNRS researcher at Laboratoire d'Acoustique de l'Université du Maine (LAUM).

- Michalis Apostolopoulos, Ph.D. (28/6/2016). **Thesis topic**: Imaging multiple reflectors in strongly scattering media.

- Emanouil Daskalakis, Ph.D. (5/7/2016). **Thesis topic**: Velocity estimation using cross-correlations of ambient noise recordings. Currently postdoctoral research associate at the University of British Columbia.

- Eftychia Karasmani, Ph.D. (6/7/2016). **Thesis topic**: Imaging in random waveguides. Currently research associate at IACM FORTH.

Postdocs

- Christos Panagiotopoulos, 2014 - 2015. Postdoc. Currently research associate at IACM/FORTH.
- Dimitris Mitsoudis, 2008 - 2014. Research associate. Currently assistant professor at the Department of Energy Technology Engineering in Technological Educational Institute of Athens.
- Adrien Semin, 2010-2012. Topic: Passive imaging using ambient noise sources. Currently research associate in TU Berlin.

Current Ph.D. students

- Simeon Papadimitropoulos (Ph.D. student). Topic: Selective imaging extended reflectors in waveguides.

Ph.D Thesis Committees

- Anastasios Tsourtis, *Mathematical and numerical modeling of complex molecular systems with multiple scales*, University of Crete, February 2017.

- Valentin Vinoles, *Problèmes d'interface en présence de métamatériaux : modélisation, analyse et simulations*, École doctorale Mathématiques Hadamard, Palaiseau, France, September 18, 2016. (Rapporteur de thèse).

- Lorenzo Audibert, *Qualitative methods for heterogeneous media*, École Polytechnique, September 17, 2015. (Rapporteur de thèse).

- Maxence Cassier, *Étude de deux problèmes de propagation d'ondes transitoires : 1) Focalisation spatio-temporelle en acoustique ; 2) Transmission entre un diélectrique et un métamatériau.* École Polytechnique, France, June 12, 2014.

- Georgios Arampatzis, *Parallelization and Uncertainty Quantification of Spatially Extended Kinetic Monte Carlo Methods*, University of Crete, January 2012.

- Marie Cray, *Signals reconstruction and objects identification by the TRAC method in time reversal.* Université Pierre et Marie Curie, France, July 2, 2012. (Rapporteur de thèse).

- Chokri Ben Amar, *Étude théorique et numérique de processus de retournement temporel.* École Polytechnique, France and École Nationale d'Ingénieurs de Tunis (ENIT), Tunis, June 23, 2007. (Rapporteur de thèse).

Professional Activities

Scientific coordination/research managment

From 2008 to 2016, I have been associated with the Institute of Applied and Computational Mathematics (IACM) at FORTH. It is at the facilities of IACM that I established a research group working on "Coherent and Incoherent Imaging methods with Waves". In this group, I have been working with three postdoctoral research associates, four Ph.D. students and three master students. Also, several undergraduate students from the Applied Mathematics department did their summer internship and three carried out their bachelor diploma thesis in our group.

With my colleagues at the department of Applied Mathematics we developed an ambitious project, the creation of the Archimedes Center for Modeling Analysis and Computation (ACMAC). ACMAC was established as a research program in 2010 and since its creation, I was a member of its steering committee which was responsible for the implementation of the whole project. ACMAC activities included: mentoring of postdoctoral researchers, organization of thematic programs where we brought together senior as well as junior scientists, organization of workshops and two-way visits for exchange of know-how and experience between members of ACMAC and members of major research centers in Europe. Since 2015 ACMAC has very limited activities due to lack of funding.

Committee work

2014 - 2015	**University of Crete** Coordinator of the PhD Studies Committee of the department of Mathematics and Applied Mathematics.
2013 - 2015	**University of Crete** Member of the Graduate Studies Committee of the University of Crete.
2013 - 2015	**FORTH** Member of scientific council of IACM-FORTH.
2011 - 2013	**University of Crete** Member of the Graduate Studies Committee of the department of Applied Mathematics.

2010 - 2015   **ACMAC**
                 Member of the steering committee.

2002-2003   **CNRS**
                 Member of the steering committee of GDR 2501, Wave propagation in inhomogeneous media and applications in non-destructive testing.

Editorial Boards

- SIAM Journal on Imaging Sciences (SIIMS), 2013 - present.
- Journal of Mathematical Imaging and Vision (JMIV, springer), 2014 - present.
- Bulletin of the Greek Mathematical Society, 2015 - present.

Prize Committees

- SIAM Kleinman Prize 2017
- SIAG/Imaging Science Early Career Prize 2016
- SIAG/Imaging Science Best Paper Prize 2016

Refereeing journals   The breadth of my research interests is reflected in the diversity of the journals for which I have refereed several papers such as the SIAM J. on Imaging Science, SIAM J. on Multiscale Modeling and Simulation, SIAM J. on Scientific Computing, SIAM J. on Applied Mathematics, SIAM J. on Numerical Analysis, Inverse Problems, Communications in Mathematical Sciences, Physical Review E, Nonlinearity, Wave Motion, J. Computational Acoustics, J. of the Acoustical Society of America, Geophysics, Geophysical Journal International, Bulletin of the Seismological Society of America, IEEE Transactions on Antennas and Propagation, IEEE Transactions on Computational Imaging, IEEE Transactions on Geoscience and Remote Sensing and, IEE Proc. Radar, Sonar & Navigation.

Organization of conferences/workshops

- ICERM workshop on *Waves and Imaging in Random Media*, September 25-29, 2017, Providence, RI, USA.
- *International Conference on Applied Mathematics*, September 16-20, 2013, Heraklion, Crete.
- *11th European Finite Element Fair*, May 31-June 1, 2013, Heraklion, Crete, Greece.
- ACMAC workshop on *Waves and imaging in complex media* at Heraklion, Greece, June 11-15, 2012.
- ACMAC workshop on *Wave propagation in complex media and applications* at Heraklion, Greece, May 7-11, 2012.

- ACMAC workshop on *Women in Applied Mathematics* at Heraklion, Greece, May 2-5, 2011.
- MSRI workshop *Connection for Women Workshop: Inverse Problems and Applications* at MSRI, Berkeley, CA, USA, August 19-20, 2010.
- Oberwolfach Seminar *Mathematical and Computational Problems in Interferometric Imaging*, Oberwolfach, Germany, June 4-10, 2006.
- International conference *Acoustics, Mechanics and the Related Topics of Mathematical Analysis* (AMRTMA), Fréjus, June 2002.

Organizing committee of research clusters/programs

- ICERM Semester Program on *Mathematical and Computational Challenges in Radar and Seismic Reconstruction*, September 6 - December 8, 2017, Providence, RI, USA.
- Program on *Random Media*, Statistical and Applied Mathematical Sciences Institute (SAMSI), NC, USA, 2007-2008.

Scientific committee of International Conferences

- 13th International Conference on Mathematical and Numerical Aspects of Wave Propagation, WAVES 2017, University of Minnesota, Minneapolis, May 15-18, 2017.
- Modelling of high performance acoustic structure. Porous media and metamaterials, University Roma Tre, Rome, January 24-25 2017.
- 12th International Conference on Mathematical and Numerical Aspects of Waves Propagation, Kalsruhe Institute of Technology, Germany, July 20-24, 2015.
- 3rd International Conference "Modern Mathematical Methods in Science and Technology 2012 (M3ST '12)", August 26-28, 2012, Kalamata, Greece.
- 7th GRACM International Congress on Computatopnal Mechanics, June 30-July 2, 2011, Athens, Greece.
- 9th International Conference on Mathematical and Numerical Aspects of Waves Propagation, June 15-19, 2009, Pau, France.

Software development

Developed a numerical code (FORTRAN) for computing the solution of the wave equation in elastic media in two and three spatial dimensions. The propagation medium can be heterogeneous and anisotropic containing internal cracks and/or topographies of complex geometry. The code was transferred to EDF/France and was further developed by the R&D team of EDF. It is now called Athena2D and Athena3D and has been widely used in industrial applications.

Developed prototype code (MATLAB) for several imaging methodologies such as migration, coherent interferometry, MUSIC, correlation based imaging and ℓ_1 optimization.

Research Grants

I have participated in several research projects in Europe and the US. While in Greece, I have been successful as a PI in attracting funding in very competitive European grants such as the ERC. Below is a list of the European and US grants I have participated in.

- ERC-ADAPTIVES: European Research Council starting grant ERC-StG, #239959, 2010-2015. PI.
  http://www.tem.uoc.gr/~tsogka/adaptives/index.html
- IRG-CII-RMA: European FP7 Marie Curie International Reintegration Grant MIRG-CT-2007-203438, 2007-2011. PI.
- Regpot-ACMAC: European grant under the FP7 regional potential program, #245749, 2010-2014. co-PI.
  http://www.acmac.uoc.gr/
- DARPA-ONR Grant N00014-04-1-0224, Time reversal of Electromagnetic Waves, February 2004 - July 2008.
- Consortium on Time Reversal for Waves and its Applications, supported by Office of Navy Research (ONR) and Defence Advanced Research Projects Agency (DARPA). I participated in writing the proposal and I was member of the funded team.
- ONR grant on Time reversal, Imaging and Communications (2001-2004). I was a named collaborator in this grant which supported me as a visiting researcher at Stanford.
- GDR-2051 : Wave propagation in inhomogeneous media and applications in non-destructive testing. 2001-2003. Sponsored by CNRS, EDF and CEA. co-PI.
- ACI "Prevention of Natural Disasters": Site-city interaction and seismic risks in urban environment, 2000-2002. Sponsored by the French Ministry of Research. co-PI.

Oral Presentations

Invited Plenary and workshop talks

[P1] Journées sur les méthodes d'evaluations non destructives pour le génie civil LCPC, Nantes, October 7-8, 1999.

[P2] Workshop on Inverse Problems and Applications, MSRI, Berkeley, November 15, 2001.

[P3] Workshop on Imaging in Noisy Environments, Crete, June 19-21, 2001.

[P4] 4me Colloque du PPF Problèmes Inverses de Champs, Marseille, March 8, 2001.

[P5] MGSS, Stanford, CA, August 2002.

[P6] Journées scientifiques du GDR "Étude de la propagation ultrasonore en milieux non-homogènes en vue du contrôle non destructif", ESPCI, Paris, October 2002.

[P7] Conference on Applied Inverse Problems: Theoretical and Computational Aspects, UCLA (IPAM), Lake Arrowhead, CA, May 18-23, 2003.

[P8] Workshop on Time-Reversal method, University of California at Irvine, August 8-11, 2003.

[P9] IMA hot topics workshop on adaptive sensing and multimode data inversion, IMA, University of Minnesota, Minneapolis, June 27-30, 2004.

[P10] ARCC workshop in time reversal and communications, American Institute of Mathematics, Palo Alto, CA, October 18-22, 2004.

[P11] Journé scientifique du GDR ONDES "Modélisation des phénomènes de diffraction et de propagation des ondes éléctromagnétiques et acoustiques", Institut Henri Poincaré (IHP), Paris, May 2005.

[P12] Inverse Problems Reunion Conference I, UCLA (IPAM), Lake Arrowhead, CA, June 5-10, 2005.

[P13] Workshop on Radiative transport and diffusion-approximation: From theory to applications, CIRM, Marseille, France, September 5-9, 2005.

[P14] 4th Workshop on Numerical Methods for Evolution Equations, Heraklion, Crete, September 26-27, 2008.

[P15] 4th International Conference on Inverse Problems Control and Shape Optimization (PI-COF'08), Marrakesh, Morroco, April 16-19, 2008.

[P16] MMNS Workshop on Inverse Problems for Waves: Methods and Applications, Palaiseau, France, March 29-30, 2010.

[P17] International Conference on Applied Mathematics, City University of Hong Kong, Hong Kong, June 7-11, 2010.

[P18] 5th Workshop on Numerical Methods for Evolution Equations, Heraklion, Crete, September 24-25, 2010.

[P19] Workshop on Random Media: Homogenization and Beyond, IPAM, Los Angeles, CA, January 24-29, 2011.

[P20] International Conference "Frontiers in Applied and Computational Mathematics 2011", Newark, New Jersey, United States, June 9-11, 2011.

[P21] Workshop on Multiscale and High Contrast PDE, Mathematical Institute, Oxford, United Kingdom, June 28-July 1, 2011.

[P22] Workshop on Inverse Problems in Analysis and Geometry, Isaac Newton Institute for Mathematical Sciences, Cambridge, England, August 1-5, 2011.

[P23] Workshop in honor of George Papanicolaou on the occasion of his awarding of the degree of Doctor Honoris Causa from the University Paris Diderot, "Laboratoire de Probabilités et Modèles Aléatoires" and the "Laboratoire Jacques-Louis Lions", Paris, December 1-2, 2011.

[P24] Workshop on Imaging, wave propagation in complex media, and optimal control under uncertainties, École Normale Supérieure, Paris, December 19-21, 2011.

[P25] Workshop on "Theoretical and Applied Computational Inverse Problems", Erwin Schrödinger International Institute for Mathematical Physics (ESI), Vienna, May 5-16, 2014.

[P26] 11th International Conference on Mathematical and Numerical Aspects of Wave Propagation (WAVES'2013), Tunis, Tunisia, June 3-7, 2013.

[P27] Conference on Multi-Scale Waveform Modeling and Inversion, KAUST, March 22-24, 2015.

[P28] 4th International Conference on Modern Mathematical Methods in Science and Technology, Kalamata, Greece, August 30-September 2, 2015.

[P29] Workshop on Computational and Numerical Analysis of Transient Problems in Acoustics, Elasticity, and Electromagnetis, Banff International Research Station for Mathematical Innovation and Discovery, Banff, Canada, January 17-22, 2016.

[P30] Women in PDE@Karlsruher, KIT, Karlsruher, Germany, April 27-28, 2017.

[P31] 4th U.S. National Congress on Computational Mechanics (USNCCM14), Montreal, Canada, July 17-20, 2017 (keynote lecture).

[P32] Waves diffracted by Patrick Joly, in honour of his 60th birthday, Gif-sur-Yvette, France, August 28-30, 2017.

Seminars

[P33] Projet ONDES, INRIA, Febraury 1997.

[P34] Mathématiques Appliquées, ENSTA, Paris, April 1999.

[P35] Department of Mathematics, University of Crete, Greece, June 1999.

[P36] Applied Mathematics seminar, Stanford University, April 7, 2000.

[P37] Seminar projet POEMS, ENSTA, Paris, April 2001.

[P38] Department of Mathematics, Université de Nice, January 2002.

[P39] LOA, École Supérieur de Physique et Chimie Industrielles de la ville de Paris, Paris, June 2002.

[P40] ISITV, Université de Toulon et du Var, Toulon, November 2002.

[P41] Seminar LMA, Marseille, France, December 16, 2002.

[P42] Computational and Applied Mathematics, Rice University, April 7, 2003.

[P43] Mathematics Department, University of Wisconsin, Madison, November 10, 2003.

[P44] Mathematics Department, University of Wisconsin, Madison, January 16, 2004.

[P45] Department of Mathematics, University of California, Davis, January 21, 2004.

[P46] Department of Mathematics, Rutgers University, Febraury 2, 2004.

[P47] Department of Mathematics, University of Florida, Febraury 6, 2004.

[P48] Department of Mathematics, Texas A&M University, Febraury 13, 2004.

[P49] Department of Mathematical and Computer Sciences, Colorado School of Mines, Febraury 16, 2004.

[P50] Computational and Applied Mathematics Seminar, Department of Mathematics, University of California, Irvine, March 15, 2004.

[P51] Computational and Applied Mathematics Colloquium, Rice University, November 15, 2004.

[P52] Applied and Interdisciplinary Mathematics (AIM) seminar, Department of Mathematics, University of Michigan, December 10, 2004.

[P53] Seminar LMA, Marseille, France, December 16, 2004.

[P54] CMAP Inverse Problems Seminar, École Polytechnique, May 18, 2005.

[P55] Inverse Problems Seminar, Inverse Problems Center at Rensselaer Polytechnic Institute, October 3, 2005.

[P56] ICME Seminar, Stanford University, November 7, 2005.

[P57] Applied Math Seminar, University of Delaware, Febraury 28, 2006.

[P58] CSCAMM Seminar, University of Maryland, April 26, 2006.

[P59] Laboratoire d'Acoustique de l'Université du Maine, July 2013.

[P60] Colloquium, Department of Mathematics, Penn State University, Febraury 2017.

[P61] Applied Math Seminar, University of Utah, 2017.

[P62] Applied Math Seminar, UC Irvine, May 2017.

[P63] Applied Math Seminar, UMass Amherst, November 2017.

[P64] Mathematical Sciences Colloquium, Worcester Polytechnic Institute, November 2017.

[P65] Applied Mathematic Seminar, Stanford University, Febraury 2018.

Workshop & Conference Presentations

[P66] Fourth International Conference on Mathematical and Numerical Aspects of Wave Propagation, Golden, Colorado, June 1998.

[P67] Fifth National Congress on Mechanics, Ioannina, Greece, August 1998.

[P68] Fourth International Conference on Theoretical and Computational Acoustics, Trieste, May 1999.

[P69] 31e Congrès d'Analyse Numérique, May 1999.

[P70] 3rd National Congress on Computational Mechanics, Volos, Greece, June 1999.

[P71] Fourth International Congress on Industrial and Applied Mathematics, Edinburgh, July 1999.

[P72] Annual meeting of the Acoustical Society of America, Fort Lauderdale, FL, December 3, 2001.

[P73] Conference AMRTMA, Frejus, June 2002.

[P74] SIAM, Philadelphia, PA, July 2002.

[P75] Sixth International Conference on Mathematical and Numerical Aspects of Wave Propagation, Jyvaskyla, Finland, June 30-July 4, 2003.

[P76] Fifth World Congress on Ultrasonics, Paris, France, September 7-10, 2003.

[P77] Progress in Electromagnetics Research Symposium (PIERS 2004), Pisa, Italy, March 28-31, 2004.

[P78] The fifth international conference on Dynamical Systems and Differential Equations, California State Polytechnic University, Pomona (Los Angeles), June 16-19, 2004.

[P79] Joint AMS-SIAM meeting, Special session on Theoretical and Computational Aspects of Inverse Problems, Atlanta, Georgia, January 5-8, 2005.

[P80] Seventh International Conference on Mathematical and Numerical Aspects of Wave Propagation, Brown University, June 20-24, 2005.

[P81] First International wireless Summit, Aalborg, Denmark, September 17-22, 2005.

[P82] Applied Inverse Problems: Theoretical and Computational Aspects conference, United Kingdom, June 26-30, 2005.

[P83] Joint AMS-SIAM meeting, Special session on Time Reversal Methods: Analysis and Applications, San Antonio, Texas, January 12-15, 2006.

[P84] Progress in Electromagnetics Research Symposium (PIERS 2006), Cambridge, MA, March 2006.

[P85] Computational Methods in Structural Dynamics and Earthquake Engineering, COMPDYN, Rethymnon, Crete, June 13-16, 2007.

[P86] WCCM8-ECCOMAS 08 (8th World Congress on Computational Mechanics (WCCM8) and 5th European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS 2008)), Venice, Italy, June 30-July 4, 2008.

[P87] SIAM Conference on Imaging Science, San Diego, CA, United States, July 7-9, 2008.

[P88] 2nd International Conference on Computational Methods in Structural Dynamics and Earthquake Engineering, Rhodes, Greece, June 22-24, 2009.

[P89] 9th International conference on Theoretical and Computational Acoustics, Dresden, Germany, September 7-11, 2009.

[P90] SIAM conference on Analysis of Partial Differential Equations, Miami, United States, December 7-9, 2009.

[P91] SIAM conference on Imaging Science, Chicago, United States, April 12-14, 2010.

[P92] IV European conference on computational mechanics, ECCM 2010, Paris, France, May 16-21, 2010.

[P93] International Conference on Computational Methods in Structural Dynamics and Earthquake Engineering (COMPDYN 2011), Corfu, Greece, May 26-28, 2011.

[P94] SIAM Conference on Analysis of Partial Differential Equations, San Diego Marriott Mission Valey, San Diego, CA, United States, November 14-17, 2011.

[P95] SIAM Conference on Imaging Science, Hong Kong Baptist University, Hong-Kong, May 12-14, 2014.

[P96] SIAM 2014 Annual Meeting, Chicago, July 7-11, 2014.

[P97] International Conference on Computational Methods in Structural Dynamics and Earthquake Engineering (COMPDYN 2015), Crete, Greece, May 25-27, 2015.

[P98] Applied Inverse Problems Conference, Helsinki, Finland, May 25-29, 2015.

[P99] Congrés SMAI 2015, Savoie, France, June 8-12, 2015.

[P100] SIAM Conference on Mathematical and Computational Issues in Geosciences, Stanford, June 29-July 2, 2015.

[P101] SIAM Conference on Imaging Science, Albuquerque, New Mexico, May 23-26, 2016.

Scientific Films

[F1] Diffraction d'une onde élastique par une fissure dans un milieu complexe 3D, (1999, French, duration: 13 min 30 sec).

[F2] A numerical simulation of a non destructive testing experiment, (1998, English, duration: 2 min 30 sec).

[F3] Diffraction d'une onde élastique bidimensionnelle par une fissure, (1997, French, duration: 9 min 30 sec).

Chrysoula Tsogka
List of Publications

Chapters in Books

[B1]   L. Borcea, G. Papanicolaou and C. Tsogka, *Assymptotics for the space-time Wigner transform with applications to imaging*, in Stochastic Differential Equations: Theory and Applications. Volume in Honor of Professor Boris L. Rozovskii, edited by P. H. Baxendale and S. V. Lototsky, volume 2 of Interdisciplinary Mathematical Sciences, pp. 91– 112 (World Scientific), 2007.

[B2]   P. Joly and C. Tsogka, *Finite Element Methods with Discontinuous Displacement*, in Effective Computational Methods in Wave Propagation, edited by N. A. Campanis, V. A. Dougalis and J. A. Ekaterinaris, Chapman & Hall/CRC, 2008.

[B3]   P. Joly and C. Tsogka, *Fictitious Domains Methods for Wave Diffraction*, in Effective Computational Methods in Wave Propagation, edited by N. A. Campanis, V. A. Dougalis and J. A. Ekaterinaris, Chapman & Hall/CRC, 2008.

[B4]   P. Joly and C. Tsogka, *Numerical Methods for Treating Unbounded Media*, in Effective Computational Methods in Wave Propagation, edited by N. A. Campanis, V. A. Dougalis and J. A. Ekaterinaris, Chapman & Hall/CRC, 2008.

[B5]   C. Panagiotopoulos, Y. Petromichelakis and C. Tsogka, *Time reversal and imaging for structures*, in Dynamic Response of Infrastructure to Environmentally Induced Loads, edited by A. Sextos and G.D. Manolis, Springer International Publishing AG. In press, 2016.

Papers in Refereed Journals

[J1]   E. Bécache, P. Joly, C. Tsogka. *Éléments finis mixtes et condensation de masse en élastodynamique linéaire. (I) Construction*, C. R. Acad. Sci. Paris, t 325, Serie I, pp. 545– 550, 1997.

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