Fatih Ecevit

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Personal Data

DATE OF BIRTH:	March 18, 1971
NATIONALITY:	Turkish
MARITAL STATUS:	Married, one child
LANGUAGES:	English, Turkish
MILITARY SERVICE:	Completed

Research Interests

Numerical methods for the solution of partial differential equations, with particular emphasis on high-order, high-frequency integral equation methods in computational electromagnetism and acoustics. Current applications of interest include obstacle scattering problems in multiple scattering configurations.

Education

University of Minnesota Twin Cities, USA	Mathematics	PhD. 1999-2005 Thesis Title: Integral equation formulations of electromagnetic and acoustic scattering problems: high-frequency asymptotic expansions and convergence of multiple scattering iterations Advisor: Fernando Reitich
Boğaziçi University Istanbul, Turkey	Mathematics	MS. 1995-1998 Thesis Title: Weakly compact bilinear forms and applications to Banach algebras Advisor: Nilgün Işık
Boğaziçi University Istanbul, Turkey	Mathematics	BS. 1990-1995

Work Experience

Sept. 2007 - Present	Teaching Associate	Department of Mathematics, Boğaziçi University, Istanbul, Turkey
Sept. 2005 - Aug. 2007	Postdoctoral Research Associate	Max Planck Institute for Mathematics in the Sciences, Leipzig, Germany
Sept. 2001 - Aug. 2005	Research Assistant	School of Mathematics, University of Minnesota, Twin Cities, USA
Sept. 1999 - May 2003	Teaching Assistant	School of Mathematics, University of Minnesota, Twin Cities, USA
Aug. 2002 - Sept. 2002	Leading Teaching Assistant	Center for Teaching and Learning Services Intl. Teaching Assistant Orientation Program, University of Minnesota, Twin Cities, USA
Sept. 1995 - July 1999	Teaching Assistant	Department of Mathematics, Boğaziçi University, Istanbul, Turkey
Sept. 1993 - June 1995	Undergraduate Teaching Assistant	Department of Mathematics, Boğaziçi University, Istanbul, Turkey

Invited Research Visits

[4] Workshop on *"Analysis of Boundary Element Methods,"* Mathematisches Forschungsinstitut Oberwolfach (MFO), Germany (April 19-23, 2008).

[3] Semester on *"Highly Oscillatory Problems"*, Isaac Newton Institute for Mathematical Sciences, University of Cambridge, UK (June 18-July 7, 2007).

[2] Semester on *"Highly Oscillatory Problems"*, Isaac Newton Institute for Mathematical Sciences, University of Cambridge, UK (March 2-13, 2007).

[1] Bath Institute for Complex Systems, University of Bath, UK (September 11-15, 2006).

Conferences Organized

"Integral equation methods for high-frequency scattering problems," Max Planck Institute for Mathematics in the Sciences, Leipzig, Germany, January 25-27, 2007.

Honors and Awards

2005	Teaching Assistant Award	School of Mathematics, University of Minnesota, Twin Cities, USA
2000-2001-2002 2003-2004-2005	Graduate Student Summer Fellowship	School of Mathematics, University of Minnesota, Twin Cities, USA
Jan. 1998 - July 1999	Integrated PhD Program Fellowship	Scientific and Technological Research Association of Turkey (TÜBİTAK)

Publications

[9] Y. Boubendir, F. Ecevit and F. Reitich, *"High-frequency scattering problems*: *An appropriate preconditioner for a Krylov subspace algorithm,"* Proceedings of the 9th International Conf. on Mathematical and Numerical Aspects of Wave Propagation, Pau, France (2009), (submitted).

[8] F. Ecevit and F. Reitich, *"Uniform asymptotic expansions of multiple scattering iterations,"* Proceedings of the 9th International Conference on Mathematical and Numerical Aspects of Wave Propagation, Pau, France (2009), (submitted).

[7] F. Ecevit, *"Analysis of boundary element methods for high-frequency scattering problems,"* Oberwolfach Reports, No. 19 (2008), 48–51.

[6] F. Ecevit, *"Asymptotic expansions of multiply scattered surface currents,"* Proc. Appl. Math. Mech. **7** (2007), 1022701–1022702.

[5] Y. Boubendir, F. Ecevit and F. Reitich, *"Krylov subspace based acceleration strategies for the solution of high-frequency multiple scattering problems,"* Proceedings of the 8th International Conference on Mathematical and Numerical Aspects of Wave Propagation, University of Reading, UK (2007), 41–43.

[4] A. Anand, Y. Boubendir, F. Ecevit and F. Reitich, "*Analysis of multiple scattering iterations for high-frequency scattering problems. II: The three dimensional scalar case,"* Max Planck Institute for Mathematics in the Sciences, Preprint 147 (2006), 1–27 (submitted).

[3] F. Ecevit and F. Reitich, "*Analysis of multiple scattering iterations for high-frequency scattering problems. I: The two dimensional case,"* Max Planck Institute for Mathematics in the Sciences, Preprint 137 (2006), 1–37 (submitted).

[2] F. Ecevit and F. Reitich, *"Decay of multiple scattering iterates for trapping obstacles in the high-frequency regime*," Proceedings of International Association of BEM, Graz, Austria (2006), 177–180.

[1] F. Ecevit and F. Reitich, *"A high-frequency integral equation method for electromagnetic/acoustic scattering simulations: rate of convergence of multiple scattering iterations,"* Proceedings of the 7th International Conf. on Mathematical and Numerical Aspects of Wave Propagation, Brown University, Providence, RI (2005), 145–147.

Working Papers

[4] F. Ecevit and I.G. Graham, *"An improved numerical-asymptotic boundary integral method for high-frequency acoustic scattering."*

[3] F. Ecevit and D. Huybrechs, *"An integral equation method for high-frequency scattering off toroidal surfaces of revolution."*

[2] F. Ecevit and W. Hackbusch, *"Analysis of vector electromagnetic equations for trapping obstacles."*

[1] Y. Boubendir, F. Ecevit and F. Reitich, *"Acceleration of an iterative method for the evaluation of high-frequency multiple scattering effects."*

Presentations

[21] *"High-frequency scattering: From theory to applications,"* Bilgi University, Istanbul, Turkey (Dec 19, 2008).

[20] *"State-of-the-art high-frequency scattering simulators,"* Feza Gürsey Institute, Istanbul, Turkey (May 15, 2008).

[19] *"State-of-the-art high-frequency scattering simulators,"* Department of Mathematics Colloquium, Doğuş University, Istanbul, Turkey (April 25, 2008).

[18] *"Analysis of boundary element methods for high-frequency scattering problems,"* Workshop on *Analysis of Boundary Element Methods,* Mathematisches Forschungsinstitut Oberwolfach (MFO), Germany (April 16, 2008).

[17] *"Krylov subspace based acceleration strategies for the solution of high-frequency multiple scattering problems,"* 8th International Conference on Mathematical and Numerical Aspects of Waves, University of Reading, UK (July 27, 2007).

[16] *"Analysis of high-frequency multiple-scattering problems in 3D: the scalar acoustic and vector electromagnetic equations,"* ICIAM 07, 6th International Congress on Industrial and Applied Mathematics, ETH-Zurich, Switzerland (July 19, 2007).

[15] *"New Galerkin methods for high-frequency scattering simulations,"* Workshop on *Effective Computational Methods for Highly Oscillatory Problems: The Interplay between Mathematical Theory and Applications*, Isaac Newton Institute for Mathematical Sciences, University of Cambridge, UK (July 2, 2007).

[14] *"Asymptotics for high-frequency multiple scattering,"* One day Workshop on *Oscillatory Integral Equations in High Frequency Scattering and Wave Propagation*, Isaac Newton Institute for Mathematical Sciences, University of Cambridge, UK (June 19, 2007).

[13] *"High-frequency scattering by a collection of convex bodies,"* Isaac Newton Institute for Mathematical Sciences, University of Cambridge, UK (March 12, 2007).

[12] *"High-frequency scattering by a collection of convex bodies,"* 23rd GAMM Seminar Leipzig, Max Planck Institute for Mathematics in the Sciences, Leipzig, Germany (January 27, 2007).

[11] *"Analysis of multiple scattering iterations for high-frequency scattering problems,"* Department of Mathematics Colloquium, Boğaziçi University, Istanbul, Turkey (December 27, 2006).

[10] *"Analysis of multiple scattering iterations for high-frequency scattering problems,"* Science and Math-Sci Seminars, Koç University, Istanbul, Turkey (December 26, 2006).

[9] *"The story behind high-frequency multiple scattering problems,"* Applied Mathematics and Numerical Analysis Seminar, Department of Mathematics, University of Reading, UK (September 14, 2006).

[8] *"Analysis of multiple scattering iterations for high-frequency scattering problems,"* Bath Institute for Complex Systems, University of Bath, UK (September 11, 2006).

[7] *"Analysis of multiple scattering iterates in the high-frequency regime,"* Zurich Summer School on High-Frequency Wave Propagation, ETH-Zurich, Switzerland (September 1, 2006).

[6] *"Decay of multiple scattering iterates for trapping obstacles in the high-frequency regime,"* IABEM 2006, Graz, Austria (July 11, 2006).

[5] *"High-frequency asymptotics and convergence of multiple scattering iterations in two-dimensional scattering problems (Poster),"* Advances in Computational Scattering, BIRS, Calgary, Canada (February 18-23, 2006).

[4] *"An efficient integral equation method for electromagnetic and acoustic scattering simulations: convergence of multiple scattering iterations,"* Max Planck Institute for Mathematics in the Sciences, Leipzig, Germany (September 20, 2005).

[3] *"A high-frequency integral equation method for electromagnetic and acoustic scattering simulations: rate of convergence of multiple scattering iterations,"* 7th International Conf. on Mathematical and Numerical Aspects of Waves, Brown University, RI, USA (June 23, 2005).

[2] *"An efficient integral equation method for electromagnetic and acoustic scattering simulations: convergence of multiple scattering iterations,"* Applied Mathematics and Numerical Analysis Seminar, School of Mathematics, University of Minnesota, USA (March 31, 2005).

[1] *"A high-frequency integral equation method for electromagnetic and acoustic scattering simulations: rate of convergence of multiple scattering iterations,"* Atlanta National Conference, USA (January 5, 2005).