# Curriculum Vitae

# **Didier Pilod**

## - Personal Data -

Civil Born a french citizen on October 5, 1976. Web site: https://sites.google.com/view/didierpilod/home

## - Education -

2006 Ph.D. in Mathematics, Institue of Pure and Applied Mathematics (IMPA), Brazil.

1999 B.S. Mathematics, Université d'Orsay, Paris XI, France.

— Positions -

2020- Associate Professor (Førsteamanuensis), Department of Mathematics, University of Bergen.

2018–2020 Researcher, Department of Mathematics, University of Bergen.

2016–2017 Associate Professor, Department of Mathematics, Federal University of Rio de Janeiro.

2011-2012 Visiting Scholar, Department of Mathematics, University of Chicago.

2007-2016 Assistant Professor, Department of Mathematics, Federal University of Rio de Janeiro.

2006–2007 Postdoctoral Fellow, Institue of Pure and Applied Mathematics (IMPA).

#### — Supervision -

Postdocs F. Valet (since '20), R. Mosincat (2019-2021).

PhDs M. Paulsen (since '20), A. Eychenne (2018-2023), L. Domingues (2011-2015).

Masters T. Stavland Jensen (since '22), V. B. Vergara Segura (2015-2017), A. Rigueti Barcelos (2009-2011), G. do Nascimento Santos (2008-2010).

# — Organised events –

- 2022  $-2^{nd}$  Norwegian meeting on PDEs, second national meeting on partial differential equations, Trondheim. Co-organised with E. Jakobsen, N.H. Risebro and S. Selberg.
- 2019 Dispersive Waves and related topics, conference in honour of Gilles Lebeau. Co-organised with J.-M. Delort and O. Ivanovici.
- 2019 1<sup>st</sup> Norwegian meeting on PDEs, first national meeting on partial differential equations, Trondheim. Co-organised with M. Ehrnström, E. Jakobsen and N.H. Risebro.

# - Grants and leadership -

- 2018- 11.6 million NOK from the Trond Mohn Foundation as principal investigator of the research project *Nonlinear dispersive equations*.
- 2016-2017 Research grant from CNPq (National Brazilian Center for Scientific and Technological Development), *Qualitative study of global and explosive solutions to dispersive models of Mathematical Physics*
- 2013-2016 Research grant from CNPq (National Brazilian Center for Scientific and Technological Development), *Global existence and dynamics for some nonlinear dispersive equations*.

# Commisions of trust and reviewing activities –

- 2021 Member of the PhD committee for Andreia Chapouto, University of Edinburgh. Referee of the PhD thesis for Ruoci Sun, University of Orsay. 2019 Member of the PhD committee for Evgueni Dinvay, University of Bergen. Member of the PhD committee for Dag Nilsson, University of Lund. 2018 Head of the PhD committee for Vincent Tetteh Teyekpiti, University of Bergen. Member of the PhD committee for Matheus Souza, IMPA. 2017 Member of the PhD committee for Renan Finder, IMPA. 2017 Member of the PhD committee for Marcos Guzman, Federal University of Minas Gerais. Board member of the postgraduate committee of the Mathematics Department at the Federal 2015-2017 University of Rio de Janeiro (responsible to guide around 80 master and PhD students). Reviewer for CNPq (National Brazilian Center for Scientific and Technological Development). 2013-2017 2012-2014 Vice Head of the Mathematics Department at the Federal Department of Rio de Janeiro. Member of the PhD committee for Sanja Pantic, University of Illinois at Chicago. 2012 Member of the PhD committee for Vanessa Barros, IMPA. 2010 Since 2008 Refereeing assignments for several scientific journals including Acta Mathematica, Advances in Mathematics, Annales de l'Ecole Normale Supérieure, Annales de l'Institut Fourier, Analysis & PDEs, Communications in Mathematical Physics, Communications in PDEs, Discrete and Continuous Dynamical Systems, International Mathematical Research Notices, Forum Mathematic Sigma, Journal of Differential Equations, Journal of Dynamics and Differential Equations, Journal of Evolution Equations, Journal of Fourier Analysis and Applications, Journal of Functional Analysis, Journal of Geometric Analysis, Journal of Nonlinear Analysis, Nonlinearity, Physica D,
  - of Functional Analysis, Journal of Geometric Analysis, Journal of Nonlinear Analysis, Nonlinearity, Physica D, Proceedings of the American Mathematical Society, Proceedings A of the Royal Society of Edinburgh, Revista Matematica Iberoamericana.
  - Publications ·
  - 1. Unconditional uniqueness for the Benjamin-Ono equation, to appear in Pure&Applied Analysis, 38 pages, preprint (2021), with R. Mosincat.
  - 2. Finite point blowup for the critical generalized Korteweg-de Vries equation, to appear in Annali Scuola Normale Superiore Classe di Scienze, 41 pages, preprint (2021), with Y. Martel.
  - Global well-posedness and scattering for the Dysthe equation in L<sup>2</sup>, J. Math. Pures Appl., 149 (2021), no. 2, 1011–1080, with R. Mosincat and J.-C. Saut.
  - 4. Dispersive estimates for full dispersion KP equations, J. Math. Fluid Mech., 23 (2021), paper no. 25, 24 pages, with S. Selberg, A. Tesfahun and J.-C. Saut.
  - Full family of flattening solitary waves for the critical generalized KdV equation, Comm. Math. Phys., 378 (2020), no. 2, 1011–1080, with Y. Martel.
  - 6. On the unique continuation of solutions to non-local non-linear dispersive equations, Comm. Part. Diff. Eq., 45 (2020), no. 8, 872-886, with C. Kenig, G. Ponce and L. Vega.
  - On the local well-posedness for a full dispersion Boussinesq system with surface tension, Proc. Amer. Math. Soc., 147 (2019), 2545-2559, joint with H. Kalisch.
  - On unconditional well-posedness for the periodic modified Korteweg-de Vries equation, Ann. Inst. H. Poincaré An. Non Lin., J. Math. Soc. Japan, 71 (2019), no. 1, 147–201, with L. Molinet and S. Vento.
  - 9. On well-posedness for some dispersive perturbations of Burgers' equation, Ann. Inst. H. Poincaré An. Non Lin., 35 (2018), no. 7, 1719–1756, with L. Molinet and S. Vento.

- 10. Unconditional uniqueness for the modified Korteweg-de Vries equation on the line, Rev. Mat. Iber., 34 (2018), no. 4, 1563–1608, with L. Molinet and S. Vento.
- 11. The Cauchy problem for the fractional Kadomtsev-Petviashvili equations, SIAM J. Math. Analysis, 50 (2018), 3172–3209, joint with Felipe Linares, and Jean-Claude Saut.
- 12. On Whitham and related equations, Studies Appl. Math., 140 (2018), 133–177, with C. Klein, F. Linares and J.-C. Saut.
- 13. Construction of a minimal mass blow-up solution of the modified Benjamin-Ono equation, Math. Ann., 369 (2017), 153-245, with Y. Martel.
- 14. Local well-posedness for the KdV hierarchy at high regularity, Adv. Diff. Eq., 21 (2016) 801–836, joint with Carlos Kenig.
- 15. Asymptotic stability of high-dimensional Zakharov-Kuznetsov solitons, Arch. Rat. Mec. Anal., 220 (2016), 639-710, with R. Côte, C. Muñoz and G. Simpson
- 16. Remarks on the orbital stability of ground state solutions of fKdV e relative equations, Adv. Diff. Eq., 20 (2015), 835–858, joint with Felipe Linares, and Jean-Claude Saut.
- 17. Bilinear Strichartz estimates for the Zakharov-Kuznetsov equation and applications, Annal. Inst. H. Poincaré, An. Non Lin., 32 (2015), 347-371, with L. Molinet.
- 18. Well-posedness for the fifth-order KdV equation in the energy space, Trans. Amer. Math. Soc., 367 (2015), 2551-2612, with C. E. Kenig. [GS 52, MSC 35]
- 19. Dispersive perturbations of Burgers and hyperbolic equations I: local theory, SIAM J. Math. Anal., 46 (2014), 1505–1537, with F. Linares and J.-C. Saut.
- 20. Global well-posedness and limit behavior for a higher-order Benjamin-Ono equation, Comm. Part. Diff. Eq., 37 (2012), 2050–2080, joint with Luc Molinet.
- 21. Well-posednesss of strongly dispersive two-dimensional surface waves Boussinesq systems, SIAM J. Math. Analysis, 44 (2012), 4195–422, joint with Felipe Linares and Jean-Claude Saut.
- 22. The Cauchy problem for the Benjamin-Ono equation in L<sup>2</sup> revisited, Analysis&PDE, 5 (2012), 365–395, with L. Molinet.
- 23. Well-posedness for a higher-order Benjamin-Ono equation, J. Diff. Eq., 250 (2011) 450-475. joint with Felipe Linares and Gustavo Ponce.
- 24. Local well-posedness for the nonlocal nonlinear Schrödinger equation below the energy space, Adv. Diff. Eq., 15 (2010) 925-952, joint with Roger Moura.
- 25. Stability of solitary-wave solutions to the Hirota-Satsuma equation, Disc. Cont. Dyn. Syst. A, 27 (2010) 1397-1413, joint with Jerry Bona.
- 26. Global well-posedness and non-linear stability of periodic traveling waves for a Schrödinger-Benjamin-Ono system, Comm. Pure Appl. Anal., 8 (2009), 815-844, joint with Jaime Angulo and Carlos Matheus.
- 27. Well-posedness for Hirota-Stasuma's equation, Diff. Int. Eq., 21 (2008) 1177-1192, joint with Rafael lório.
- 28. On the Cauchy problem for higher-order nonlinear dispersive equations, J. Diff. Eq., 245 (2008) 2055–2077.
- 29. Sharp well-posedness results for the Kuramoto-Velarde equation, Comm. Pure Appl. Anal., 7(2008) 867–881.
  - Track Record (selected invited conferences and Seminars) —

Participated in several international conferences and seminars. Selected:

- 2022 Nonlinear Dispersive Equations, Conférence en l'honneur de Jean-Claude Saut à l'occasion de son 75ème anniversaire, Université Paul Sabatier, Toulouse, France.
- 2019 2019 Workshop on Nonlinear Dispersive Partial Differential Equations and Inverse Scattering, Fields Institute, Toronto.
  - 10<sup>th</sup> intinerant workshop in PDEs, Istituto Nazionale di Alta Matematica, Rome, Italy.
- 2018 Dispersion and Integrability, Pauli Institute, Vienna.
  - Lund Workshop on Fluid Dynamics and Dispersive Equations, Lund, Sweden.
  - Nonlinear Dispersive equations, 2018 International Congress of Mathematicians Satellite Meeting, Florianopolis, Brazil.
  - NTNU workshop on PDEs, Trondheim.
- 2017 Workshop on Inverse Scattering and Dispersive PDEs in One Space Dimension, Fields Institute, Canada.
  - Mathematical Congress of the Americas, Montreal, Canada.
- 2016 Second Workshop on Evolution Equations in Valdivia 2016, Valdivia, Chile.
  - V Congresso Latino Americano de Matemática, Barranquila, Colombia.
- 2015 30 colóquio Brasileiro de Matemática, IMPA, Rio de Janeiro, Brazil.
  - Séminaire Laurent Schwartz- EDP et applications, Ecole Polytechnique, France.
- 2014 XV International Conference on Hyperbolic problems, HYP 2014, IMPA, Brazil.
- 2013 Workshop on "Modified dispersion for dispersive equations and systems" Pauli Institute, Vienna.
  Mathematical Congress of the Americas 2013, Guanajuato, Mexico.
  - Calderón-Zygmund Analysis Seminar, University of Chicago, USA.
- 2012 Analysis Seminar, Princeton University, USA.
  - Calderón-Zygmund Analysis Seminar, University of Chicago, USA.
- 2011 Workshop on Wave Breaking and Global Solutions in the Short-Pulse, Fields Institute, Toronto, Canada.
  - Centennial Congress of the Spanish Royal Mathematical Society, Avila, Spain.
- 2010 Mathematics and its Applications Seminar, University of Illinois at Chicago.
- 2009 27 Colóquio Brasileiro de Matemática, IMPA, Rio de Janeiro, Brazil.