CURRICULUM VITAE

Eric Bonnetier
Institut Fourier, Université Grenoble-Alpes, 38041 Grenoble cedex 9, France.
Tel : (33) 476 51 44 49
e-mail : Eric.Bonnetier@univ-grenoble-alpes.fr
web : https://www-fourier.ujf-grenoble.fr/~bonnetie/

EDUCATION
Ph.D. University of Maryland, 1988.

PROFESSIONAL EXPERIENCE
(military service).
Sept. 89 - Aug. 2002 : Chargé de recherche CNRS, Centre de Mathématiques
Appliquées, Ecole Polytechnique, Palaiseau, France
Since Sept. 2001 : Professor, Université Joseph Fourier, Grenoble.
Nov. 2016 : Visiting Professor, EPFL, Lausanne.
Dec. 2016 : Visiting Professor, Dept. of Mathematics, HKUST, Hong Kong.

RESEARCH INTERESTS
Homogenization and composite materials.
Shape optimization and inverse problems.
Mean curvature flow and crystal growth.

CURRENT RESEARCH PROJECTS
Pointwise bounds on the gradients of solutions to elliptic PDE’s in composite
media.
Spectral properties of the Neumann-Poincaré operator and applications to
metamaterials.
Asymptotic study of the diffractive properties of rough metallic surfaces.
Phase-field models for anisotropic motion by mean-curvature.
CURRENT COLLABORATIONS:

Hoai-Minh Nguyen (EPFL), F. Santosa (Minneapolis), Hai Zhang (Hong Kong), Haigang Li (Beijing Normal University), J. Ortega (Universidad de Chile), H. Ammari (ETH Zurich), H. Kang (Inha University), E. Bretin, S. Masnou (ICJ Lyon), C. Dapogny, and F. Triki (LJK Grenoble).

SERVICE TO THE COMMUNITY:

Member of the Commission Scientifique Sectorielle 5 of the Institut de Recherche et Développement¹ (since 2015).

Coordinator for Mathematics of the Ecos Nord program² a program of scientific cooperation with Latin American countries (since 2012).


Coordinator of the Master program in Applied Mathematics, Université Joseph Fourier, 2004-2010.

Member of the hiring committees of the universities of Clermont-Ferrand, Nice, Rennes, Toulouse, Saint Etienne, Lyon.

Program committees:

Organizing committee of SMAI 2007, (the bi-annual meeting of the French Applied and Industrial Maths Society).

Scientific committee, Congrès National d’Analyse Numérique 2008 (Canum).

Scientific committee of WIPA 2010 Workshop on Inverse Problems and Application, Valparaiso, Chile, Jan. 18-22, 2010 (and CIMPA summer School in Santiago).


Organizing committee of the 1st France–Mexico meeting on Data Analysis, UNAM, Mexico City, Nov. 3th-4th 2016.

Organizing committee of the workshop on Emerging topics in optics, IMA special year on Mathematics and Optics, April 24th-28th 2017, Minnesota.


²http://www.univ-paris13.fr/cofecub-ecos/ecos-nord
PROJECTS AND CONTRACTS:
- Société Nationale des Poudres et Explosifs (SNPE # 2092, 1993-1994)
- PI (with M. Vogelius) of the CNRS/NSF project “Défauts, interfaces et couches limites dans les milieux composites” (projet 10669), 2001–2003.
- Coordinator for LJK of Echoscan, a project sponsored by the French ANR (Agence Nationale de la Recherche) 2006-2009.
- Member of the ANR project Optiform, 2012-2014.
- Member of the ANR project Multi-ondes, 2017-2019.
- PI project HOMONIM, AGIR-University Grenoble-Alpes ‘Homogenization and Negative Index Materials’, 2015-16.

AWARDS:

INVITED COURSES:
Complejidad en diseño óptimo: microestructuras y microgeometrías, Universidad de Castilla-La Mancha, Ciudad Real, april 2008.
Homogénéisation des milieux composites en phases diluées et applications, Calais, Sept. 2009.
Problèmes inverses hybrides, Tunis, March 2012.
Summer program on PDE’s and Applied Mathematics, VIASM. Hanoi, July 14th-Aug. 7th 2014.
Integral equations for the modeling of plasmonic resonance of nanoparticles, Radon Workshop: Quantitative Tomographic Imaging - Radon meets Bell and Maxwell, RICAM, Linz, July 10th-14th, 2017.
Spectral properties of the Neumann-Poincaré operator, Beijing Normal University, Beijing, Aug. 8th-23rd, 2017
Spectral properties of the Neumann-Poincaré operator, Inha University, Seoul, Jan 29th–Feb 2nd and May 29th–June 6th 2018.

PUBLICATIONS IN REFEREED JOURNALS


**PREPRINTS**


**PUBLICATIONS IN PROCEEDINGS**


4. E. Bonnetier, R.S. Falk et M. Grinfeld. *A one-dimensional model to account for stress driven rearrangement in the equilibrium shape of a deformable crystal*. Proceedings of the Conference on Inverse problems, Control and Shape Optimization (PICO98), Carthage, Tunisia, 98.


**PATENT**


**TECHNICAL REPORTS**


**INVITED TALKS and SEMINARS**

Université J. Fourier, Grenoble, April 1993.
Universidad de Chile, Santiago, June 1995.
Rutgers University, Feb. 1996.
University of Utah, Salt Lake City, May 1996.
University of Maryland, Baltimore County, Oct. 1996.
University of Maryland College Park, Nov. 1996.
Picof’98 Carthage, Tunisia, April 1998.
University of Texas, Austin, Oct. 98.
University of Florida, Gainesville, Nov. 98.
Université d’Orléans, Nov. 98.
Université de Lyon 1, Feb. 99.
Universidad de Concepcion, Chile, March 99.
Universidad de Chile, Santiago, March 99.
ICIAM, Edinbourg, July 1999.
University of Florida, Gainesville, Nov. 99.
ETH Zürich, Dec. 99.
Danish Technical University, Nov. 2000.
Université de Saint-Etienne, Nov. 2001.
Université Paris 6, Jan. 2002.
Picof 02, Carthage, Tunisie, April 2002.
Rencontres Optimisation de Formes, CIRM Luminy, July 2003.
Université Rennes 1, April 2004.
Université de St. Etienne, Feb. 2005.
- Spring Southeastern Meeting of the AMS, Miami, April 2006.
- Journees EDP de Metz, Aspects géométriques des EDP et Applications, April 2006.
- Université du Chili, Santiago, Jan. 2007.
- Université de Clermont Ferrand, March 2007.
- 4th International Conference on Inverse Problems, Control and Shape Optimization, PICO’08, Marrakech, Maroc, April 2008.
- Colloque Modélisation mathématique en mécanique, Congrès Français de Mécanique, Marseille, Aug. 2009.
- MSRI Berkeley, Inverse problems and applications, Nov. 08-12, 2010.
- Conference on Mathematics of Medical Imaging, the Fields Institute, Toronto, June 2011.
- Multi-Scale and High-Contrast PDE: From Modelling, to Mathematical Analysis, to Inversion, Oxford, July 2011.
- International Conference on Inverse Problems and Applications in Honor of Gunther Uhlmann’s 60th Birthday, Hangzhou, Sept. 2012.
- 7èmes journées scientifiques de l’Université de Toulon, April 9-10th 2013.
- Applied Inverse Problems 2013, Daejeon, South Korea, July 1st-5th.
- Workshop on Multiple Modelling and Methods, , St. Etienne, Oct. 8-9th 2013.
- Forum Math-for-Industry 2013, Nov. 4-8th 2013, Fukuoka.
- Workshop GOMS, Nov. 27-28th 2014, Marseille.
- Séminaire EPFL, March 27th 2015, Lausanne.
- Minisymposium on Mathematics and Optics. ICIAM 2015, Beijing.
- Minisymposium Metamaterials and Their Recent Applications, SIAM conf. on mathematical aspects of material science, May 8-12th 2016, Philadelphia.
- IAS workshop on Inverse Problems, Imaging and PDE’s, Dec. 5-9th 2016, Hong Kong.
- Math. Dept. Seminar, Hong Kong Baptist University, Dec. 20th. 2016, Hong Kong.
- Applied math seminar, Hong Kong University of Science and Technology, Dec. 23rd 2016, Hong Kong.
- IMA seminar, U. of Minnesota, Jan. 21st 2017, Minneapolis.
- Seminar ENSTA, June 30th 2017, Palaiseau.
- Seminar, Dept. of Physics, Dec. 16th 2017, UAEM Cuernavaca.
- International Workshop on The Neumann-Poincaré Operator, Plasmonics, and Field Concentrations, Feb. 8th-10th 2018, Jeju, South Korea.
- Workshop on Inverse Problems, Imaging and PDE’s, Institute for Advanced Study HKUST, March 12-16th 2018, Hong Kong.
- Workshop on PDE’s: Modelling & Theory, May 9-10th 2018, Monastir.
- Seminar, Université de Rouen, Nov. 22nd 2018.

**PHD STUDENTS AND POSTDOCS**

- Fehmi Ben Hassen, PhD 1999–2004, co-advisor A. Ben Abda (ENIT Tunis). Fehmi is currently assistant professor at the ENIT of Tunis.
- Morgan Brassel, PhD 2003–2008, currently agrégé de mathématiques at the Ecole Nationale Supérieure de Chimie of Lille.
- Frédéric Huguet, PhD 2005, research engineer CEA Grenoble, co-advisor F. Devernay (INRIA).
- Lukas Jakabcin, PhD 2009-2013, co-advisor S. Labbe. Lukas is currently postdoc at the Université de Toulon.
- David Manceau, postdoc 2008–2009, currently maître de conférences, Université du Havre.
- M. Santacesaria, postdoc ANR 2013, currently assistant professor Univ. of Heksinki.