

Laure Giovangigli

Department of Mathematics UCI
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Academic position

- 2014-present **Visiting Assistant Professor of Mathematics**, *University of California, Irvine*.
- Five quarter classes over one year
 - Fall 14 : Single-Variable Calculus, Multivariable Calculus
 - Winter 15 : Single-Variable Calculus, Differential Equations
 - Spring 15 : Upper-Division Linear Algebra
 - Fall 15 : Single-Variable Calculus, Probability and Stochastic Processes I
 - Winter 16 : Probability and Stochastic Processes II
 - Spring 16 : Probability and Stochastic Processes III, Differential equations
 - Fall 16 : Single-Variable Calculus
 - Winter 17 : Mathematical Finance, Probability and Stochastic Processes II
 - Research work with Pr. Knut Sølna. Source imaging in a thin plate. Passive imaging of a spherical inclusion.

Education

- 2011–2014 **Ph.D. in Applied Mathematics**, *École Normale Supérieure, Paris*.
- Dissertation title : Mathematical modeling for cell membrane imaging.
 - Under the supervision of Pr. Habib Ammari and Pr. Josselin Garnier.
 - Defended on June 19th, 2014 (with Very High Honors).
 - Jury : President : Benoît Perthame
Referees : Didier Auroux, John C. Schotland
Examiners : Virginie Bonnaillie-Noël, Xavier Blanc, Jin-Keun Seo
Supervisors : Habib Ammari and Josselin Garnier
- 2010–2011 **M.Sc. in Applied Mathematics**, *Université Paris VI, Paris*.
- Specialization : Probabilities and random models (with Very High Honors).
 - Research internship at the École Normale Supérieure (6 months) : Fluorescence imaging of the cell membrane potential.
- 2008–2010 **Engineer's degree**, *École Polytechnique, Paris*.
- Courses : Mathematics (analysis, probabilities, numerical methods, optimization), Mechanics (of solids and fluids), Physics (quantum and statistical), Computer science.
 - Research internship at the Université Paris VI (3 months) : Neutral theories of biodiversity: the unified construction of S. Hubbell.

Other experiences

- Feb. 2017 **Advisor in charge of a group of undergrads preparing the actuary exam**, *League of the actuaries*.
- Feb. 16/17 **Volunteer at a math competition for middle schoolers (MATHCOUNTS)**, Regional and then State competition.
- Feb. 2015 **Leader of two sessions of the UCI math circle for High School students**.
Introduction to mathematical modeling of epidemics and numerical simulations.
- May 2014 **Grader of the entrance exam to the École Normale Supérieure**.
Around 220 papers of a 6 hours exam.

- 2011-2014 **Member of the department council**, *Département de Mathématiques et Applications*, École Normale Supérieure, Paris.
- 2008–2013 **Tutoring in Mathematics and Physics**.
high school and bachelor students.

Publications

- 7 **Paraxial coupling in an anisotropic random medium**, *Josselin Garnier, Laure Giovangigli and Knut Sølna*, in preparation.
- 6 **Passive imaging of a spherical inclusion**, *Josselin Garnier, Laure Giovangigli and Knut Sølna*, preprint.
- 5 **Source imaging in a thin plate**, *Laure Giovangigli*, preprint.
- 4 **Admittivity imaging from multi-frequency micro-electrical impedance tomography**, *Habib Ammari, Laure Giovangigli, Loc Nguyen and Jin-Keun Seo*, *Journal of Mathematical Analysis and Applications*, 449 (2017), p. 1601-1618.
- 3 **Spectroscopic conductivity imaging of a cell culture**, *Habib Ammari, Laure Giovangigli, Hyeuknam Kwon, Jin-Keun Seo and TimothÉe Wintz*, *Asymptotic Analysis*, 100 (2016), p. 87-109.
- 2 **Spectroscopic imaging of a dilute cell suspension**, *Habib Ammari, Josselin Garnier, Laure Giovangigli, Wenja Jing and Jin-Keun Seo*, *Journal of Mathematical Analysis and Applications*, 105 (2016), p. 601-661.
- 1 **Mathematical modeling of fluorescence diffuse optical imaging of cell membrane potential changes**, *Habib Ammari, Josselin Garnier and Laure Giovangigli*, *Quarterly of Applied Mathematics*, Vol. LXXII, Num. 1 (2014), p. 137-176, S 0033-569X(2013)01334-X.

Conferences

- 15 Apr. 2017 **UCI Diversity in Mathematics Festival**, *Irvine, California, USA*.
Talk : Looking for tumors without a scalpel.
- 23-26 May 2016 **SIAM Conference on imaging science**, *Albuquerque, New Mexico, USA*.
Talk : Source imaging in a thin layer.
- 25-29 May 2015 **Applied Inverse Problems Conference**, *University of Helsinki, Helsinki, Finland*.
Talk : Spectroscopic imaging of a cell suspension.
- 25-27 Sept. 2014 **Conference on Stochastics Asymptotics and Applications**, *University of California, Santa Barbara, Santa Barbara, USA*.
Talk : Spectroscopic imaging of a cell suspension.
- 25-27 June 2014 **Multi-Waves Inverse Problems**, *Laboratoire Jean Kuntzmann, Grenoble, France*.
Talk : Admittivity of biological tissues and its frequency dependence.
- 7-11 Apr. 2014 **Inverse Problems and Imaging Conference**, *Institut Henri Poincaré, Paris, France*.
Talk : Spectroscopic imaging of a cell suspension.
- 31 Mar.-4 Apr. 2014 **Congrès National d'Analyse Numérique**, *SMAI, Carry-Le-Rouet, France*.
Poster : Spectroscopic Imaging of a cell suspension.
- 1-5 July 2013 **Applied inverse problem conference**, *Korea Advanced Institute for Sciences and Technology, Daejeon, Korea*.
Talk : Spectroscopic imaging of a dilute cell suspension.

- 13-17 May **Workshop Electromagnetics : Modelling, Simulation, Control and Industrial Applications**, *WIAS*, Berlin, Germany.
2013 Talk : Effective admittivity of a dilute suspension of cells and electrical impedance spectroscopy.
- 21-27 Oct. **Computational Inverse problems**, *Mathematisches Forschungsinstitut Oberwolfach*, Oberwolfach, Germany.
2012 Talk : Mathematical modeling of fluorescence diffuse optical imaging of cell membrane potential changes.

Collaborations

- 14-28 Oct. **with Pr. Jin-Keun Seo**, *Yonsei University*, Seoul, Korea.
2013
- 8-21 July **with Pr. Jin-Keun Seo**, *Yonsei University*, Seoul, Korea.
2013