

Danela Oana IVANOVICI

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Nationality : French and Romanian
Married, one child (born in November 2011)

Curriculum Vitæ

Career

Education

- | | |
|------------------|---|
| 2021 | HDR (<i>Habilitation à diriger les recherches</i>), Sorbonne University |
| 2006-2009 | PhD in Mathematics, University Paris XI, Orsay (advisor Nicolas Burq) |
| 2003-2006 | Student at the Ecole Normale Supérieure, Paris, France ; contest : SI-Sciences/2003
Master in mathematics at ENS and Paris XI (rank 1), Graduate at ENS and Paris VI |
| 2000-2003 | Undergraduate student at the University of Bucharest and ENS IMAR, Romania |

Professional positions

Permanent

- | | |
|------------------|--|
| 10.2022 – | CNRS senior researcher, Laboratoire Jacques-Louis Lions, Sorbonne University |
| 2019-2022 | CNRS junior researcher, Laboratoire Jacques-Louis Lions, Sorbonne University |
| 2010-2019 | CNRS junior researcher, Laboratoire J.A. Dieudonné, University Côte d'Azur |

Temporary

- | | |
|--------------------|---|
| 09.2022 – | Part-time Professor, CMLS, Ecole Polytechnique, Palaiseau |
| 05-07.2016 | Visiting Member, Institut des Hautes Etudes Scientifiques, Bures-sur-Yvette |
| 2009-2010 | J.J.Sylvester Assistant Professor at Johns Hopkins University, Baltimore, MD, USA |
| 2006 - 2009 | Allocataire Monitrice Normalienne, University Paris XI, Orsay |

Research interests

I am concerned with localization properties of solutions to hyperbolic PDEs, especially problems with a geometric component : how do boundaries and heterogeneous media influence spreading and concentration of solutions. While my first focus is on the wave and the Schrödinger equations on manifolds with boundary, strong connections exist with phase space localization for (clusters of) eigenfunctions, which are of independent interest. Motivations come from nonlinear dispersive models (in physically relevant settings), properties of eigenfunctions in quantum chaos (related to both physics of optic fiber design as well as number theoretic questions), or harmonic analysis on manifolds.

Networks and Grants

Current funding

2018-2024 PI of the ERC starting grant [ANADEL](#) (1,3 M euros over 5 years ; the project has been extended for one year due to Covid 19 pandemic)

Previous funding

2017-2018 Principal Investigator of the grant "Analyse des équations dispersives", funded by French ANR (120 000 euros over 18 months ; ends 06/2018)
2013-2018 Permanent member of the ERC SCAPDE project (coordinated by Gilles Lebeau)
2012-2016 Member of the ANR GEODISP grant - "Geometry and dispersion for nonlinear waves" (coordinated by Fabrice Planchon)
2008-2011 Member of the ANR "EDP - Dispersives" grant, coordinated by Nicolas Burq

Graduate students

Ph.D. students

2014-2017 PhD Thesis of **Len Meas**, LJAD, co-direction with Gilles Lebeau (50% each) ;

Graduate students committees

10.2024 Member of the Defense Committee of Jules Pitcho, ENS Lyon ;
10.2023 Member of the Defense Committee of Dahmane Dechicha, LJAD ;
07.2021 (Invited) member of the Defense Committee of Jingrui Niu, LMO Orsay ;
09.2018 Member of the Defense Committee of Davis Lafontaine, LJAD ;
06.2018 Member of the Defense Committee of Chenmin Sun, LJAD ;

Mentoring of young researchers

2021-2023 Post-doctoral fellow (funded by the l'ERC) **Jingrui Niu**, LJLL ;
2018-2022 Post-doctoral fellow (funded by the l'ERC) **Felice Iandoli**, LJLL ;
2018 Post-doctoral fellow (funded by the ANR) : **Lucrezia Cossetti**, LJAD ;
2017-2018 Post-doctoral fellow (funded by the ANR) : **Jiqiang Zheng**, LJAD ;

Master students

02.-06.2021 supervisor of a TER (M1 Thesis) at Sorbonne Université ;
03-04.2018 supervisor of a Master 2 Thesis, LJAD ;
05-06.2014 supervisor of a Master 1 Thesis of a student of ENS Rennes .

Scientific boards and steering committees

National :

- 2023 – Elected member of the [CNU](#), Conseil national des universités, section 25.
- 2016 - 2020 Elected member of the National Committee for Scientific Research [CoNRS](#) (section 41). The CoNRS sections serve as hiring and evaluating committees for CNRS positions.
- 2018 – Member of several evaluation committees of the [HCERES](#) (Haut Conseil de l'Evaluation de la Recherche et de l'Enseignement Supérieur) ; (LAGA, Paris 13 (2018) ; LaMME, Evry, CMAP, Polytechnique (2019), LMRS Rouen (2021)) ;
- 2018 – Associate member of the INSMI's ERC committee. The goal is to help and encourage applicants to ERC grants.

Local :

- 2020 - 2023 Member of the Jacques-Louis Lions Laboratory board
- 2018 - 2019 Member of the [Committee of the Advanced Research Program](#) of UCA.
- 2014 - 2018 Elected member of the UFR Sciences Council of the University of Nice.
- 2012 - 2018 Elected member of the permanent committee of humain ressources (CPRH) concerning the sections 25-26-60 of the CNU, University of Nice. The CPRH is in charge of overseeing hirings (professors-researchers, assistant-professors, research-teaching temporary positions, invited professors, etc) ;

Hiring Committees :

- 2025 Member of a hiring committee on a *Professeur des Universités* Position at Cergy.
- 2025 Member of a hiring committee on a *Professeur Monge* Position at Ecole Polytechnique.
- 2024 Member of a hiring committee on a *Professeur des Universités* Position at SU.
- 2023 Member of a hiring committee of a *Professeur des Universités* Position at Cergy.
- 2015 - 2016 Member of hiring committees on a *Maitre de Conférence* Position (2016, Montpellier and Strasbourg ; 2015 Nice) ;

Scientific reviewing and refereeing :

- 2024, 2025 Member of the evaluation committee of the programme "[1000 Ideas Program](#)" funded by [Austrian Science Fund](#)
- 2024 Member of the evaluation committee of the programme "Early Career Seed Money" funded by [Austrian Science Fund](#)
- 2015, 2019 Referee for the ANR
- 2009 – Reviewer for international journals : 3-4 papers per year (Annals of PDEs, Analysis PDE, Astérisque, Comm.PDE, J. Amer. Math.Soc., AMJ, Math. Ann., Comm. Math. Phys., between others)

Editorial board :

- 03.2023 – **Bulletin des Sciences Mathématiques**, Associated Editor.
- 2021 - 2023 **Advances in Discrete and Continuous Models**, Associated Editor.

Publications

Publications (available on [ORCID](#) , [arXiv](#))

Dispersion estimates for wave and Schrödinger equations outside a ball and counterexamples ; submitted
Dispersive estimates for the wave equation outside a cylinder, with F. Iandoli, Journal Funct. Analysis 286 (2024), no.9, 50 pages

Dispersive estimates for the semi-classical Schrödinger equation in a strictly convex domain and applications, Ann. Inst. H. Poincaré Anal. Non. Linéaire (2023) vol 40, no.4, pages 959-1008

Long time dispersive estimates for the wave and the Klein-Gordon equations inside the Friedlander domain, Discrete and Continuous Dynamical Systems, 41(12), 5707-5742, 2021

Dispersion estimates for the wave equation inside strictly convex domains II: the general case ; with G. Lebeau, R. Lascar and F. Planchon, Annals of PDE (2023) vol. 9, issue 2, 117 pages

Strichartz estimates for the wave equation on a 2D model convex domain ; with G. Lebeau and F. Planchon, Journal of Differential Equations, vol. 300, p. 830–880, 2021

New counterexamples to Strichartz estimates for the wave equation on a 2d model convex domain ; with G. Lebeau and F. Planchon, Journal de l'Ecole Polytechnique - Mathématiques, 8 :1133-1157, 2021 .

Square function and heat flow estimates on domains, with F. Planchon, Comm. PDE, vol.42 (2017), issue 9, pages 1447-1466.

Dispersion estimates for wave and Schrödinger equations outside strictly convex obstacles and counterexamples ; with G. Lebeau, Comptes Rendus Mathématiques, 355 (2017), pages 774-779.

Dispersion estimates for the wave equation inside strictly convex domains I: the Friedlander model case ; with G. Lebeau and F. Planchon, Annals of Mathematics, vol. 180, issue 1(2014), pages 323-380 .

Counterexamples to the Strichartz estimates for the wave equation in general domains II. Journal of the European Math. Soc. vol.14, issue 5, (2012), pages 1357-1388

On the energy-critical Schrödinger equation in 3D non-trapping domains, with Fabrice Planchon. Annales de l'IHP Analyse Non Linéaire vol. 27, issue 5 (2010), pages 1153-1177.

On the Schrödinger equation outside strictly convex obstacles. Analysis and PDE vol. 3, no.3. (2010), pages 261-293.

Counterexamples to Strichartz estimates for the wave equation in domains. Mathematische Annalen vol. 347, issue 3 (2010), page 627-672.

Precise smoothing effect in the exterior of balls. Asymptotic Analysis, vol. 53, no.4 (2007), pages 189-208.

Analyse des effets géométriques sur les équations dispersives, HDR thesis (2021), Sorbonne Université.

Équations dispersives et problèmes aux limites. Ph.D Thesis (2009) ; Université Paris Sud, Faculté des Sciences d'Orsay, Essonne ; 227 pages.

Book chapters

Estimations de Strichartz pour l'équation des ondes dans un domaine strictement convexe : le cas général, Publications de la SMF, Séminaires et Congrès, 30 (2017), pages 69-79.

This is a chapter of the book "PDE's, Dispersion, Scattering Theory and Control Theory", edited by K. Ammari and G. Lebeau.

Proceedings

Estimations de Strichartz pour les ondes dans le modèle de Friedlander en dimension 3.
Séminaire Laurent Schwartz (XEDP) 2013-2014.

Strichartz estimates for the wave equation in 3D strictly convex domains.
Oberwolfach Report 2013, "Nonlinear Waves and Dispersive Equations".

Dispersive and Strichartz estimates for the wave equation inside a strictly convex domain.
Proceedings of the "Journées EDP", "Journées EDP" Port d'Albert 2010 ; 20 pages.

Dispersive estimates for the wave equation in two dimensional strictly convex domains.
Oberwolfach Report No. 41/ 2010, "Nonlinear Waves and Dispersive Equations".

Lecture notes

Lecture notes in Measure Theory and Integration, lecture notes for 3rd year (Bachelor) students at Ecole Polytechnique, 2023-2024, 115 pages

Organisation of scientific meetings :

17-22. 02.2025	Co-organiser of the workshop Nonlinear waves and Hamiltonian PDEs , Courmayeur, Italy (co-funded by ANADEL)
15-19. 04.2024	Co-organiser of the work-group Research in Pairs , Pisa, Italy (funded by ERC ANADEL & Centro di Giorgi)
15-19. 04.2024	Co-organiser of the "research in pairs" workgroup Research in Pairs , Pisa, Italy (funded by ERC ANADEL & Centro di Giorgi)
12-16. 02.2024	Co-organiser of the workshop Nonlinear waves and Hamiltonian PDEs , Courmayeur, Italy (co-funded, ERC ANADEL)
03-07. 07.2023	Co-organiser of the summer school IMJ-PRG Summer School - 2023 "Microlocal and Probabilistic methods in geometry and dynamics", Paris, France (ERC ANADEL)
26.02- 04.03.2023	Co-organiser of the workshop Nonlinear waves and Hamiltonian PDEs , La Thuile, Italy (ERC ANADEL)
20-26. 02.2022	Co-organiser of the workshop Dynamics of hamiltonian PDEs , La Thuile, Italie (ERC)
17-21. 06.2019	Co-organiser of the conference Dispersive Waves and related topics in honor of Gilles Lebeau, Bergen, Norway (ERC ANADEL)
11-13. 06.2019	Co-organiser of the colloquium Quantum Resonances and related Topics in honor of André Martinez, IHP, Paris (ERC ANADEL)
11-15. 02.2019	Co-organiser of the workshop Dynamics of hamiltonian PDEs , La Thuile, Italy (ERC ANADEL)
20-23. 10.2018	Co-organiser of GE2MI conference on PDE's, Control Theory and Related Topics , Inatel Foz Do Arelho, Portugal (ERC ANADEL)
05-09. 02.2018	Co-organiser of the workshop Dynamics of hamiltonian PDEs , La Thuile, Italy (ANR ANADEL)
23-27. 10.2017	Co-organiser of the workshop Propagation of Singularities in Dispersive PDEs , WPI, Vienna (ANR ANADEL)
01.2016	Co-organiser of the conference Seventh Itinerant Meeting in PDEs , LJAD Nice
10.2013	Co-organiser of the conference Blow-up, Dispersion and Solitons , LJAD Nice

Organisation of seminars :

- 09.2013-12.2015** Organiser of the seminar : [Géométrie et Analyse](#) of the team "*Géométrie, Analyse et Systèmes dynamiques*", LJAD Nice
- 2009-2010** Organiser of the seminar : "*Analysis and PDE*" of the Mathematics Department of the Johns Hopkins University .

Plenary lectures at international conferences and workshops :

- 05.2025** Conference "in honour of the 65th birthday of Chris Sogge", JHU, MD, US
- 05.2025** Conference "Nonlinear Dispersive Equations : Advances and Perspectives", CIRM
- 06.2024** Conference "[Nonlinear Waves and Relativity](#)" ESI, Vienna, Austria
- 04.2024** [London Mathematical Society Midlands Regional Meeting](#), Loughborough, UK
- 07.2023** "Spectral Theory and Mathematical Relativity" summer program, Schrödinger Institute, Vienna, Austria
- 05.2023** "Advances in nonlinear analysis and nonlinear waves : conference in honor of Frank Merle", IHES, France
- 03.2023** Workshop "Women in nonlinear dispersive equations", Banff, Canada (online)
- 09.2022** Workshop "At the interface between Semiclassical Analysis and Numerical Analysis of Wave Scattering Problems", Oberwolfach, Germany
- 09.2022** "First School and Workshop", Pisa, Italy
- 09.2021** Workshop "Hamiltonian systems and dispersive PDE's", Sirius Math. Center, Russia (postponed)
- 07.2021** Workshop "Semiclassical analysis meets numerical analysis", University of Bath, UK (postponed)
- 06.2021** Minisymposium on microlocal and time-frequency analysis, 8th European Congress of Mathematics, Portoroz, Slovenia (online)
- 10.2019** Conference "Recent Developments in Microlocal Analysis" MSRI, Berkeley, CA
- 07.2019** "The Ninth Congress of Romanian Mathematicians", Galati, Romania
- 06.2019** Conference "Nonlinear Dispersive Waves, Solitons and related topics" Mittag-Leffler, Djursholm, Sweden
- 06.2019** Conference "Journées équations aux dérivées partielles" Obernai, France
- 11.2018** Workshop "Nonlinear Dispersive PDE's", Rome Sapienza, Italy
- 09.2018** Conference "Linear and Nonlinear Wave Phenomena : Stability, Propagation of Regularity and Turbulence" Cortona, Tuscany
- 05.2018** Tianyuan Advanced Seminar on Harmonic Analysis and PDE, Beijing, China
- 03.2018** Workshop "Atelier d'Analyse Harmonique 2018", Paul Langevin Center, Aussois
- 03.2018** Workshop on "Microlocal Analysis and its Applications in Spectral Theory, Dynamical Systems, Inverse Problems and PDE", Murramarang Resort, Australia
- 02.2018** Workshop "Dynamics of hamiltonian PDE", La Thuile, Italy
- 10.2017** Workshop "Propagation of Singularities in Dispersive PDEs", WPI, Vienna, Austria
- 10.2017** Workshop "Microlocal analysis, resonances and control theory in PDEs", Italy
- 06.2017** Conference "Dynamical Geometrical Analysis" in Orsay
- 06.2017** Workshop "Nonlinear Waves and Dispersive Equations", Oberwolfach, Germany
- 12.2016** Workshop "Nonlinear Dispersive equations in Valdivia", Valdivia, Chile
- 09.2016** Workshop "Recent progress on the qualitative properties of nonlinear dispersive waves and systems", Vienna, Austria
- 06.2016** Workshop "Nonlinear evolution problems", Oberwolfach, Germany
- 05.2016** International Conference during the semester "Nonlinear Waves", IHES France
- 04.2016** Conference "Evolution equations on singular spaces", CIRM, France

12.2015	Conference "Semiclassical Analysis and Non-self-adjoint Operators", Marseille
10.2015	Workshop "New challenges in PDE : Deterministic dynamics and randomness in high and infinite dimensional systems", MSRI, Berkeley, California, USA
08.2014	The French-Roumain Colloquium in Applied Mathematics, Lyon, France.
07.2014	Conference "Blow up and dispersion in Nonlinear PDEs", WPI Vienna, Austria
06.2014	Conference "Microlocal Analysis and Applications", University of Nice, France .
12.2013	Conference "Analyse Microlocale" Paris 6 University, France
09.2013	Workshop "Nonlinear Wave Equations", Lisbonne, Portugal
09.2013	Anniversary Conference of the Faculty of Science, Univ. of Bucarest, Romania.
09.2013	Conference : "Nonlinear Waves and Dispersive Equations", Oberwolfach, Germany.
06.2013	Conference "PDE's, scattering theory and control theory", Monastir, Tunisia.
05.2013	Workshop "Nonhomogeneous boundary-value problems for nonlinear waves", AIM, Palo Alto, California, US.
11.2012	Workshop "Blow-up, dispersion and scattering", Rome, Italy.
09.2012	Workshop "Régimes asymptotiques pour l'équation de Schrödinger non linéaire", CIRM, Marseille, France.
09.2012	French - Vietnamien Congress SMF-VSM , PDE session, Hué, Vietnam.
06.2011	Workshop IHP, Paris.
02.2011	Winter School "Dynamics and PDE", Saint Etienne de Tinée, France.
02.2011	The 100 anniversary of the Royal Spanish Mathematical Society, Avila, Spain.
09.2010	Conference : "Nonlinear Waves and Dispersive Equations", Oberwolfach, Germany.
07.2010	Summer School "Singularités dans les équations aux dérivées partielles", IHES, Paris.
06.2010	Conference "Journées EDP", Port d'Albret, France.
05.2010	Beijing Research Center, China, conference in harmonic analysis and PDE .

Talks at seminars :

10.12.2024	Oberseminar Analysis und Theoretische Physik, Leibniz Univ. Hanovre, Allemagne
18.10.2024	Paris London Analysis seminar, Londres
03.05.2023	Journée "mathematics LJLL / Peking University", Paris (postponed)
18.10.2022	Seminar X-IHES, Ecole Polytechnique, Palaiseau
15.11.2021	"Journées du Laboratoire Jacques-Louis Lions", Paris
21.12.2018	Seminar Laboratoire Jacques-Louis Lions, Paris
03.12.2018	Colloquium, LJAD, Nice
12.10.2018	PDE Seminar, LAGA Paris 13 University
13.03.2017	Seminar "Problèmes spectraux en physique mathématique", IHP, Paris
14.04.2016	Seminar, Laboratory of Condensed Matter Physics (LPMC), Nice.
23.02.2014	"Geometric Analysis and PDE" seminar, Univ. of Cambridge, England.
15.10.2013	X-EDP Seminar, Ecole Polytechnique, Paris.
22.11.2012	"Géométrie, Analyse et Dynamique" Seminar, Univ. de Nice Sophia-Antipolis.
24.09.2012	"Analyse Algébrique" Seminar , Univ. Paris 6.
22.11.2010	Analysis Seminar, Northwestern University, IL.
08.04.2010	PDE/Applied Math Seminar, University of Maryland (College Park), MD.
19.10.2009	Princeton Analysis Seminar, Princeton University, NJ.
05.10.2009	JHU Analysis Seminar, Johns Hopkins University, Baltimore, MD.
02.02.2009	"Problèmes Spectraux en Physique Mathématique" Seminar, IHP.
25.09.2008	"Numerical Analysis and PDE" Seminar, Paris Sud Univ., Orsay.
23.03.2008	Seminar of Mathematical Physics and PDE. University Paris XIII, Villetaneuse.
27.06.2007	PDE Seminar, University of Osaka, Japan.
20.06.2007	PDE Seminar, University of Kyoto, Japan.

Note : Events have been postponed and canceled worldwide because of the coronavirus pandemic. Below one may find a list of conferences/workshops I was supposed to attend in 2020.

09.2021	Workshop "Hamiltonian systems and dispersive PDE's", Sirius Math. Center, Sochi, Russie (online)
07.2020	"Semiclassical analysis meets numerical analysis", Univ. Bath, UK (canceled)
06.2020	Workshop "Asymptotic Behaviour of Nonlinear Wave Equations", Bielefeld University, Germany (canceled)
06.2020	Conférence en l'honneur des 60 ans de Chris Sogge, JHU, MD (postponed)
03.2020	"Nonlinear PDE Workshop", Cambridge (canceled)

Invitations abroad :

2024	one week at Centro di Giorgi, Pise, Italy
2024	one week or more at ESI, Vienna, Austria
2023	two weeks at Princeton Univ., United States ;
2023	one week or more ESI, Vienna, Austria ;
2022	two weeks at Schrödinger Institut, Vienna, Austria ;
2019	two weeks at MSRI, Berkeley, CA, US ;
2018	one week at BICMR, Beijing, China ;
2018	two weeks at Centro de Giorgi and Université de Pisa, Italy ;
2017	one week at Wolfgang Pauli Institute, Vienna, Austria ;
2015	two weeks at MSRI, Berkeley, United States ;
2015	one week at Centro de Giorgi and Université de Pisa, Italy ;
2014	one week at Wolfgang Pauli Institute, Vienna, Austria ;
2010	one week at Northwestern University, 5 days at NYU, United States ;
2009	one week at Hausdorff Center for Mathematics, Bonn, Germany ;
2008	two weeks at MSRI, Berkeley ; one month at l'ETH Zurich, Switzerland .

Teaching activities

Teaching

2024 – Teaching at Sorbonne University

2024 - 2025 Master 2 course [M2 "Mathématiques et applications"](#)
Analyse des effets géométriques sur les équations dispersives (20H)/ **Instructor** ;

2022 – Teaching at l'Ecole Polytechnique

2024 - 2025 Course on Measure theory and integration Bachelor MAA301 (9*2H)/ **Instructor** ;
2024 - 2025 Analyse et introduction aux méthodes variationnelles (9*4H)/ **Teaching Assistant** ;
2023 - 2024 Course on Measure theory and integration Bachelor MAA301 (9*2H)/ **Instructor** ;
– writing lecture notes for MAA301
2022 - 2023 Course on Measure theory and integration Bachelor MAA301 (13*2H)/ **Instructor** ;
2022 - 2023 Distributions, analyse de Fourier et EDP (10*4H)/ **Teaching Assistant** ;

2011-2016 Teaching (substitute) at the University of Nice, France

2012-2013 Master course in PDE : *Wave equation in domains with boundary* (15H)/ **Instructor** ;
2015-2016 Master course in Analysis (36H)/ **Teaching Assistant** ;
2011-2015 Undergraduate (L3) : Integration and Probabilities (40H/year)/ **Teaching Assistant** ;
2011-2015 Preparation for admission exams in Superior Schools (20H/year)/ **Instructor** ;

2009-2010 Teaching at Johns Hopkins University

Fall 2009 Master Course : Math. 726 Topics in Analysis (30H)/ **Instructor** ;
Fall 2010 Undergraduate : Math. 201 Linear Algebra (50H -180 students)/ **Instructor** ;
Spring 2010 Math.302 Differential Equations with Applications (70H)/ **Instructor** ;
Spring 2010 Math. 405 Introduction to Real Analysis (30H)/ **Instructor**.

2006-2009 Teaching at Paris XI University, Orsay

2006-2009 Math.151 Calculus (33H/year)/ **Teaching Assistant**
2006-2009 Math.152 Advanced Calculus (33H/year)/ **Instructor**.

Teaching responsibilities

2025 Member of validation board for the Polytechnician training program X2020
2023 Membre of the validation board for promotion to the third year of X2021, Polytechnique