

JOSÉ ANTONIO CARRILLO DE LA PLATA

EDUCATION

Bachelor in Mathematics	University of Granada	June 1992
Bachelor in Computer Science	University of Granada	June 1992
Ph.D. in Mathematics	University of Granada	May 1996

CURRENT POSITION

Professor of the Analysis of Nonlinear Partial Differential Equations,
Mathematical Institute, University of Oxford.
Tutorial Fellow in Applied Mathematics, The Queen's College, University of Oxford.

EXTERNAL POSITION

Chairman	Applied Mathematics Committee European Mathematical Society	2014 – 2017
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PREVIOUS POSITIONS

Prof. Asociado Tipo I	University of Granada	October 1992 - October 1994
Prof. Asociado Tipo II	University of Granada	October 1994 - October 1996
Prof. Asociado Tipo III	University of Granada	October 1996 - April 1999
Prof. Titular Interino	University of Granada	April 1999 - January 2000
Lecturer	University of Texas at Austin	September 1998 - May 2000
Prof. Titular	University of Granada	January 2000 - March 2003
ICREA Research Prof.	Univ. Autònoma de Barcelona	March 2003 - September 2012
Chair in Applied and Numerical Analysis	Imperial College London	October 2012 – March 2020

VISITING AND RESEARCH POSITIONS

Visiting Professorship	Université du Nice	May 2001
Visiting Professorship	Institut de Mathématiques Élie Cartan Université Henri Poincaré, Nancy	June 2004
Visiting Professorship	Centre de Mathématiques et de Leurs Applications École Normale Supérieure de Cachan, Paris	May 2005
Visiting Professorship	INRIA Futurs, Université des Sciences et Technologies, Lille 1	Nov. 2006 and June 2007
Visiting Professorship	Mathématiques et Applications, Physique Mathématique d'Orléans, Université d'Orléans, Orléans	March 2006
Core participant	Program on Optimal Transport IPAM, UCLA	Jan. 2008 - June 2008
Visiting Professorship	CAS (Center for Advanced Studies) Norwegian Academy of Science and Letters, Oslo	Sept.-Oct. 2008

Visiting Professorship	Mathématiques Pour l'Industrie et la Physique Université Paul Sabatier, Toulouse	December 2007
Visiting Professorship	National University of Singapore	August 1-31, 2009
Visiting Professorship	CEREMADE, Université Paris-Dauphine, Paris	February 2010
Visiting Professorship	Newton Institute for the Mathematical Sciences Cambridge, United Kingdom	August-December 2010
Visiting Professorship	Department de Mathématiques Université Paris-Orsay	June 2012
Visiting Professorship	Department de Mathématiques, Université Nice	December 2012
Visiting Professorship	Department de Mathématiques, Université Paris-Dauphine	June 2013
Visiting Professor	MSRI, University of California at Berkeley	August-October 2013
Visiting Professor	Tsinghua University, Beijing	July-August 2015
Visiting Professor	KAUST, Thuwal, Saudi Arabia	April 2016
Visiting Scholar	Mittag-Leffler Institute, Sweden	September-December 2016
Visiting Scholar	IMPAN, Warsaw, Poland	March 2017
IBM Visiting Professor of Applied Mathematics	Brown University, USA	August-September 2017
Changjiang Visiting Scholarship	SWUFE, Chengdu, China	January 2018 – May 2021
Visiting Professor	Shanghai Jiatong University, China	1 month/year starting 2021
Visiting Professor	Basque Center for Applied Mathematics Bilbao, Spain	1 month year 2021-2022 (first year online)
Visiting Professor	Simons Institute for the Theory of Computing, Berkeley, USA	August-September 2021

AWARDS AND PRIZES

- Academy of Sciences of Granada award, 1992.
- Postdoctoral fellowship, Department of Mathematics, University of Texas at Austin, 1998-2000.
- [SeMA \(Sociedad Española de Matemática Aplicada\) Young Researcher Prize](#), 2003.
- [Richard von Mises Prize](#) of the International Association of Applied Mathematics and Mechanics (GAMM), 2006.
- Royal Society [Wolfson Research Merit Award](#) 2012.
- 2016 [SACA Award](#) to the best PhD supervision at Imperial College London.
- Elected member of the [European Academy of Sciences](#) 2018.
- [SIAM Fellow Class 2019](#).
- ERC Advanced Grant 2020.
- IMA Fellow 2021.
- Foreign member of the Real Academia de Ciencias exactas y Naturales of Spain 2021.

RESEARCH INTERESTS

- Kinetic equations: asymptotic behavior, modelling and numerical simulation
- Nonlinear aggregation-diffusion equations: asymptotic behavior and qualitative properties
- Kinetic and Diffusive Models in Mathematical Biology: chemotaxis, swarming and flocking, computational neuroscience.
- Global optimization, applications of interacting particle systems in sampling.
- Other applications of kinetic equations: charged particles transport in semiconductors and plasmas, rarefied gas dynamics, granular gases
- Numerical methods for nonlinear hyperbolic systems.

TEACHING

Since 1993, Prof. Carrillo has taught a wide range of mathematics courses for various undergraduate majors—architecture, biology, business administration, chemistry, computer science, economics, engineering, and mathematics—as well as mathematics graduate level courses in partial differential equations, optimal transport, numerical analysis of PDEs and modelling.

Summer Schools/Courses: (recent extract 10 years)

- 2022 Three Nonlinear Days in Coimbra, a CAMGSD—CMUC Workshop in Nonlinear Analysis, Coimbra, 13-15 July 2022.
- 2022 Mathematical models for bio-medical sciences, Lake Como School of Advanced Studies, June 20-24 2022, Italy.
- 2021 Kinetic and fluid equations for collective dynamics, Online Summer School, Department of Mathematics, Université de Bordeaux, August 23-26, 2021.
- 2021 Durham Days of Analysis and PDE, Online Summer School, Department of Mathematics, Durham University, July 1-6, 2021.
- 2021 Online Hausdorff School on Diffusive Systems: Pattern Formation, Bifurcations, and Biological Applications, 12th-15th April 2021, Bonn, Germany. 2 lectures of 2 hours.
- 2019 Workshop on Trends in Modeling and Analysis in Life Sciences, 2nd-4th November 2019, South Africa. 4 lectures.
- 2019 Attractive-repulsive mathematical models in collective motion, Mathematical Biology *on the Mediterranean* Summer School, Samos, 2-6 September 2019, Greece. 4 lectures.
- 2019 An introductory course to Optimal Transport and Gradient Flows, July 22nd to 31st, SWUFE-Chengdu, China, 30 hours.
- 2019 IMU Volunteering Program – Advanced Numerical Methods for PDEs, Master Program in Universidad de la Habana, 25 Marzo – 5 Abril, Cuba. 20 hours.
- 2018 Autumn School from interacting particle systems to kinetic equations: modelling, control, and numerical methods, 26-30 November, Verona, Italy. 3 Lectures.
- 2017 “Ninth Summer School in Analysis and Applied Mathematics”, Rome June 5-9, 2017. 4 lectures.
- 2017 “Focus Activities on Mathematical and Computational methods for Quantum and Kinetic Problems”, Minimizing interaction energies: nonlocal potentials and nonlinear diffusions. 4 lectures.
- 2017 “Advanced School & Workshop on Nonlocal Partial Differential Equations and Applications to Geometry, Physics and Probability”, ICTP Trieste, May 29th-June 2nd, 2017. 2 lectures.
- 2017 “Spring School 2017: From Particle Dynamics to Gradient Flows”, Kaiserslautern, February 27-March 3, 2017. 3 lectures.
- 2016 “Nonlocal and nonlinear diffusions and interactions”, CIME, July 4th-8th 2016, Cetraro, Italy. 5 lectures.
- 2016 “Minimizing Interaction Energies: Nonlocal Potentials and Nonlinear Diffusions”, Erwin-Schrödinger Institute, Vienna, Austria, 3 lectures.
- 2016 Particle Systems and PDE's V, University of Minho, November 27-30, 2016. 3 lectures.

- 2015 L'Aquila Summer School: "Collective Behavior: Derivation, Model Hierarchies and Pattern Stability," 5 lectures.
- 2015 "Collective Behavior Models", Yau Mathematical Sciences Center, Tsinghua Univ., 16 lectures.
- 2014 RICAM Winter School: "Gradient Flows: Qualitative Properties & Numerical Schemes," 3 lectures.
- 2013 Ravello Summer School in Mathematical Physics: "Swarming Models with Repulsive-Attractive Effects: Derivation, Model Hierarchies and Pattern Stability," 5 lectures.
- 2012 "Kinetic models for self-organized collective motion" in Analysis, Modeling and Simulation of Collective Dynamics from Bacteria to Crowds, CISM, Udine, Italy. 8 lectures.
- 2012 "Kinetic models for self-organized collective motion" in Summer School entitled: Modélisation en dynamique des populations et Évolution: Probabilités et EDPs, La Londe-Les-Maures, France. 3 lectures.

MENTORING

Ph.D. Students Supervised

- J. M. Mantas Ruiz, co-supervised with Julio Ortega Lopera, January 2003. He is currently a professor at the Software Engineering department of the Universidad de Granada, Spain.
- M. J. Cáceres Granados, September 2003. She is currently a professor at the Applied Mathematics department of the Universidad de Granada, Spain.
- Lucas Catão de Freitas Ferreira, co-supervised with Helena J. Nussenzveig-Lopes, March 2005. He is currently a professor at the Mathematics department of the Universidade de Campinas, Brazil.
- Francesco Vecil, co-supervised with Naoufel Ben Abdallah, December 2007. He is currently a maître de conférences at the Mathematics department of the Université de Clermont-Ferrand, France.
- Jesús Rosado Linares, July 2010. He was a professor at the Applied Mathematics department of the Universidad de Buenos Aires, Argentina. He currently holds a tenure track position at the Universidad de Castilla La Mancha, Spain.
- Daniel Balagué Guardia, co-supervised with José Alfredo Cañizo Rincón, June 2013. He was at the ICT department of the Case Western University, USA. He is tenure track at the university of Ghent in the Netherlands.
- Matheus Santos, co-supervised with Lucas C. Ferreira y Marcelo da Silva, February 2015. He is currently a professor at the Mathematics department of the Universidade Rio Grande do Sul, Brazil.
- Thomas James Holding, co-supervised with Clément Mouhot, August 2016. He was a postdoc within the ERC project of Martin Hairer.
- Francesco Patacchini, co-supervised with Yanghong Huang, June 2017. After his three year postdoctoral fellow at Carnegie Mellon University, USA. He is senior scientist at the Institut Français du Pétrole.
- Franca Hoffmann, co-supervised with Clément Mouhot, June 2017. After a three year postdoctoral fellow at Caltech, USA, she has a junior professorship in Bonn and a tenure track position at Caltech waiting for her in 2022. She was awarded a 2016 [Student Award for Outstanding Achievement](#), one out of six across the university.
- Markus Schmidtchen, May 2019. He finished a 2 year Postdoc in Paris under the supervision of Benoit Perthame funded by the Fondation des Sciences Mathématiques de Paris. He has just started a junior professorship at the University of Dresden.
- Rafael Sánchez-Bailo, June 2020, cosupervised with Pierre Degond. He is a postdoc at Université de

Lille in France.

- Sergio Pérez Pérez, spring 2021, he is working on numerical methods for hydrodynamic equations and gradient flows with/without noise for phase transitions, cosupervised with Serafim Kalliadasis. He was awarded a 2019 [Student Award for Outstanding Achievement](#), one out of six across the university.
- Rishabh Gvalani, June 2020, cosupervised with Greg Pavliotis. He is a postdoc at the mathematical institute in Leipzig in the group of B. Gess and F. Otto.
- Jeremy Wu, June 2022, he works in gradient flows for the Landau equation, cosupervised with Matias Delgadino. He has a postdoctoral position at UCLA (USA).
- Andrea Clini, June 2024 cosupervised with Benjamin Fehrman, working in stochastic models in neuroscience.
- Alejandro Fernández, June 2025 cosupervised with David Gómez-Castro, working in aggregation-diffusion equations.
- Carles Falcó, June 2025 cosupervised with Ruth Baker, working in applications of agent based models and aggregation-diffusion equations in mathematical biology.

Postdoctoral Fellows Supervised

- S. Labrunie, Institut Élie Cartan (Mathématiques), Université Henri Poincaré Nancy 1, France. 3 months 2002-2003. He is currently a maître de conférences at the Université Henri Poincaré Nancy 1, France.
- F. Salvarani, Dipartimento di Matematica, Università di Pavia, Italy, 1 month 2002. He is currently a professor at the Mathematics department of the Università di Pavia, Italy.
- K. Fellner, Institut für Angewandte und Numerische Mathematik, TU Wien, Austria, 3 months 2003. He is currently a professor at the Mathematics department of the University of Graz, Austria.
- M. P. Gualdani, Fachbereich Mathematik, Universität Mainz, Germany, 3 months 2003-2004. She is currently a professor at the Mathematics department of the George Washington University, USA.
- M. di Francesco, Dipartimento di Matematica, Università di L'Aquila, Italy, 3 months 2004. He is currently a professor at the Mathematics department of the Università di L'Aquila, Italy.
- C. Simeoni, Departament de Mathématiques, Université de Nice Sophia-Antipolis, France, 2 months 2005. She is currently a professor at the Mathematics department of the Université de Nice Sophia-Antipolis, France.
- Lucas Catão, IMECC, UNICAMP, Brasil, June 2005-May 2006. He is currently a professor at the Mathematics department of the Universidade de Campinas, Brazil.
- Juliana Precioso, Instituto de Matemática, Estatística e Computação Científica, UNICAMP, Brasil, January-June 2006. She is currently a professor at the Mathematics department of the Universidade de Rio Preto, Brazil.
- Adrien Blanchet, Université Paris-Dauphine, France, September 2006-May 2007, He is currently a professor at the Mathematics department of the Université de Toulouse I, France.
- José Alfredo Canizo Rincón, Universitat Autònoma de Barcelona, September 2008-May 2011. He is currently a professor at the Applied Mathematics department of the Universidad de Granada, Spain.
- Young-Pil Choi, Imperial College London, November 2012-November 2013. He is currently a

professor at the Mathematics department of the Inha University, Seoul, South Korea.

- Yanghong Huang, Imperial College London. Funded by the EPSRC Grant EP/K008404/1 and the Chapman Fellowship, October 2012-June 2015. He is currently a lecturer at the Mathematics department of the University of Manchester, UK.
- Stephan Martin, Imperial College London. Funded by the EPSRC Grant EP/K008404/1, January 2014-September 2014. He is currently a Data Scientist at SAP, Germany.
- Young-Pil Choi, Imperial College London. Funded by the EPSRC Grant EP/K008404/1, December 2013-January 2016. He is currently a professor at the Mathematics department of the Inha University, Seoul, South Korea.
- Aneta Wroblewska-Kaminska, Newton Research Fellow, Royal Society, October 2016-October 2018.
- Matias Delgadino, Imperial College London. Funded by the EPSRC Grant EP/P031587/1, October 2017-July 2019. He had a permanent position as associated professor at PUC, Rio de Janeiro, Brazil, August 2019-August 2020. He was a Hooke Fellow at the University of Oxford, September 2020-July 2021.
- Dante Kalise-Balza, Imperial College London, Junior Research Fellow, October 2017-June 2019.
- Urbain Vaes, Imperial College London. Funded by the EPSRC Grant EP/P031587/1, January 2019-August 2020.
- David Gómez-Castro, University of Oxford, ERC PDRA, September 2020-August 2022.
- Rafael Bailo, University of Oxford, ERC PDRA, September 2021-August 2023.
- Ruiwen Shu, University of Oxford, ERC PDRA, September 2021-July 2022.
- Pierre Roux, University of Oxford, ERC PDRA, September 2021-August 2023.
- William Martinson, University of Oxford, ERC PDRA January 2022-December 2023.
- Antonio Esposito, University of Oxford, ERC PDRA May 2022-June 2024.
- Gissell Estrada-Rodríguez, BCAM, September 2021-January 2022, University of Oxford, ERC PDRA September 2022- August 2023.
- Timon Gutleb, University of Oxford, EPSRC PDRA EP/T022132/1, September 2022-August 2024.

PUBLICATIONS ([Full list with links available here](#))

Journals

1. S. Abo, J. A. Carrillo, A. T. Layton, Can the clocks tick together despite the noise? Stochastic simulations and analysis, to appear in SIAM J. Appl Dyn. Systems.
2. J. A. Carrillo, S. Jin, Y. Tang, Random batch particle methods for the homogeneous Landau equation, Commun. Comput. Phys. 31, 997-1019, 2022.
3. J. A. Carrillo, H. Holden, S. Solem, Noise-driven bifurcations in a neural field system modelling networks of grid cells, to appear in J. Math. Biology.
4. F. Magaletti, M. Gallo, S. P. Perez, J. A. Carrillo, S. Kalliadasis, A positivity-preserving scheme for fluctuating hydrodynamics, Journal of Computational Physics 463, 111248, 2022.

5. J. A. Carrillo, M. Delgadino, J. Wu, Boltzmann to Landau from the Gradient Flow Perspective, *Nonlinear Anal.* 219, Paper No. 112824, 2022.
6. J. A. Carrillo, F. Hoffmann, A. M. Stuart, U. Vaes, Consensus Based Sampling, *Stud. Appl. Math.* 148, 1069–1140, 2022.
7. J. A. Carrillo, D. Gómez-Castro, J. L. Vázquez, Infinite-time concentration in Aggregation–Diffusion equations with a given potential, *J. Math. Pures et Appl.* 157, 346–398, 2022.
8. J. A. Carrillo, Y.-P. Choi, Y. Peng, Large friction-high force fields limit for the nonlinear Vlasov-Poisson-Fokker-Planck system, *Kinetic and Related Models* 15, 355–384, 2022.
9. J. A. Carrillo, D. Kalise, F. Rossi, E. Trélat, Controlling swarms towards flocks and mills, *SIAM J. Control and Optimization* 60, 1863–1891, 2022.
10. J. A. Carrillo, L. Chen, Q. Wang, An Optimal Mass Transport Method for Random Genetic Drift, *SIAM J. Numer. Anal.* 60, 940–969, 2022.
11. J. A. Carrillo, K. Lin, Sharp conditions on global existence and blow-up in a degenerate two-species and cross-attraction system, *Adv. Nonlinear Analysis* 11, 1–39, 2022.
12. J. A. Carrillo, M. G. Delgadino, R. L. Frank, M. Lewin, Fast Diffusion leads to partial mass concentration in Keller-Segel type stationary solutions, *Math. Models Methods Appl. Sci.* 32, 831–850, 2022.
13. T. S. Gutleb, J. A. Carrillo, S. Olver, Computing Equilibrium Measures with Power Law Kernels, *Math. Comp.* 91, 2247–2281, 2022
14. A. Barbaro, D. Balagué, J. A. Carrillo, R. Volkin, Analysis of spherical shell solutions for the radially symmetric Aggregation Equation, *SIAM J. Appl. Dyn. Sys.* 9, 2628–2657, 2020.
15. N. Kruk, J. A. Carrillo, H. Koepfel, A Finite Volume Method for Continuum Limit Equations of Nonlocally Interacting Active Chiral Particles, *J. Comp. Phys.* 440, 110275, 2021.
16. J. A. Carrillo, Y.-P. Choi, Mean-field limits: from particle descriptions to macroscopic equations, *Arch. Rat. Mech. Anal.* 241, 1529–1573, 2021.
17. J. A. Carrillo, S. Kalliadasis, F. Liang, S. P. Perez, Enhancement of damaged-image prediction through Cahn-Hilliard Image inpainting, *R. Soc. Open Sci.* 8, 201294, 2021.
18. J. A. Carrillo, Y.-P. Choi, J. Jung, Quantifying the hydrodynamic limit of Vlasov-type equations with alignment and nonlocal forces, *Math. Mod. Meth. Appl. Sci.* 31, 327–408, 2021.
19. J. A. Carrillo, L. Wang, W. Xu, M. Yan, Variational Asymptotic Preserving Scheme for the Vlasov-Poisson-Fokker-Planck System, to appear in *Multiscale Model. Simul.*
20. J. A. Carrillo, D. Gómez-Castro, J. L. Vázquez, Vortex formation for a non-local interaction model with Newtonian repulsion and superlinear mobility, *Adv. Nonlinear Anal.* 11, 937–967, 2022.
21. J. A. Carrillo, M. J. Castro, S. Kalliadasis, S. P. Perez, High-order well-balanced finite volume schemes for hydrodynamic equations with nonlocal free energy, *SIAM J. Sci. Computing* 43, A828–A858, 2021.
22. J. A. Carrillo, M. Parisot, Z. Szymańska, Mathematical Modelling of Collagen Fibers Rearrangement During Tendon Healing Process, *Kinetic and Related Models* 14, 283–301, 2021.
23. R. Bailo, J. A. Carrillo, H. Murakawa, M. Schmidtchen, Convergence of a Fully Discrete and Energy-Dissipating Finite-Volume Scheme for Aggregation-Diffusion Equations, *Math. Mod. Meth. Appl. Sci.* 30, 2487–2522, 2020.

24. M. Bruna, M. Burger, J. A. Carrillo, Coarse graining of a Fokker-Planck equation with excluded volume effects preserving the gradient-flow structure, *European J. Appl. Math.* 32, 711-745, 2021.
25. N. Kruk, J. A. Carrillo, H. Koepfel, Traveling Bands, Clouds, and Vortices of Chiral Active Matter, *Physical Review E* 102, 022604, 2020.
26. J. A. Carrillo, B. Düring, L. M. Kreusser, C.-B. Schönlieb, Equilibria of an anisotropic nonlocal interaction equation: Analysis and numerics, *DCDS-A* 41, 3985-4012, 2021.
27. J. A. Carrillo, R. S. Gvalani, Phase transitions for nonlinear nonlocal aggregation-diffusion equations, *Comm. Math. Phys.* 382, 485-545, 2021.
28. J. A. Carrillo, D. Gómez-Castro, J. L. Vázquez, A fast regularisation of a Newtonian vortex equation, to appear in *Ann. IHP*.
29. M. Bostan, J. A. Carrillo, Fluid models with phase transition for kinetic equations in swarming, *Math. Models and Meth. in the Appl. Sci.* 30, 2023–2065, 2020.
30. J. A. Carrillo, Y. Peng, A. Wróblewska-Kaminska, Relative Entropy Method for the relaxation limit of Hydrodynamic models, *Networks and Heterogeneous Media* 15, 369-387, 2020.
31. J. A. Carrillo, U. Vaes, Wasserstein stability estimates for covariance-preconditioned Fokker-Planck equations, *Nonlinearity* 34, 2275-2295, 2021.
32. A. Russo, S. P. Perez, M. A. Duran-Olivencia, P. Yatsyshin, J. A. Carrillo, S. Kalliadasis, A Finite-Volume Method for Fluctuating Dynamical Density Functional Theory, *J. Comp. Phys.* 428, 109796, 2021.
33. J. A. Carrillo, J. Hu, L. Wang, J. Wu, A particle method for the homogeneous Landau equation, *J. Comp. Phys. X* 7, 100066, 2020.
34. J. A. Carrillo, E. A. Pimentel, V. K. Voskanyan, On a Mean Field Optimal Control Problem, *Nonlinear Analysis: TMA* 199, 112039, 2020.
35. J. A. Carrillo, S. Jin, L. Li, Y. Zhu, A consensus-based global optimization method for high dimensional machine learning problems, *ESAIM Control Optim. Calc. Var.* 27, Paper No. S5, 2021.
36. J. A. Carrillo, J. Li, Z. Wang, Boundary spike-layer solutions of the singular Keller-Segel system: existence and stability, *Proceedings of the LMS* 122, 42-68, 2021.
37. J. A. Carrillo, J. Mateu, M.G. Mora, L. Rondi, L. Scardia, J. Verdera, The equilibrium measure for an anisotropic nonlocal energy, *Cal. Var. PDE* 60, 109, 2021.
38. J. A. Carrillo, M. G. Delgadino, G. A. Pavliotis, A λ -convexity based proof for the propagation of chaos for weakly interacting stochastic particles, *J. Functional Analysis* 279, 108734, 2020.
39. M. Burger, J. A. Carrillo, J.-F. Pietschmann, M. Schmidtchen, Segregation and Gap Formation in Cross-Diffusion Models, *Interfaces and Free Boundaries*, 22, 175-203, 2020.
40. J. A. Carrillo, A. Wróblewska-Kaminska, E. Zatorska, Pressureless Euler with nonlocal interactions as a singular limit of degenerate Navier-Stokes system, *J. Math. Anal. Appl.* 492, 124400, 2020.
41. V. Calvez, J. A. Carrillo, F. Hoffmann, Uniqueness of stationary states for singular Keller-Segel type models, *Nonlinear Analysis TMA* 205, 112222, 2021.
42. J. A. Carrillo, X. Chen, Q. Wang, Z. Wang, L. Zhang, Phase transitions and bump solutions of the Keller-Segel model with volume exclusion, *SIAM J. Applied Mathematics* 80, 232-261, 2020.
43. J. A. Carrillo, K. Grunert, H. Holden, A Lipschitz metric for the Camassa-Holm equation, *Forum of Mathematics, Sigma* 8, e27, 2020.

44. J. A. Carrillo, K. Hopf, M.-T. Wolfram, Numerical study of Bose-Einstein condensation in the Kaniadakis-Quarati model for bosons, *Kinetic and Related Models* 13, 507-529, 2020.
45. O. Trush, C. Liu, X. Han, Y. Nakai, R. Takayama, H. Murakawa, J. A. Carrillo, H. Takechi, S. Hakeda-Suzuki, T. Suzuki, M. Sato, N-cadherin orchestrates self-organization of neurons within a columnar unit in the *Drosophila* medulla, *J. Neuroscience* 39, 5861-5880, 2019.
46. J. A. Carrillo, M. Zanella, Monte Carlo gPC methods for diffusive kinetic flocking models with uncertainties, *Vietnam Journal of Mathematics* 47, 931-954, 2019.
47. J. A. Carrillo, K. Hopf, J. L. Rodrigo, On the singularity formation and relaxation to equilibrium in 1D Fokker-Planck model with superlinear drift, *Adv. Math.* 360, 106883, 2020.
48. P. Aceves-Sánchez, M. Bostan, J. A. Carrillo, P. Degond, Hydrodynamic limits for kinetic flocking models of Cucker-Smale type, *Math. Bio. Eng.* 16, 7883-7910, 2019.
49. J. A. Carrillo, K. Craig, L. Wang, C. Wei, Primal dual methods for Wasserstein gradient flows, to appear in *Foundations of Computational Mathematics*.
50. J. A. Carrillo, Y.-P. Choi, Quantitative error estimates for the large friction limit of Vlasov equation with nonlocal forces, *Ann. IHP* 37, 925--954, 2020.
51. J. A. Carrillo, H. Murakawa, M. Sato, H. Togashi, O. Trush, A population dynamics model of cell-cell adhesion incorporating population pressure and density saturation, *J. Theor. Biology* 474, 14-24, 2019.
52. J. A. Carrillo, S. Kalliadasis, S. P. Perez, C.-W. Shu, Well-balanced finite volume schemes for hydrodynamic equations with general free energy, *Multiscale Modelling and Simulations* 18, 502–541, 2020.
53. R. Bailo, J. A. Carrillo, J. Hu, Fully Discrete Positivity-Preserving and Energy-Decaying Schemes for Aggregation-Diffusion Equations with a Gradient Flow Structure, *Comm. Math. Sci.* 18, 1259--1303, 2020.
54. J. A. Carrillo, M. Di Francesco, A. Esposito, S. Fagioli, M. Schmidtchen, Measure solutions to a system of continuity equations driven by Newtonian nonlocal interactions, *Discrete and Continuous Dynamical Systems-A* 40, 1191-1231, 2020.
55. Z. Sun, J. A. Carrillo, C.-W. Shu, An entropy stable high-order discontinuous Galerkin method for cross-diffusion gradient flow systems, *Kinetic Rel. Mod.* 12, 885-908, 2019.
56. A. Gosztolai, J. A. Carrillo, M. Barahona, Collective search with finite perception: transient dynamics and search efficiency, *Frontiers in Physics* 6, 153-163, 2019.
57. L. Alasio, M. Bruna, J. A. Carrillo, The role of a strong confining potential in a nonlinear Fokker-Planck equation, *Nonlinear Analysis TMA* 193, 111480, 2020.
58. J. A. Carrillo, M. G. Delgadino, J. Dolbeault, R. L. Frank, F. Hoffmann, Reverse Hardy-Littlewood-Sobolev inequalities, *J. Math. Pure Appl.* 132, 133–165, 2019.
59. J. A. Carrillo, B. Düring, L. M. Kreusser, C.-B. Schönlieb, Stability analysis of line patterns of an anisotropic interaction model, *SIAM J. Dyn. Sys.* 18, 1798-1845, 2019.
60. J. A. Carrillo, R. S. Gvalani, G. A. Pavliotis, A. Schlichting, Long-time behaviour and phase transitions for the McKean--Vlasov equation on the torus, *Arch. Rat. Mech. Anal.* 235, 635-690, 2020.
61. J. A. Carrillo, P. Gwiazda, K. Kropielnicka, A. Marciniak-Czochra, The Escalator Boxcar Train Method for a System of Aged-structured Equations in the Space of Measures, *SIAM J. Numer. Anal.* 57, 1842-1874, 2019.

62. J. A. Carrillo, U. S. Fjordholm, S. Solem, A second-order numerical method for the aggregation equations, *Math. Comp.* 90, 103–139, 2021.
63. J. A. Carrillo, F. Filbet, M. Schmidtchen, Convergence of a Finite Volume Scheme for a System of Interacting Species with Cross-Diffusion, *Numer. Math.* 145, 473–511, 2020.
64. J. A. Carrillo, Y.-P. Choi, L. Pareschi, Structure preserving schemes for the continuum Kuramoto model: phase transitions, *J. Comp. Phys.* 376, 365-389, 2019.
65. J. A. Carrillo, M. Delgadino, F. S. Patacchini, Existence of ground states for aggregation-diffusion equations, *Analysis and Applications* 17, 393-423, 2019.
66. J. A. Carrillo, Y.-P. Choi, S. Salem, Propagation of chaos for the VFPF equation with a polynomial cut-off, *Communications in Contemporary Mathematics* 21, 1850039, 2019.
67. J. A. Cañizo, J. A. Carrillo, M. Pájaro, Exponential equilibration of genetic circuits using entropy methods, *J. Math. Biology* 78, 373–411, 2019.
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- 222.** J.A. Carrillo, M. P. Gualdani, G. Toscani, Finite speed of propagation in porous media by mass transportation methods, *C. R. Acad. Sci. Paris Ser. I* 338, 815-818, 2004.
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- 230.** A. Arnold, J. A. Carrillo, M. Tidriri, Large-time behavior of discrete kinetic equations with non-symmetric interactions, *Mathematical Models and Methods in the Applied Sciences* 12, 1555-1564, 2002.
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- 233.** J.A. Carrillo, T. Goudon, A numerical study on large-time asymptotics of the Lifshitz-Slyozov system, *Journal of Scientific Computing* 20, 69-113, 2004.
- 234.** J.A. Carrillo, A. Jungel, S. Tang, Positive Entropic Schemes for a Nonlinear Fourth-order Parabolic Equation, *Discrete and Continuous Dynamical Systems B* 3, 1-20, 2003.
- 235.** J.A. Carrillo, R.J. McCann, C. Villani, Kinetic equilibration rates for granular media and related equations: entropy dissipation and mass transportation estimates, *Revista Matemática Iberoamericana* 19, 1-48, 2003.
- 236.** J. A. Carrillo, C. Lederman, P.A. Markowich, G. Toscani, Poincaré Inequalities for Linearization of Very Fast Diffusion Equations, *Nonlinearity* 15, 565-580, 2002.

- 237.** J. A. Carrillo, G. Toscani, Intermediate asymptotics for strong solutions of the thin film equation, *Comm. Math. Phys.* 225, 551-571, 2002.
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Refereed Proceedings and Book Chapters

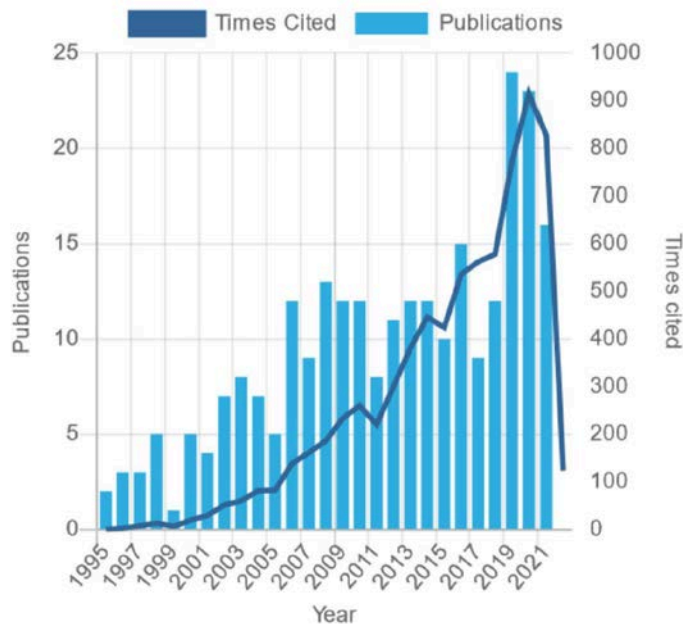
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3. J. A. Carrillo, K. Craig, Y. Yao, Aggregation-diffusion equations: dynamics, asymptotics, and singular limits, in N. Bellomo, P. Degond, and E. Tadmor (Eds.), Active Particles Vol. II: Advances in Theory, Models, and Applications, Series: Modelling and Simulation in Science and Technology, Birkhäuser Basel, 65-108, 2019.
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5. R. Bailo, M. Bongini, J. A. Carrillo, D. Kalise, Optimal consensus control of the Cucker-Smale model, IFAC-PapersOnLine 51, 1-6, 2018.
6. A. Calsina, J. A. Carrillo, S. Cuadrado, Año de la Biología Matemática 2018, La Gaceta de la RSME, 21, 39-45, 2018.
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9. M. Pájaro, A. A. Alonso, J. A. Carrillo, C. Vázquez, Stability of stochastic gene regulatory networks using entropy methods, 2th IFAC Workshop on Thermodynamic Foundations for a Mathematical Systems Theory TFMST 2016 — Vigo, Spain, 28-30 September 2016, IFAC-PapersOnLine 49, 1-5, 2016.
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12. J. A. Carrillo, Y.-P. Choi, M. Hauray, The derivation of Swarming models: Mean-Field Limit and Wasserstein distances, Collective Dynamics from Bacteria to Crowds: An Excursion Through Modeling, Analysis and Simulation Series, CISM International Centre for Mechanical Sciences, Vol. 553, 1-46, 2014.
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Citations in Scientific Databases at 12/02/2022.

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- [ResearchID](#) (Publons) Database: C-7048-2008. 7410 citations for 267 and an h-index of 43.
- MathSciNet Database: 6521 citations for 256 publications cited by 2395 authors.
- Essential Science Indicators (Web of Science) Database: Position 128 in Mathematics with 1900 citations for 114 papers and 16.67 citations per paper.
- [Google Scholar Database](#): 13865 citations (7115 since 2017), h-index of 61 (45 from 2016).
- The third most cited mathematician graduated in 1996 according to the web page [Most Cited Mathematicians](#).



INVITED LECTURES

Seminar and Colloquium Talks:

More than 250 seminars/colloquiums in universities and research centers worldwide, among others:

University of Texas at Austin, The Fields Institute, Brown University, Iowa State University, Arizona State University, University of Toronto, Technische Universität Darmstadt, Université du Nice, Universidad Autónoma de Madrid, MIP-Toulouse, Universität des Saarlandes, University of Victoria, Università di Pavia, Universität Wien, Université de Paris-Dauphine, Collège de France-Paris, Université d'Orléans, Courant Institute for Mathematical Sciences, Université de Franche-Comté, Penn State University, DAMTP-University of Cambridge, University of California at San Diego, Rutgers University, UCLA (applied math colloquium and Analysis and PDEs seminars), UCSB, UC-Davis, Stanford University, California State University at Northridge, Carnegie Mellon University, University of Wisconsin, IAS-Princeton University, University of Maryland, École des Ponts et Chaussées de Paris, Kyoto University, Meiji University, University of Warwick, OCIAM-OCCAM-OxPDE Oxford, University College London, Université Paris-VI, King's College, MPI-Leipzig, University of Zürich, École Polytechnique Paris, University of Warsaw, MSRI-Berkeley, University of Bristol, University of Dundee, University of Southampton, Edinburgh Mathematical Society meetings, TU-Munich, Isaac Newton Institute for the Mathematical Sciences-University of Cambridge, KAUST, Technion, TU-Eindhoven, Peking University, Xi'an, Beijing Academy of Sciences, Purdue University (colloquium), Kyushu University (colloquium), Munster University, Uppsala University, KTH, NCSU (colloquium), Duke University, Osaka University, University of Saint Andrews, University of Heidelberg (colloquium), ETH-ITS Zurich, Simon Fraser, University of Maryland, Caltech, Carlos III Madrid, Chinese Normal University, HongKong Polytech University, Guanzhou University, Liaoning University, Universidad de Sevilla, UESTC-Chengdu, SWUFE-Chengdu, Université de Bordeaux, Donghua University, NYU-Abu Dhabi, NYU-Shanghai, Distinguished Talk at Shanghai Jiatong University (online), Shanghai Tech (online), One-World PDE seminar (online), MNat Granada, Berkeley (Analysis Seminar online), Penn State University (online), UCLA mean-field seminar, Chinese University of Hong Kong (Analysis Seminar and Department Colloquium), Heilbron Institute for Mathematical Research (Bristol).

Conference Talks (selected)

1. Simulation of Transport in Transition Regimes, Minneapolis, Minnesota (USA), May 2000. Organized by Institute for Mathematics and its Applications.
2. Nonlinear Analysis 2000, New York, New York (USA), May 2000. Organized by Courant Institute for Mathematical Sciences.
3. Advances in Mathematical Semiconductor Modeling, Pavia (Italy), September 2000. Organized by Dipartimento di Matematica and Istituto di Analisi Numerica di Pavia.
4. Numerical Methods for Hyperbolic and Kinetic Equations, Catania (Italy), February 2001. Organized by Dipartimento di Matematica e Informatica della Università di Catania.
5. Asymptotic and Numerical Methods in Kinetic Theory, Oberwolfach (Alemania), April 2001. Organized by Mathematisches Forschungsinstitut Oberwolfach.
6. Concentration Period on Measure Transportation and Geometric Inequalities, Vancouver (Canada), July 2002. Organized by Pacific Institute for the Mathematical Sciences.
7. Perspectives in Kinetic Theory, Sestri-Levante (Italy), October 2002.
8. Recent Advances in Calculus of Variations and PDE's, A Young Researchers Meeting, Pisa (Italy), November 2002.
9. New Challenges in Applied Mathematics, Castro Urdiales (Spain), September 2003.

10. Optimal Transport Theory and Applications, Pisa (Italy), October 2003.
11. Classical and Quantum Mechanical Models of Many-Particle Systems, Oberwolfach (Germany), November 2003.
12. Second annual meeting of the HYKE network: Around HYperbolic and Kinetic Equations 2, Paris (France), April 2004.
13. Workshop on Optimal Transportation, Transport Equations and Hydrodynamics, Edinburgh (United Kingdom), July 2005.
14. Boltzmann Equation and Fluidodynamic Limits, Trieste (Italy), June 2006.
15. Mathematics and its Applications, Torino (Italy), July 2006.
16. Classical and Quantum Mechanical Models of Many-Particle Systems, Oberwolfach (Germany), 2006.
17. Iberian Mathematical Meeting, Lisbon (Portugal), February 2007.
18. Symposium on Kinetic Equations and Methods, Victoria (Canada), April 2007.
19. Optimal Transportation, and Applications to Geophysics and Geometry, Edinburgh (UK), July 2007.
20. Mathematical Issues in Complex Fluids, Beijing, October 15-19, 2007.
21. Workshop on Biomechanics and Chemotaxis, Linz, December 10-14, 2007.
22. Second Workshop of Harmonic Analysis and Partial Differential Equations (WHAPDE), Mérida, Yucatán, Mexico, February 4-8, 2008.
23. Invited Speaker at the 5th European Congress of Mathematicians, Amsterdam, July 14-18, 2008.
24. Invited Speaker at the 13th International Conference on Hyperbolic Problems: Theory, Numerics and Applications (HYP2010), Beijing, China, June 15-19, 2010.
25. Invited Speaker at the ERC Workshop on Optimal Transportation and Applications, Pisa, October 12-16, 2010.
26. Invited Speaker at the Workshop on Conservation Laws, Plasma and Related Fields, Seoul, South Korea, October 21-23, 2010.
27. Invited Speaker at the PDEs in Kinetic Theories: Kinetic Description of Biological Models, Edinburgh, November 8-12, 2010.
28. Invited Speaker at the Colloque en l'honneur de Cédric Villani, Lyon, November 23-24, 2010.
29. Invited Speaker at the Boltzmann Equation: Mathematics, Modeling and Simulations, in memory of Carlo Cercignani, Paris, February 9-11, 2011.
30. Invited Speaker at the Dynamics of the Ocean Environment, Reykjavík, Iceland, April 17, 2011.
31. Invited Speaker at the Conference on Kinetic Theory and Related Fields, Pohang, South Korea, June 22-24, 2011.
32. Invited Speaker at a minisymposium of the 8th European Conference on Mathematical and Theoretical Biology, Kraków, Poland, June 28 - July 2, 2011.
33. Invited Speaker at a minisymposium of the ICIAM 2011, Vancouver, Canada, July 18-22, 2011.
34. Invited Speaker at the ICERM 2011, Providence, USA, September 19-23, 2011.
35. Invited Speaker at the ICMS 2011, Edinburgh, United Kingdom, September 26-28, 2011.
36. Invited Speaker at the CIRM 2011, Marseille, France, October 3-7, 2011.
37. Invited Speaker at the Variational Methods for Evolution, Oberwolfach, December 5-9, 2011.
38. Invited Speaker at the Nonlocal PDEs, Variational Problems and their Applications, Los Angeles, February 27 - March 2, 2012.
39. Invited Speaker at the 2nd Math-Days at King Saud University, Riyadh, Saudi Arabia, March 15, 2012.
40. Invited Speaker at the Symposium: Aggregation Models in Biology, Graduate Center, CUNY, New York, USA, March 22, 2012.
41. Invited Speaker at the International Conference on Applied Mathematics, Shanghai, China, April 16-20, 2012.
42. Invited Speaker at the WORKSHOP in Asymptotic-Preserving schemes, Ile de Porquerolles, May

- 20-26, 2012.
43. Invited Speaker at the Scale transitions in chemistry and biology, ICMS, Edinburgh, UK, June 4-8, 2012.
 44. Invited Speaker at the Optimal Transport (to) Orsay, Orsay, France, June 18-22, 2012.
 45. Invited Speaker at the Recent Trends in Nonlinear Diffusion, Pisa, Italy, July 1-6, 2012.
 46. Invited Speaker at the PDEs for Multiphase Advanced Materials, Cortona (Arezzo), Italy, September 17-21, 2012.
 47. Invited Speaker at the Kinetic Description of Social Dynamics: From Consensus to Flocking, CSCAMM, University of Maryland, College Park, USA, November 5-9, 2012.
 48. Invited Speaker at the conference: Partial Differential Equations in the Social and Life Sciences: Emergent Challenges in Modeling, Analysis, and Computations, BIRS, Banff, Canada, March 31 - April 5, 2013.
 49. Plenary Speaker at the conference: Canadian Mathematical Society Summer Meeting, Halifax, Canada, June 4-7, 2013.
 50. Invited Speaker at the Conference on Mathematical Topics in Kinetic Theory, Cambridge, UK, June 17-21, 2013.
 51. Invited Speaker at the conference: Nonlinear Elliptic and Parabolic Partial Differential Equations, Milano, Italy, June 19-21, 2013.
 52. Invited Speaker at the conference: Kinetic Description of Multiscale Phenomena, Heraklion, Crete, Greece, June 17-28, 2013.
 53. Invited Speaker at the conference: Energy/Entropy-Driven Systems and Applications, WIAS, Berlin, Germany, October 9-11, 2013.
 54. Invited Speaker at the conference: Classical and Quantum Mechanical Models of Many-Particle Systems, Oberwolfach, Germany, December 1-5, 2013.
 55. Invited Speaker at the conference: Mathematical Modelling of Complex Systems, Paris, France, December 11-13, 2013.
 56. Invited Speaker at the conference: Programme Mathématiques et biologie, systèmes de particules et réaction-diffusion, Toulouse, France, March 17-21, 2014.
 57. Invited Speaker at the conference: Calculus of Variations, Geometric Analysis & Partial Differential Equations, Sussex, UK, March 24-28, 2014.
 58. Invited Speaker at the conference: Modern Perspectives in Applied Mathematics: Theory and Numerics of PDEs, Washington, USA, April 28 - May 2, 2014.
 59. Invited Speaker at the conference: Microscopic descriptions and mean-field equations in physics and social sciences, Bath, UK, May 12-16, 2014.
 60. Invited Speaker at the conference: 8th European Conference on Elliptic and Parabolic Problems, Gaeta, Italy, May 26-30, 2014.
 61. Invited Speaker at the conference: Entropy Methods, PDEs, Functional Inequalities, and Applications, BIRS, Banff, Canada, June 29 - July 4, 2014.
 62. Invited Speaker at the conference: XV International Conference on Hyperbolic Problems: Theory, Numerics and Applications, HYP2014, IMPA, July 28 - August 1, 2014, Rio de Janeiro, Brazil.
 63. Invited Speaker at the conference: ERC Workshop on Optimal Transportation and Applications, Pisa, Italy, October 27-31, 2014.
 64. Invited Speaker at the conference: Kinetic equations, November 10-14, 2014, Marseille, France.
 65. Invited Course Speaker at the Special Semester on New Trends in Calculus of Variations, School on Optimal Transport in the Applied Sciences, Linz, Austria, December 2-5, 2014.
 66. Invited Speaker at the conference: Variational Methods for Evolution, Oberwolfach, Germany, December 14-20, 2014.
 67. Invited Speaker at the conference: Gradient flows: from Theory to Application, Edinburgh, UK, April 20-24, 2015.
 68. Invited Speaker at the conference: Workshop on Asymptotic Preserving and Multiscale Methods for Kinetic and Hyperbolic Problems, University of Wisconsin-Madison, USA, May 4-8, 2015.
 69. Invited Speaker at the conference: Numerical probabilistic methods for non-linear PDEs, London, UK, June 29 - July 1, 2015.

70. Invited Speaker at the conference: BCAM Workshop on Harmonic Analysis and PDEs, Bilbao, Spain, July 6-17, 2015.
71. Invited Speaker at the conference: Workshop on Kinetic Theory and Gas Dynamics, Shanghai, China, July 4-7, 2015.
72. Invited Minisymposium Speaker at the conference: ICIAM-2015, Beijing, China.
73. Invited Speaker at the conference: Workshop in Nonlinear PDEs Brussels, September 7-11, 2015.
74. Invited Speaker at the conference: Self-assembly and Self-organization in Computer Science and Biology, Dagstuhl Seminar 15402, September 27 - October 2, 2015.
75. Invited Speaker at the conference: Charlas Abiertas del IEMath-GR, Granada, November 20, 2015.
76. Invited Speaker at the conference: New Mathematical and Computational Problems Involved in Cell Motility, Morphogenesis and Pattern Formation, INI, December 7-11, 2015.
77. Mini Workshop on Modeling, Analysis, Computation and Application of Kinetic Problems, Brown University, February 5-6, 2016.
78. Stochastic Modelling of Transport Processes in Biology, 30-31 March 2016, University of Manchester, UK.
79. International Conference on Nonlinear Partial Differential Equations: theories, numerics and applications, 20th-23rd May 2016, Hong Kong.
80. Young Applied Analysts in the UK, University of Bath, 26-27 May 2016.
81. 5 hours course in Nonlocal and nonlinear diffusions and interactions, CIME, July 4th-8th 2016, Cetraro, Italy.
82. Topics in Applied Nonlinear Analysis: Recent Advances and New Trends, Conference in honor of David Kinderlehrer's 75th birthday, Carnegie Mellon University, July 18-20, 2016.
83. Transport phenomena in collective dynamics: from micro to social hydrodynamics, ETH-Zurich, November 1-4, 2016.
84. Mini-course of 3 hours in Particle Systems and PDE's V, University of Minho, November 27-30, 2016.
85. PDE Models for multi-agent phenomena, INDAM Rome, November 28th - December 2nd, 2016.
86. Forefront of PDEs: Modelling, Analysis and Numerics, Vienna, December 12-14, 2016.
87. Workshop Ideal Fluids and Transport, IMPAN, Warsaw, February 13-15, 2017.
88. Barcelona Mathematical Days, April 27-28, 2017.
89. Nonlinear diffusion and free boundary problems. A conference on the occasion of Juan Luis Vázquez 70th anniversary, Universidad Autónoma de Madrid, May 17-19, 2017.
90. Advanced School & Workshop on Nonlocal Partial Differential Equations and Applications to Geometry, Physics and Probability, ICTP Trieste, May 29th-June 2nd, 2017. 2 hours minicourse.
91. Ninth Summer School in Analysis and Applied Mathematics, Rome June 5-9, 2017. 4.5 hours course.
92. Focus Activities on Mathematical and Computational methods for Quantum and Kinetic Problems, Beijing Computational Science Research Center, June 7-14, 2017. 4 hours course.
93. CEDYA + CMA 2017, XXV Congreso de Ecuaciones Diferenciales y Aplicaciones/ XV Congreso de Matemática Aplicada, Cartagena (Spain) 26-30 June 2017.
94. Analysis/Stochastic Analysis Intercontinental 2017, Imperial College London, UK.
95. Kinetic Equations: Modeling, Analysis and Numerics, September 18-22, 2017, Austin, USA.
96. 7th International Conference on Modeling, Simulation and Optimization of Complex Processes, March 19-23, 2018, Hanoi, Vietnam.
97. Numerical Aspects of Hyperbolic Balance Laws and Related Problems, April 16-20, 2018, Ferrara, Italy.
98. Collective dynamics and self-organization in biological sciences, Apr 30, 2018 - May 04, 2018, ICMS, Edinburgh, UK.
99. Data-Driven Modelling of Complex Systems, Alan Turing Institute, May 8-10, 2018, London, UK.
100. Giornata INdAM 2018, June 1st, 2018, Cagliari, Italy.
101. Nonlocal interactions: Dislocations and beyond, 11-14 June 2018, Bath, UK.
102. The 12th AIMS Conference on Dynamical Systems, Differential Equations and Applications, 5-9 July 2018 Taipei, Taiwan.

103. International Workshop on Hyperbolic and Kinetic Problems: Theory and Applications, 10-14 July 2018, Institute of Mathematics, Academia Sinica, Taipei, Taiwan.
104. Asymptotic Behavior of systems of PDE arising in physics and biology: theoretical and numerical points of view (ABPDE III), 28-31 August 2018, Lille, France.
105. Ninth Conference on Applied Mathematics and Scientific Computing, 17-20 September 2018, Solaris, Sibenik, Croatia.
106. Workshop on PDE, Optimal Transport and Applications, 17-20 October, Essaouira, Morocco.
107. Alessio Figalli, Fields medallist 2018, 14-17 January 2019, Pisa, Italy.
108. Congreso Bienal de la Real Sociedad Matemática Española, 4-8 February 2019, Santander, Spain.
109. Workshop on Emerging Areas in Reaction-diffusion Systems: Mathematical Theory and Applications to Physics, Biology and the Social Sciences, 22-26 April 2019, Shanghai, China.
110. Summer School "Trails in kinetic theory: foundational aspects and numerical methods", 20-24 May 2019, HIM-Bonn, Germany.
111. Partial Differential Equations in Analysis and Mathematical Physics, Santa Margherita di Pula, 30 May-1 June 2019, Italy.
112. Optimal Transport in Analysis and Probability, 3-7 June 2019, ESI-Vienna, Austria.
113. Numerical methods for hyperbolic problems 2019, 17-21 June 2019, Málaga, Spain.
114. Mathematical Biology on the Mediterranean Summer School, Samos, 2-6 September 2019, Greece.
115. Workshop on Trends in Modeling and Analysis in Life Sciences, 2nd-4th November 2019, South Africa.
116. Recent Advances in kinetic equations and applications, 11th-15th November 2019, Rome, Italy.
117. Mathematics of Complex Systems in Biology and Medicine, 24-28 February 2020, CIRM, Marseille, France.
118. Invited Speaker at The Second Joint SIAM/CAIMS Annual Meeting (AN20), July 6 – 10, 2020 (online), Toronto, Canada.
119. Variational Methods for Evolution, MFO, Germany, 13-19 September 2020 (online).
120. Invited Speaker at the online Partial differential equations workshop, 21st-24th September 2020, Prague.
121. Classical and Quantum Mechanical Models of Many-Particle Systems, MFO, Germany 29 November - 5 December 2020 (online).
122. Recent Progress in Applied and Computational PDEs, 17th-20th December 2020 (online), Beijing, China.
123. Long Time Behavior and Singularity Formation in PDEs – Part II, 10th-14th January 2021 (online), NYU-Abu Dhabi, UAE.
124. CIRM – Jean-Morlet Chair, Kinetic Theory: Analysis, Computation and Applications, 22nd-26th March 2021 (online), Marseille, France.
125. QJMAM Lecture at the joint BMC-BAMC meeting, 6-9th April 2020, Glasgow (postponed to April 2021 online).
126. Online Hausdorff School on Diffusive Systems: Pattern Formation, Bifurcations, and Biological Applications, 12th-15th April 2021, Bonn, Germany.
127. UK-China Workshop on Emerging Issues in Applied and Geometric PDEs, Online Workshop, Department of Mathematics, Wuhan University, June 24-26, 2021.
128. Workshop and Summer School on Kinetic Theory and Related Applications, Online Conference, CSRC, Beijing, June 28 – July 3, 2021.
129. African Mathematical School (AMS) in “Mathematical Methods in Analysis and Probability” (2MAP), AIMS-Ghana, August 17-28, 2021.
130. Durham Days of Analysis and PDE 2021, Online Summer School, Department of Mathematics, Durham University, July 1-6, 2021.
131. Kinetic and fluid equations for collective dynamics, Online Summer School, Department of Mathematics, Université de Bordeaux, August 23-26, 2021.
132. Geometric Methods in Optimization and Sampling Boot Camp, Simons Institute for the theory of computing, Berkeley, USA, Aug. 30 – Sep. 3, 2021.
133. New Trends in Nonlinear Diffusion: a Bridge between PDEs, Analysis and Geometry, CMO-BIRS online, September 5-10, 2021.

134. Singularity Formation in Nonlinear PDEs, BIRS online, September 26-October 1, 2021.
135. Mean-Field Models for Interacting Agents, IMSI-Chicago online, November 2-4, 2021.
136. New Bridges between Mathematics and Data Science, Valladolid, Spain, November 8-11, 2021.
137. Oxford-Chengdu, Nonlinear PDE Days, online, Dec 20 – Dec 22, 2021.
138. Mathematical modeling and statistical analysis in neuroscience (IHP, Paris), Jan. 31st-Feb. 4th, 2022.
139. SIAM Conference on Analysis of Partial Differential Equations (PD22), online, March 14-18, 2022, Berlin, Germany
140. Aspects of Intradisciplinary Research in Physically, Biologically and Chemically Motivated Equations, Durham University, March 25th 2022.
141. Second Colloquium of the Spanish Theoretical and Applied Mechanics Society (STAMS 2022), March 28-29, 2022, Sevilla, Spain
142. Oxbridge PDE Conference 2022, April 11th–13th, 2022, Oxford
143. 20 years of Summer Schools on CalcVar in Rome, June 13-18, 2022, Rome, Italy
144. When Kinetic Theory meets Fluid Mechanics, July 18-22 2022, Zurich, Switzerland
145. MiniSymposium Speaker at Scicade 2022, July 25-29, 2022.

FUNDING

Professor Carrillo's research projects have been funded throughout his career by agencies in Spain and other nations. Listed below are some recent European Union and United Kingdom grants.

European Research Council Advanced Grant (Nonlocal-CPD, No. 883363)

Nonlocal PDEs for Complex Particle Dynamics: Phase Transitions, Patterns and Synchronization

Principal Investigator: Dr. José A. Carrillo de la Plata

Amount: 2.478.560 Euros for 5 years, Oct. 2020-Oct. 2025

Royal Society Wolfson Research Merit Award

Applied Partial Differential Equations in Physics and Biology

Principal Investigator: Dr. José A. Carrillo de la Plata

Amount: £85.000 for 5 years, Oct. 2012-Oct. 2017

Engineering and Physical Sciences Research Council grant number EP/K008404/1

Nonlinear Nonlocal Aggregation-Diffusion Partial Differential Equations and Applications

Principal Investigator: Dr. José A. Carrillo de la Plata

Amount: £514.248 for 3 years, Mar. 2013-Mar. 2016

Engineering and Physical Sciences Research Council grant number EP/P031587/1

Nonlocal Partial Differential Equations: entropies, gradient flows, phase transitions and applications

Principal Investigator: Grigorios Pavliotis, Co-I: José A. Carrillo de la Plata

Amount: £561.514 for 3 years, Sep. 2017-Aug. 2020

Engineering and Physical Sciences Research Council grant number EP/T022132/1

Spectral element methods for fractional differential equations, with applications in applied analysis and medical imaging

Principal Investigator: Sheehan Olver, Co-I: José A. Carrillo de la Plata

Amount: £572.426 for 3 years, Jul. 2021-Jul. 2024

Engineering and Physical Sciences Research Council grant number EP/V051121/1

DMS-EP SRC: Stability Analysis for Nonlinear Partial Differential Equations across Multiscale Applications

Principal Investigator: Gui-Qiang Chen, Co-I: José A. Carrillo de la Plata

Amount: £602.165 for 3 years, May 2022-June 2025

Platform Grants from Imperial College London

Principal Investigator: Dr. José A. Carrillo de la Plata

RI049JC: £568 Raluca Eftimie Visit; RI056JC: £690 Yoshie Sugiyama Visit; RI069JC: £804 Marie-Therese Wolfram Visit; RS017JC: £3,000 Academic Visitor - Young-Pil Choi; RI073YH: £450 Jacob Bedrossian Visit; RI074JC: £600 Alina Chertock; NF001MC: £3,500 Michel Chipot - Nelder fellowship; RI108JC: £600 Alethea Barbaro; RI092JC: £600 Frédéric Lagoutière; W016JC: £10,000 for the organization of the workshop Collective Behaviour: Macroscopic versus Kinetic Descriptions, at Imperial College, May 2014; RS033JC: £2,000 Academic Visitor - Frédérique Charles; RI184JC: £1000 Mihai Bostan; RI185JC: £900 Marco Fontelos; RI186JC: £800 Katy Craig; RI202JC: £1050 Julian Fisher; RI212JC: £550 Aneta Wroblewska-Kaminska; RI213JC: £1000 Ewelina Zatorska; RS044JC: £1750 Academic Visitor - Daniel Matthes; RS048JC: £3500 Academic Visitor - Dejan Slepcev; NF015LP: £5,000 Lorenzo Pareschi - Nelder fellowship; NF018FF: £5,000 Francis Filbet - Nelder fellowship. NF026JV: £5,000 Juan Luis Vázquez - Nelder fellowship.

International Exchanges Scheme with CNRS of the Royal Society

Principal Investigators: Dr. José A. Carrillo de la Plata and Gael Raoul

Amount: £12,000 for 2 years, April 2014-April 2016

NSF Research Network in Mathematical Sciences

Project title: Kinetic description of emerging challenges in multiscale problems of natural sciences

Node: University of Cambridge.

Principal Investigator: Dr. Eitan Tadmor

2012-2018

International Exchanges Scheme with Japan of the Royal Society

Principal Investigators: Dr. José A. Carrillo de la Plata and Yoshie Sugiyama

Amount: £12,000 for 2 years, August 2015-August 2017

International Exchanges Scheme with Chile of the Royal Society

Principal Investigators: Dr. José A. Carrillo de la Plata and Luis Briceño

Amount: £12,000 for 2 years, December 2020-December 2022

PROFESSIONAL ACTIVITIES AND SERVICE

Committee Participation

- Executive Committee SEMA (Sociedad Española de Matemática Aplicada), 2004-2010.
- Local Program Committee, International Congress of Mathematics Madrid, 2006.
- European Consortium for Mathematics in Industry Council, September 2005 - July 2012.
- Organizing committee of EMS-SCM Joint Mathematical Weekend, Barcelona, Sept. 16-18, 2005.
- Applied Mathematics Committee, European Mathematical Society, 2010-2013. Chair 2014-2017.
- Member of the ECMI Council, 2005 - October 2012.
- Program Director of the SIAM Activity Group on Analysis of PDEs, 2019-2020.
- Vice-president of the European Society of Mathematical and Theoretical Biology 2021-2023.

Editorial Work

- Recent Trends in PDEs, UIMP-RSME Santaló Summer School, UIMP, Santander, Spain, J.L. Vázquez, X. Cabré, J.A. Carrillo, eds., Contemporary Mathematics 409, AMS, 2006.

Editorial Boards

- Kinetic and Related Models, 2008-
- Publicacions Matemàtiques, 2009-
- Rivista Matematica della Università di Parma, 2010-
- Acta Applicandae Mathematicae, 2010-2021
- SIAM Journal on Mathematical Analysis (SIMA), 2010-
- AIMS Book Series in Applied Mathematics, 2011-
- Discrete and Continuous Dynamical Systems - Series A (DCDS-A), 2013-
- Journal of the London Mathematical Society, 2013-
- Proceedings of the London Mathematical Society, 2013-2020
- Bulletin of the London Mathematical Society, 2013-
- Interfaces and Free Boundaries: Mathematical Analysis, Computation and Applications, 2014-
- Journal of Elliptic and Parabolic Equations, 2014-
- Advances in Differential Equations, 2015-
- Nonlinear Analysis and Differential Equations, 2015-2020
- Communications in Contemporary Mathematics, 2016-
- SeMA Journal, 2016-
- Royal Society Open Science, 2016-
- Transactions of Mathematics and its Applications: A Journal of the IMA, 2017-
- Multiscale Modeling and Simulation: A SIAM Interdisciplinary Journal, 2017-
- De Gruyter Series in Applied and Numerical Mathematics, 2017--.
- Quarterly of Applied Mathematics, 2018--.
- Open Mathematics, 2018--2019.
- Boletín de la Sociedad Matemática Mexicana, 2018--.
- Advances in Nonlinear Analysis, 2021--.
- Networks & Heterogeneous Media, 2021--.

Conferences Organized

- European Workshop on kinetic equations, secretary of the organizing committee, University of Granada, April 1996.
- Co-organizer together with Andrew Lacey of Minisymposium “Nonlocal Elliptic-Parabolic Problems in Reaction-Diffusion Equations,” ICIAM99, Edinburgh (UK), July 5-9, 1999.
- Co-organizer together with Irene Gamba of the Special Session “Mathematical Problems in Transport Phenomena,” AMS Sectional Meeting, Austin, Texas (USA), October 8-10, 1999.
- Local organizer of the Euroconference on Asymptotic methods and applications in kinetic and quantum-kinetic theory, University of Granada, September 2001.
- Co-organizer together with Antonio Marquina of the Special Session Computational Methods for nonlinear conservation laws and applications, CMMSE2002, Alicante (Spain), September 20-25, 2002.
- Co-organizer together with Irene Gamba of the Special Session “Mathematical Aspects of Semiconductor Modeling and Nanotechnology,” AMS International Meeting, Seville (Spain), 18-21 June 2003.
- Co-organizer together with Reinhard Illner of the Special Session “Kinetic theory of gases” in 18th ICTT, Rio de Janeiro (Brasil), July 20-25, 2003.
- Organizer of the minisymposium “Scientific computing perspectives in Micro and Nano-Electronics,” 13th European Conference on Mathematics for Industry, June 21-25, 2004, Eindhoven, The Netherlands.

- Co-organizer together with J. L. Vázquez and X. Cabré of the summer school in Universidad Internacional Menéndez Pelayo: UIMP - RSME Santaló Summer School “Recent Trends in Partial Differential Equations,” Santander, July 12-16, 2004.
- Supervisor of a working group in 18th ECMI (European Consortium for Mathematics in Industry) Modelling Week 2004, Lappeenranta, Finland, August, 13-21, 2004.
- Co-organizer together with Antonio Marquina of the “HYKE Conference on Complex Flows: Analytical and Numerical Methods for Hydrodynamic and Kinetic Models,” CRM Barcelona, October 6-9, 2004.
- Co-organizer together with F. Utzet, A. Alabert and X. Mora of the 19th ECMI Modelling Week, UAB, Barcelona, September 1-11, 2005.
- Co-organizer together with Xavier Cabré and Giuseppe Toscani of the session “Evolution PDEs and Calculus of Variations,” EMS-SCM Joint Mathematical Weekend, Barcelona, September 16-18, 2005.
- Co-organizer together with E. Carlen, J. Dolbeault, P.A. Markowich and R.J. McCann of the workshop “Non-linear diffusions: entropies, asymptotic behavior and applications,” Banff International Research Station, Banff (Canada), April 2006.
- Co-organizer together with D. Arcoya, D. Córdoba, R. Donat, C. Parés and L. Vega of the workshop “Las Ecuaciones en Derivadas Parciales como herramienta: Modelización, Análisis y Simulación,” CIEM (Centro Internacional de Encuentros Matemáticos), Castro Urdiales, April 2007.
- Co-organizer with M. DiFrancesco of the thematic program “Optimal transportation structures, gradient flows and entropy methods for Applied PDEs,” Wolfgang Pauli Institute, Vienna, Austria, May-September 2007.
- Co-organizer with R. Donat, C. Parés and Y. Vidal of the “Advanced School on Numerical Solutions of Partial Differential Equations: New Trend and Applications,” Centre de Recerca Matemàtica, Barcelona, November 15-21, 2007.
- Co-organizer with A. Bertozzi, Y. Brenier, W. Gangbo, P.A. Markowich and J.M. Morel of the thematic program “Optimal Transport,” IPAM, UCLA, March-June 2008.
- Co-organizer with W. Gangbo, L. Ambrosio, Y. Brenier and C. Evans of the “Workshop I: Aspects of Optimal Transport in Geometry and Calculus of Variations” thematic program “Optimal Transport,” IPAM, UCLA, March-June 2008.
- Chair of the organizing committee for the “Optimal Transport: Tutorials” thematic program “Optimal Transport,” IPAM, UCLA, March-June 2008.
- Coordinator with A. Calsina and A. Guillamon of the thematic program “Mathematical Biology: Modelling and Differential Equations,” Centre de Recerca Matemàtica, Barcelona, January-June 2009.
- Co-organizer with M. Burger, M. DiFrancesco and P.A. Markowich of the workshop “Kinetic and Mean-field models in the Socio-Economic Sciences,” ICMS, Edinburgh, July 2009.
- Co-organizer with J. Dolbeault of the workshop “Concentration en vitesse et en espace dans les modèles cinétiques et diffusifs (chemotaxis, gravitation, swarming),” from the project ANR CBDif, IHP, Paris, October 6-7, 2009.
- Co-organizer with E. Carlen, J. Dolbeault and D. Slepcev of the workshop “Nonlinear Diffusions and Entropy Dissipation: From Geometry to Biology,” Banff International Research Station, Banff (Canada) May 9-14, 2010.
- Chair of the organizing committee of the congress “Emerging Topics in Dynamical Systems and Partial Differential Equations,” joint meeting of the SIAM/RSME-SCM-SEMA, Barcelona, May 30-June 4, 2010.
- Co-organizer with P. A. Markowich and S. Jin of the thematic program “Partial Differential Equations in Kinetic Theories,” Isaac Newton Institute for Mathematical Sciences, Cambridge (United Kingdom), August to December 2010. Approved Budget: £300.000.
- Co-organizer with A. Juengel of the workshop “Partial Differential Equations in Kinetic Theories,”

Isaac Newton Institute for Mathematical Sciences, Cambridge (United Kingdom), September 6-10, 2010.

- Co-organizer with Y. Guo and H.J. Hwang of the workshop “Conference on Kinetic Theory and Related Fields,” POSTECH, Pohang (South Korea), June 20-24, 2011.
- Co-organizer with A. Bertozzi, R. Fetecau, T. Kolokolnikov and M. Lewis of the workshop “Emergent behaviour in multi-particle systems with non-local interactions,” Banff International Research Station, Banff (Canada), January 22-27, 2012.
- Co-organizer together with M. DiFrancesco and P.A. Markowich of the workshop “ESF/EMS/ERCOM Research Conference on Applied Partial Differential Equations in Physics, Biology and Social Sciences: Classical and Modern Perspectives,” CRM (Spain), September 2-7, 2012.
- Co-organizer together with A. Chertock, P. Degond, M. DiFrancesco and E. Tadmor of the workshop “Collective Behavior: Macroscopic versus Kinetic Descriptions” co-funded by the NSF-network KI-Net and Imperial College London, May 19-23, 2014.
- Co-organizer together with I. Gentil, H. Holden, C. Villani and B. Zegarlinski of the thematic program “Interactions between PDEs & Functional Inequalities,” Institut Mittag-Leffler, Fall 2016.
- Co-organizer together with R. Illner, H.-J. Hwang and B. Wennberg of the workshop “Kinetic and Related Equations” BIRS-Casa Matemática Oaxaca, Oaxaca, Mexico, July 4-10, 2015.
- Co-organizer together with B. Volzone of the workshop “Nonlocal Nonlinear Partial Differential Equations and Applications,” Anacapri, Italy, September 14-18, 2015.
- Co-organizer together with H. Berestycki, A. Blanchet, P. Degond and S. Merino of the workshop “Mathematics and Social Sciences Workshop,” London, UK, November 16-17, 2015
- Co-organizer together with A. Barbaro, B. Piccoli, A. Seyfried, and M.-T. Wolfram of the workshop “Pedestrian Dynamics: Modeling, Validation and Calibration,” ICERM, Brown University, August 21-25, 2017.
- Co-organizer together with L. Bergues of the CIMPA course “Mathematical modeling in Biology and Medicine”, Santiago de Cuba, 8-17 June, 2016.
- Co-organizer together with I. Gentil, H. Holden, C. Villani and B. Zegarlinski of the thematic program “Interactions between PDEs & Functional Inequalities”, Institut Mittag-Leffler, Fall 2016.
- Co-organizer together with Piotr Gwiazda, Benoit Perthame and Agnieszka Swierczewska-Gwiazda of the “Workshop on Current Topics in Kinetic Theory”, IMPAN, Warsaw, Poland, March 27-29, 2017.
- Co-organizer together with José L. Rodrigo and Juan Luis Vázquez of the “Warwick EPSRC Symposium: Non-local Equations and Fractional Diffusion”, University of Warwick, UK, May 22-26, 2017.
- Co-organizer together with Xinfu Chen, Zhilei Liang, Jingtang Ma, Qi Wang, Kaili Xiang and Rong Zeng of the “TIANFU International Conference on Partial Differential Equations”, Southwestern University of Finance and Economics, Chengdu, China, Jun 16-18, 2017.
- Co-organizer together with María J. Cáceres, José A. Cañizo, José M. Mantas and Ricarda Schneider of the “Workshop on PDEs: Modelling, Analysis and Numerical Simulation”, PDE-MANS 2017, Granada, June 19-23, 2017.
- Co-organizer together with S. Capozziello, M. De Laurentis, M. DiFrancesco and B. Volzone of the “Workshop on Aggregation-Diffusion PDEs: Variational Principles, Nonlocality and Systems”, Anacapri, July 10-14, 2017.
- Co-organizer together with A. Barbaro, B. Piccoli, A. Seyfried, and M.-T. Wolfram of the workshop “Pedestrian Dynamics: Modeling, Validation and Calibration”, ICERM, Brown University, August 21-25, 2017.
- Co-organizer together with Y. Chen, M. Gualdani, C.-W. Shu and A. Vasseur of the workshop “Kinetic Equations: Modeling, Analysis and Numerics”, Austin, September 18-22, 2017.

- Co-organizer together with M. deGunst, M. Gyllenberg, T. Lundh, A. Marciniak-Czochra, R. Merks, M. Niezgodka and G. Raoul of the "Year of Mathematical Biology", 2018. It is joint venture of ESMTB and EMS.
- Co-organizer together with D. Slepcev, D. Matthes, J. Dolbeault and E. Carlen of the workshop "Entropies, the Geometry of Nonlinear Flows, and their Applications", Banff, 8-13 April, 2018.
- Co-organizer together with José A. Cañizo, Mar González and Maria Gualdani of the "Nonlocal differential equations in collective behavior", American Institute of Mathematics, San Jose, California, 18-22 June, 2018.
- Co-organizer together with José A. Cañizo of the XIX Lluís Santaló Summer School of Mathematics "Interactions between PDE and probability", UIMP, Santander, 13-17 August, 2018.
- Co-organizer together with Alex Lorz, Anna Marciniak-Czochra and Benoit Perthame of the workshop "Differential Equations arising from Organising Principles in Biology", Mathematisches Forschungsinstitut Oberwolfach, Oberwolfach, 23-29 September, 2018.
- Co-organizer together with Aneta Wroblewska-Kaminska of the Hydrodynamic models in PDEs, Imperial College London, 22nd-23rd October, 2018.
- Co-organizer together with Diego Oyarzun and Mauricio Barahona of the MathBioFest 2018, Imperial College London, 7th-8th November, 2018.
- Co-organizer together with Martin Frank, Jingwei Hu, and Lorenzo Pareschi of the Mini-Workshop: Innovative Trends in the Numerical Analysis and Simulation of Kinetic Equations, Mathematisches Forschungsinstitut Oberwolfach, Oberwolfach, Germany, 16th-22nd December, 2018.
- Co-organizer together with Patricia Bauman, Dimitry Golovaty, and Maria Emelianenko of the Symposium CP09-Mathematical Aspects of Materials Science-Modeling, Analysis and Computations, MRS 2019, Arizona, April 22-26, 2019.
- Coorganizer together with Qi Wang and Jiantang Ma of the 2019 TIANFU International Conference on Partial Differential Equations, Jul 8-10, 2019, Southwestern University of Finance and Economics, Chengdu, China.
- Coorganizer together with Young-Pil Choi of the workshop Recent Advances in Nonlocal Kinetic, Fluid and Diffusive PDEs, 19-23 August 2019, Jeju, South Korea.
- Co-chair together with Alina Chertock of the SIAM Conference on Analysis of Partial Differential Equations (PD19), December 11-14, 2019, La Quinta Resort, Club La Quinta, California, USA.
- Co-organizer of the Workshop 3 at thematic program on kinetic equations at IMS: Emergent phenomena: from Kinetic Models to Social Hydrodynamics, IMS-NUS, 16-20 December 2019, Singapore.
- Scientific Committee of the Workshop on PDEs: Modelling, Analysis and Numerical Simulation, PDE-MANS 2020 Granada, January 8-16, 2020.
- Co-organiser of a conference in INS-Shanghai: International Workshop on Interacting Particle Systems, INS-Shanghai Jiatong University, March 29, 2020 (online conference).
- Member of the Scientific Committee of the XVIII International Conference on Hyperbolic Problems: Theory, Numerics, Applications, June 22-26, 2020 (postponed to June 2022).
- Co-organiser together with Bruno Volzone of the Workshop on "Frontiers in Nonlocal Nonlinear PDEs", Anacapri, 5-9 July, 2022.
- Co-organiser together with Giuseppe Savaré, Ada Pulvirenti, and Mattia Zanella, of the Workshop on "Contemporary Trends in Kinetic Theory and PDEs", Pavia, 11-12 July, 2022.
- Co-organiser together with Jacob Bedrossian, Jingwei Hu, and Clement Mouhot of a thematic programme at the Newton Institute: Frontiers in kinetic theory: connecting microscopic to macroscopic scales – KineCon 2022 from January till June 2022.

Referee for Journals, Societies, and Funding Agencies

Journals: Communications on PDEs; IMA Journal of Applied Mathematics; Indiana University Mathematical Journal; SIAM Journal of Mathematical Analysis; Advances in Differential Equations; Nonlinearity; London Mathematical Society; European Consortium for Mathematics in Industry Proceedings; SIAM Journal Numerical Analysis; Mathematische Annalen; Transport Theory and Statistical Physics; Journal of Computational Physics; SIAM Journal of Applied Mathematics; Archive for Rational Mechanics and Analysis; Maghreb Mathematical Journal; Monatshefte für Mathematik; European Journal of Applied Mathematics; Communications in Mathematical Sciences; Discrete and Continuous Dynamical Systems-B; Mathematical Models and Methods in the Applied Sciences; SIAM Journal of Scientific Computing; Journal of Statistical Physics; Journal of Applied Mathematics; Journal of Applied and Numerical Mathematics; Journal of Differential Equations; Journal of Scientific Computing; Scientific Computation in Electrical Engineering; Multiscale Modeling and Simulation; Publicacions Matemàtiques; Communications in Mathematical Physics; Advances in Mathematics; Mathematical Modelling and Numerical Analysis; Networks and Heterogeneous Media; SIAM Journal on Control and Optimization;

Funding Societies: FONDECYT (Chile); NSERC (Canada); Austrian Science Fund - Prizes START; Proyectos de Investigación Castilla-La Mancha 2006; Proyectos Blanche de la ANR, France; Comisión de Expertos para la Evaluación de los Proyectos MEC del Plan Nacional de Matemáticas 2006, 2009, 2010, 2014, 2016, 2019; ANEP-MEC (Spain) 2007-; Agaur (Catalunya) 2007-; Vici Grants, Netherlands Organization for Scientific Research, 2010; Hong Kong Research Council, 2010-; PRIN, Italy, 2012-; EPSRC, United Kingdom, 2013-; Leverhulme Trust, United Kingdom, 2013-; FNRS, Belgium, 2015-; Russian Science Foundation, Russia, 2015-; Promotion Committee Evaluation, University of Kuwait; National Center for Educational Quality Enhancement of Georgia, Republic of Georgia, 2016; Narodowe Centrum Nauki - NCN, Poland, 2017-; Lithuania Research Council 2017-; Swedish Research Council 2018-2020; Portuguese Fundação para a Ciência e a Tecnologia 2018-2020, Clusters of Research Evaluation, Netherlands Organization for Scientific Research 2019, Von-Humboldt Grants, Germany 2020-, Comisión de Expertos para la Evaluación de las plazas de RyC y JdC (Spain) 2021.

Prestigious Panels:

European Research Council, Committee awarding Starting Grants in Mathematics, Calls 2010-2011.
European Research Council, Committee awarding Consolidator Grants in Mathematics, Calls 2012-2018.
ICREA Research Professors 2017, 2019 and 2021.
NSERC of Canada, Selection Committee for the Discovery Institutes Support Grants 2022.
EPSRC, Full Peer Review College Member.