

# CURRICULUM VITAE

EVA MIRANDA

## 1. PERSONAL DATA

- Surname : Miranda
- Name : Eva
- Nationality : Spanish.
- Professional address : Departament de Matemàtiques, EPSEB, Edifici P Universitat Politècnica de Catalunya Avinguda del Doctor Marañon 44-50 Despatx 333, Tercera Planta 08028, Barcelona, Spain
- e-mail: [eva.miranda@upc.edu](mailto:eva.miranda@upc.edu)
- Web: <https://web.mat.upc.edu/eva.miranda/nova/>
- Languages :
  - Spanish : Mother tongue
  - Catalan : Mother tongue
  - English: Fluent
  - French: Fluent

## 2. ACADEMICS

### 2.1. Education.

- (1) Ph.D in Mathematics 2003, Universitat de Barcelona. Title: *On symplectic Linearization of singular Lagrangian foliations*. Qualification : Excel.lent cum laude per unanimitat.
- (2) MSc. in Algebra and Geometry, 1999, Departament d'Àlgebra i Geometria, Universitat de Barcelona.

### 2.2. Professional Experience.

- (1) Since January 2021, Full Professor and ICREA Academia Professor at Universitat Politècnica de Catalunya **and member of Centre de Recerca Matemàtica-CRM**.
- (2) Since November 2018, Full Professor and ICREA Academia Professor at Universitat Politècnica de Catalunya.
- (3) Since January 2017, ICREA Acadèmia Professor at Universitat Politècnica de Catalunya.
- (4) Since September 2018-Present, Chercheur affilié at Observatoire de Paris.
- (5) Chaire d'Excellence de la Fondation Sciences Mathématiques de Paris 2017-2018 at Observatoire de Paris.
- (6) June 2017- June 2020, honorary member of ICMAT-CSIC (Doctor Vinculado).
- (7) October 2015-October 2018, Associate Professor at Universitat Politècnica de Catalunya.
- (8) September 2013-September 2015, Associate Professor in Interim at Universitat Politècnica de Catalunya.
- (9) September 2009-August 2013, Lecturer in Mathematics at Universitat Politècnica de Catalunya.
- (10) Maître des Conférences invitée at Université de Toulouse in December 2013, November 2012, November 2010 and November 2008.
- (11) June 2007- August 2009, Juan de la Cierva Researcher, Universitat Autònoma de Barcelona.
- (12) January 2006- May 2007, Postdoc at Université de Toulouse via a EIF Marie Curie Postdoc.
- (13) October 2004-October 2005, Postdoc at Université de Toulouse, IMUB grant.
- (14) Assistant Professor (Professor Ajudant) Universitat de Barcelona, 01/10/2001– 01/01/2006
- (15) Previous experience: Professor associat at Universitat de Barcelona, Universitat Politecnica de Catalunya and Universitat de Lleida

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Date: September 25, 2023.

### 2.3. Prizes and Distinctions.

- The London Mathematical Society Hardy Lecturer 2023.
- The 2022 François Deruyts Prize by the Royal Academy of Belgium, 2022 (29th edition).
- Awarded with a Friedrich Wilhelm Bessel Research Award in 2022 by the Alexander Von Humboldt Foundation.
- Awarded with an ICREA Academia 2021 prize.
- Awarded with a Research Excellence Chair of the Fondation Sciences Mathématiques de Paris in 2017.
- Awarded with ICREA Academia Prize 2016.
- Giovanni Prodi Chair 2017 at the University of Würzburg (declined due to incompatibility with the Excellence Chair of FSMP).
- Invited address at the European Congress of Mathematicians, 8ECM in 2020-2021.

### 2.4. Honorary positions.

- Since January 2021 affiliated researcher at CRM (center with seal of excellence of Maria de Maeztu) Co-principal investigator of the Maria de Maeztu grant.
- Since April 2020, member at Institut de Matemàtiques, IMTECH-UPC.
- Since September 2018-Sept 2021- Chercheur affilié at Observatoire de Paris.
- June 2017- June 2020, honorary member of ICMAT-CSIC (Doctor Vinculado).

### 2.5. Visiting positions and Named positions.

- London Mathematical Society Hardy Lecturer 2023.
- Friedrich Wilhelm Bessel Research Award by the Humboldt Foundation at University of Cologne starting in October 2022.
- Excellence Research Chair/Chaire d'Excellence de la Fondation Sciences Mathématiques de Paris in 2017-2018: Visiting Chair in Paris for 6 months at IHP-Observatoire de Paris-Univ de Paris 7. Webpage of the minicourse at FSMP.
- Research Member at MSRI in 2018.
- Distinguished Invited Professor at the *Oversea Distinguished Scholar Lectureship Programme* at Henan University (Kaifeng) in April 2020 (postponed due to COVID19). As it is explained in their invitation letter. *"This programme aims at inviting prominent mathematicians to share their research achievements and to introduce young researchers into promising fields of mathematical research. It is also a gateway for oversea scholars to outreach their academic contact in China, to motivate research collaborations with local mathematicians, and to experience the Chinese culture in Kaifeng, the ancient capital of Song dynasty. The lectureship in general consists of a mini-course (10-15 hours) given to senior undergraduate students, graduate students and researchers, possibly combined with a public lecture for general audience."*
- Maître des conférences invité at Université de Toulouse December 2013, November 2012, November 2010 and November 2008.

### 2.6. Appointments.

- Member of the Panel *Mathematics* of the Agencia Estatal de Investigación (State National Agency) since October 2022.
- Member of the Panel *Ambizione* of the Swiss National Science Foundation SNSF since October 2022.
- Member of the Advisory Committee of the Fundación Gadea since September 2022.
- Member of the Scientific Commission Sciences Exactes et Naturelles-2 (SEN-2) of the Fund for Scientific Research FNRS (2022-2024).
- Member of the Conseil d'Administration (as personnalité extérieure) of the Institut Henri Poincaré in Paris (2020–).
- Governing Board BGSMath Barcelona Graduate School of Mathematics (2018–).
- Member of the Scientific Committee of the RSME (since January 2021).

- European Mathematical Society-Societat Catalana de Matemàtiques corresponding member (2011-2017).
- Scientific Advisory Board at CRM-Centre de Recerca Matemàtica (since 2017–).
- Group Leader of the UPC Research group GEOMVAP (since 2018).
- Head of the Laboratory of Geometry and Dynamical Systems (since 2016).
- Co-principal investigator of a Maria de Maeztu Award (since July 2021).

### 2.7. Member of Prize Juries.

- Umalca Prize Committee 2020.
- Lichnerowicz Prize 2018, 2020, 2022 and 2024.
- Vicent Caselles Prize (RSME-BBVA) 2020.

### 2.8. Qualifications.

- Qualified as Full Professor by the Accreditation System AQU-Catalunya since October 2016.
- Qualified by the Ministère de l'Enseignement Supérieur et de la Recherche, République Française as *Professeur des Universités* en Section 25 (Mathématiques), CNU (February 2010).
- Three Research Primes and four teaching primes.

**2.9. Research: Keywords.** Differential Geometry, Mathematical Physics, Symplectic Geometry, Contact Geometry, Poisson Geometry, Fluid Dynamics, Lie group actions, Moment maps, Hamiltonian actions, Hamiltonian Dynamics, Integrable systems, Singularities, Fluid Dynamics, Floer Homology, Beltrami flows, Foliation theory, Geometric Quantization, Rigidity of Geometrical Structures, Turing completeness.

## 3. PUBLICATIONS

### 3.1. Published research papers.

- (1) Robert Cardona, Eva Miranda and Daniel Peralta-Salas, *Looking at Euler flows through a contact mirror: Universality and undecidability*, Proceedings of the 8th European Congress of Mathematicians, EMS Press, Berlin, 2023, 367–393. ISBN: 978-3-98547-051-8; 978-3-98547-551-3
- (2) E. Miranda and C. Oms, *Contact structures with singularities: from local to global*, J. Geom. Phys. 192 (2023), Paper No. 104957, 22 pp. <https://doi.org/10.1016/j.geomphys.2023.104957>.
- (3) A. Matveeva and E. Miranda, *Reduction theory for singular symplectic manifolds and singular forms on moduli spaces*, Adv. Math. 428 (2023), Paper No. 109161, 42 pp.
- (4) R. Cardona, E. Miranda, D. Peralta-Salas and F. Presas, *Universality of Euler flows and flexibility of Reeb embeddings*, Adv. Math. 428 (2023), Paper No. 109142, 40 pp.
- (5) R. Cardona, E. Miranda and D. Peralta-Salas, *Computability and Beltrami fields in Euclidean space*, J. Math. Pures Appl. (9) 169 (2023), 50–81.
- (6) J. Fontana-McNally, E. Miranda, C. Oms, and, D. Peralta-Salas, *From  $2N$  to infinitely many escape orbits*, Regular and Chaotic Dynamics, 2023.
- (7) J. Brugués, S. Hohloch, P. Mir and E. Miranda, *Constructions of  $b$ -semitoric systems*, J. Math. Phys. 64 (2023), no. 7, Paper No. 072703, 30 pp.
- (8) P. Mir, E. Miranda and P. Nicolás, *Hamiltonian facets of classical gauge theories on  $E$ -manifolds*, J. Phys. A: Math. Theor. 56, 235201 (2023),
- (9) B. Coquinot, P. Mir and E. Miranda *Singular cotangent models and complexity in fluids with dissipation*, Phys. D 446 (2023), Paper No. 133655., 2023.
- (10) E. Miranda, D. Peralta-Salas, C. Oms. *On the singular Weinstein conjecture and the existence of escape orbits for  $b$ -Beltrami fields*. Commun. Contemp. Math. 24 (2022), no. 7, Paper No. 2150076, 25 pp.
- (11) Eva Miranda, Roisin Braddell and Anna Kiesenhofer, *A  $b$ -symplectic slice theorem*. Bull. Lond. Math. Soc. 55 (2023), no. 1, 90–112.
- (12) P. Mir, E. Miranda and J. Weitsman, *Bohr-Sommerfeld quantization of  $b$ -symplectic toric manifolds*, To appear in Pure and Applied Mathematics Quarterly, 2022.

- (13) Eva Miranda, Roisin Braddell and Anna Kiesenhofer, *b-structures on Lie groups and Poisson reduction*. J. Geom. Phys. 175 (2022), Paper No. 104471, 9 pp.
- (14) Robert Cardona, Eva Miranda, Daniel Peralta-Salas and Fran Presas, *Constructing Turing complete Euler flows in dimension 3*, Proc. Natl. Acad. Sci. USA 118 (2021), no. 19, Paper No. 2026818118, 9 pp.
- (15) Eva Miranda and Cedric Oms, *The singular Weinstein conjecture*, Adv. Math. 389 (2021), Paper No. 107925, 41 pp.
- (16) Robert Cardona, Eva Miranda, Daniel Peralta-Salas and Fran Presas, *Reeb embeddings and universality of Euler flows*. Trends Math. Res. Perspect. CRM Barc., 15, Birkhäuser/Springer, Cham, 2021.
- (17) Robert Cardona and Eva Miranda, *Integrable Systems on Singular Symplectic Manifolds: From Local to Global*, Int. Math. Res. Not. IMRN 2022, no. 24, 19565–19616.
- (18) Pau Mir and Eva Miranda, *Geometric quantization via cotangent models*. Anal. Math. Phys. 11 (2021), no. 3, Paper No. 118, 35 pp.
- (19) Robert Cardona, Eva Miranda and Daniel Peralta-Salas, *Turing Universality of the Incompressible Euler Equations and a Conjecture of Moore*, Int. Math. Res. Not. IMRN 2022, no. 22, 18092–18109.
- (20) Eva Miranda and Geoffrey Scott, *The geometry of E-manifolds*, Rev. Mat. Iberoam. 37 (2021), no. 3, 1207–1224.
- (21) Victor Guillemin, Eva Miranda and Jonathan Weitsman, *On geometric quantization of  $b^m$ -symplectic manifolds*, Math. Z. 298 (2021), no. 1-2, 281–288.
- (22) Eva Miranda, *Looking for periodic orbits*. Gac. R. Soc. Mat. Esp. 23 (2020), no. 3, 631–654.
- (23) Miranda, Eva; Presas, Francisco; Solha, Romero; *Geometric quantization of almost toric manifolds*. J. Symplectic Geom. 18 (2020), no. 4, 1147–1168.
- (24) Mir, Pau; Miranda, Eva, *Rigidity of cotangent lifts and integrable systems*. J. Geom. Phys. 157 (2020), 103847, 11 pp.
- (25) Cardona, Robert; Miranda, Eva; Peralta-Salas, Daniel, *Euler flows and singular geometric structures*. Philos. Trans. Roy. Soc. A 377 (2019), no. 2158, 20190034, 15 pp.
- (26) Guillemin, Victor; Miranda, Eva; Weitsman, Jonathan *Desingularizing  $bm$ -symplectic structures*. Int. Math. Res. Not. IMRN 2019, no. 10, 2981–2998.
- (27) Cardona, Robert; Miranda, Eva, *On the volume elements of a manifold with transverse zeroes*. Regul. Chaotic Dyn. 24 (2019), no. 2, 187–197.
- (28) Alexey Bolsinov, Vladimir Matveev, Eva Miranda, Sergei Tabachnikov, *Open Problems, Questions, and Challenges in Finite-Dimensional Integrable Systems*, Philos. Trans. Roy. Soc. A 376 (2018), no. 2131, 20170430, 40 pp.
- (29) Victor Guillemin, Eva Miranda and Jonathan Weitsman, *On geometric quantization of  $b$ -symplectic manifolds*, Adv. Math. 331 (2018), 941–951.
- (30) Braddell, Roisin; Delshams, Amadeu; Miranda, Eva; Oms, Cédric; Planas, Arnau An invitation to singular symplectic geometry. Int. J. Geom. Methods Mod. Phys. 16 (2019), suppl. 1, 1940008, 16 pp.
- (31) Damien Bouloc, Eva Miranda, Nguyen Tien Zung, *Singular fibers of the Gelfand–Cetlin system on  $\mathfrak{u}(n)^*$* , Philos. Trans. Roy. Soc. A 376 (2018), no. 2131, 20170423, 28 pp.
- (32) Eva Miranda and Arnau Planas, *Equivariant classification of  $b^m$ -symplectic surfaces*, Regul. Chaotic Dyn. 23 (2018), no. 4, 355–371.
- (33) Victor Guillemin, Eva Miranda and Jonathan Weitsman, *Convexity of the moment map image for torus actions on  $b^m$ -symplectic manifolds*, Philos. Trans. Roy. Soc. A 376 (2018), no. 2131, 20170420, 6 pp.
- (34) Robert Cardona and Eva Miranda, *Integrable systems and closed one forms*, J. Geom. Phys. 131 (2018), 204–209.
- (35) Martínez-Torres, David; Miranda, Eva; *Zeroth Poisson Homology, Foliated Cohomology and Perfect Poisson Manifolds*. Regul. Chaotic Dyn. 23 (2018), no. 1, 47–53.
- (36) Miranda, Eva; Planas, Arnau; *Classification of  $b^m$ -Nambu structures of top degree*. C. R. Math. Acad. Sci. Paris 356 (2018), no. 1, 92–96.
- (37) Anna Kiesenhofer and Eva Miranda, *Cotangent models for integrable systems*, Communications in Mathematical Physics, Comm. Math. Phys. 350 (2017), no. 3, 1123–1145.

- (38) Chiara Esposito and Eva Miranda, *Rigidity of infinitesimal momentum maps*, Israel J. Math. 219 (2017), no. 2, 757–781.
- (39) David Martínez Torres, Eva Miranda *Weakly Hamiltonian actions*, J. Geom. Phys. 115 (2017), 131–138.
- (40) Amadeu Delshams, Eva Miranda and Anna Kiesenhofer, *Examples of integrable and non-integrable systems on singular symplectic manifolds*, J. Geom. Phys. 115 (2017), 89–97.
- (41) Victor Guillemin, Eva Miranda, Ana Pires and Geoffrey Scott, *Convexity for Hamiltonian torus actions on b-symplectic manifolds*, Math. Res. Lett. 24 (2017), no. 2, 363–377.
- (42) Pedro Frejlich, David Martínez and Eva Miranda, *A note on Symplectic topology on b-symplectic manifolds*, J. Symplectic Geom. 15 (2017), no. 3, 719–739.
- (43) Anna Kiesenhofer and Eva Miranda, *Noncommutative integrable systems on b-symplectic manifolds*, Regul. Chaotic Dyn. 21 (2016), no. 6, 643–659.
- (44) A. Kiesenhofer, E. Miranda and G. Scott, *Action-angle variables and a KAM theorem for b-Poisson manifolds*, J. Math. Pures Appl. (9) 105 (2016), no. 1, 66–85.
- (45) Victor Guillemin, Eva Miranda, Ana Pires and Geoffrey Scott, *Toric actions on b-manifolds*, Int Math Res Notices Int Math Res Notices (2015) 2015 (14): 5818–5848.
- (46) Eva Miranda and Francisco Presas, *Geometric Quantization of real polarizations via sheaves*, J. Symplectic Geom. 13 (2015), no. 2, 421–462.
- (47) Victor Guillemin, Eva Miranda and Ana Pires, *Symplectic and Poisson Geometry on b-manifolds*, Adv. Math. 264 (2014), 864–896.
- (48) Eva Miranda, *Integrable systems and group actions*, Central European Journal of Mathematics, (2014), 12, 2, 240-270.
- (49) Eva Miranda, Romero Solha, *On a Poincaré lemma for singular foliations and geometric quantization*, Journal of Geometric Mechanics, (2013), 5, 4, 473-491.
- (50) Eva Miranda and Romero Solha, *On a Poincaré lemma for foliations*, "Foliations 2012 : proceedings of the international conference". World Scientific Publishing Co., 2013, p. 115-137.
- (51) Camille Laurent Gengoux and Eva Miranda, *Coupling symmetries with Poisson structures*, Acta Math Vietnam. (2013), 38, 1, 21-32.
- (52) Eva Miranda, Philippe Monnier and Nguyen Tien Zung, *Rigidity for Hamiltonian actions on Poisson manifolds*, Adv. Math. 229 (2012), no. 2, 1136-1179.
- (53) Victor Guillemin, Eva Miranda and Ana Pires, *Codimension one symplectic foliations and regular Poisson manifolds*, Bulletin of the Brazilian Mathematical Society. 42(4), 607-623, 2011.
- (54) Eva Miranda, *From action-angle coordinates to geometric quantization: a round trip*, Oberwolfach report, Geometric quantization in the non-compact setting, 2011.
- (55) Camille Laurent-Gengoux, Eva Miranda and Pol Vanhaecke, *Action-angle coordinates on Poisson manifolds*, Int. Math. Res. Not. IMRN 2011, no. 8, 1839-1869.
- (56) Mark Hamilton and Eva Miranda, *Geometric quantization of integrable systems with hyperbolic singularities*, Annales de l'Institut Fourier, vol. 60 (1) p. 51-85, 2010.
- (57) Eva Miranda, *Symmetries and singularities of Hamiltonian systems*, J. Phys.: Conf. Ser. 175 012011, 2009.
- (58) Eva Miranda, *Some rigidity results for symplectic and Poisson group actions*. XV International Workshop on Geometry and Physics,, Publ. R. Soc. Mat. Esp., 11, 177-183, R. Soc. Mat. Esp., Madrid, 2007.
- (59) Eva Miranda, *Rigidity of Poisson group actions*, Oberwolfach Report, 2007-Poisson Geometry and applications, Oberwolfach Report, Report number 25, 2007, pages 33-36
- (60) Eva Miranda and Nguyen Tien Zung, *A note on equivariant normal forms of Poisson structures*, Mathematics Research Letters, 2006 , vol 13-6, pages 1001-1012.
- (61) Eva Miranda and San Vu Ngoc, *A singular Poincaré lemma*, IMRN, International Mathematics Research Notices, 1, pag 27-46, 2005.
- (62) Eva Miranda, *A normal form theorem for integrable systems on contact manifold*, Publ. R. Soc. Mat. Esp., 9, R. Soc. Mat. Esp., (2005), 240–246.
- (63) Eva Miranda, Nguyen Tien Zung, *Equivariant normal form for nondegenerate singular orbits of integrable hamiltonian system*, Annales Scientifiques de l'École Normale Supérieure, 37, n°6, pag 819-839, 2004

- (64) Eva Miranda, Carlos Currás Bosch, *Symplectic linearization of singular lagrangian foliations in  $M^4$* , Differential Geometry and its applications, 18, n° 2, 195-205, 2003
- (65) Eva Miranda, *On the symplectic classification of singular Lagrangian foliations*, Publicaciones de la Real Sociedad Matemática Española, 239-244, vol 3, 2001.

### 3.2. Books.

- Eva Miranda and Arnau Planas, Action-angle coordinates and KAM theory for singular symplectic manifolds, monograph 2022, 114 pages, <https://arxiv.org/abs/2301.00266>.
- Eva Miranda (invited coauthors R. Cardona and C. Oms), *Geometry and Dynamics of singular symplectic manifolds*, written by invitation of the Société mathématique de France for their collection *Cours Spécialisés*, in progress.
- Eva Miranda, *Geometric quantization via integrable systems*, written for SpringerBriefs in Mathematics and the virtual collection on Symplectic Geometry, in progress.
- Eva Miranda, *From Differential Topology to Symplectic Geometry and beyond*, book started as notes of our course on Differential Geometry, work in progress (negotiation with Springer started).

## 4. PH.D., MASTER AND POSTDOC SUPERVISION

### 4.1. Ph.D. students (former and current).

- Current PhD students:
  - (1) Pablo Nicolás (Msc. UPC), Symplectic and Poisson Geometry Unveiled: Exploring Cohomological and Algebraic new horizons, 2023-2027, MDM-FPI grant.
  - (2) Martin Zika (Msc. Prague university), From E-Symplectic Manifolds to Poisson Manifolds: Deformation Quantization and applications to Mathematical Physics.
  - (3) Søren Dyhr (Msc. Aarhus), Representation theory in geometric fluid dynamics, Started in October 2022.
  - (4) Pau Mir (Msc. UPC), Singularities and symmetries on the crossroads of Symplectic geometry and Physics. Funding: La Caixa Foundation-InPHinit Retaining Grant, (PhD program in Physics).
  - (5) Joaquim Brugués (Msc. UPC), On Floer Homology of Poisson manifolds. Co-supervision with Sonja Hohloch (University of Antwerp). Funding: FI-AGAUR
- Former PhD students:
  - (1) Anastasia Matveeva (Msc. Higher School of Economics, Moscow), Poisson structures on moduli spaces and group actions. Defense October 3rd 2022. Funding: InPHinit La Caixa.
  - (2) Robert Cardona (Msc. UPC), Contact topology and Reeb dynamics with applications to ideal fluids. May 2021, Awarded Extraordinary prize by the Doctoral School at UPC and Vicent Caselles Prize by the RSME-FBBVA. Funding: FPI - MdM - BGSMath. *Now Margarita Salas Fellow at UPC, next moving as assistant professor to the University of Barcelona.*
  - (3) Cédric Oms, Global Hamiltonian Dynamics of singular symplectic manifolds, October 2, 2020. *After the thesis, postdoc under my supervision funded with my ICREA Academia project, then postdoc at ENS-Lyon, currently postdoc at BCAM.*
  - (4) Roisin Braddell (Msc. Padova-Bordeaux). New geometrical and dynamical techniques for problems in Celestial Mechanics. Co-supervision with Amadeu Delshams, Defended February 17, 2021. *Currently postdoc at BCAM-Bilbao.*
  - (5) Arnau Planas,  $b^m$ -Symplectic manifolds: symmetry, classification and stability, September 2020. *Currently, Senior Data Scientist at Caixabank Business Intelligence.*
  - (6) Anna Kiesenhofer, Integrable systems on  $b$ -symplectic manifolds, December 2016. *Currently postdoc at EPFL-Lausanne.*
  - (7) Romero Solha, Geometric Quantization of integrable systems with singularities, October 2013. *Postdoc at Univ. Granada.*

### 4.2. Master students.

- (1) Pablo Nicolás, *Poisson cohomology: old and new*, July 2023.

- (2) Pau Mir, *Rigidity of group actions, cotangent lifts and integrable systems*, Galois Prize, 2020.
- (3) Joaquim Bruges, *Floer and Morse theory*, 2019.
- (4) Robert Cardona, *Integrable Systems in singular symplectic manifolds*, Galois Prize, 2018.
- (5) Arnau Planas Bahí, *Symplectic surfaces with singularities*, 2014-2015.

#### 4.3. Supervision of Postdocs:

- (1) Jagna Wisniewska, 2023-2025, under our Complex Fluids project.
- (2) Alfonso Garmendia (2022-2024).
- (3) Cédric Oms (2020-2021).
- (4) Ana Peon (2019-2020).
- (5) Juan Margalef (2019).
- (6) Chiara Esposito (2013).
- (7) Pablo Suarez Serrato (under an i-math programme) in 2010-2011.
- (8) Marco Zambon in 2008
- (9) Anne Pichereau in 2008 and Mark Hamilton (for 3 months) in 2008

#### 4.4. Undergraduate Thesis.

- (1) Josep Fontana, *Singular forms in Celestial mechanics and Fluid Dynamics.*, 2022-2023.
- (2) Lara San Martin, UPC-Caltech 2023, *Chern-Simons theory* (in cosupervision with Angus Gruen and Sergei Gukov).
- (3) Alberto Cavallar, *The Chern-Simons Topological Quantum Field Theory and q-series invariants of 3-manifolds for knot complements*, UPC-Caltech, 2022 (in cosupervision with Sergei Gukov).
- (4) Pablo Nicolás, *On the spin Calogero-Moser systems and b-Symplectic Geometry*, UPC-Yau Center, 2022 (in cosupervision with Kolya Reshetikhin).
- (5) Robert Cardona, *Symplectic toric manifolds, Delzant theorem and integrable systems*, 2017.
- (6) Alexandre Thiele (co-supervised with Marc Chaperon at Université de Paris VII), *Transversality, Old and New*, Defense February 2015.

#### 4.5. Member of Thesis Jury of the following Ph.D students:

- (1) Federico II Napoli, General Committee (4 PhD thesis), February 2023.
- (2) Rodrigo Shaeffer, 2018, member.
- (3) Lorenzo Guglielmi, 2018, (member and referee).
- (4) Roy Wang (Utrecht Universiteit), September 2017 (member and referee).
- (5) Damien Bouloc (Université de Toulouse), June 2017 (membre et rapporteur).
- (6) Álvaro del Pino (UAM-ICMAT), June 2017 (member).
- (7) Yasmine Fittouhi (Université de Poitiers), January 2017 (membre et rapporteur).
- (8) Jiang Kai (Université de Paris VII), September 2016 (membre et rapporteur).
- (9) Andratx Bellmunt (University of Barcelona), December 2015.
- (10) Boris Osorno (University of Utrecht), October 2015 (referee).
- (11) Ionut Marcu (University of Utrecht), January 2013.
- (12) Chiara Esposito (Université de Copenhagen), January 2012. (and referee)
- (13) Isabel Berna (Universitat Politècnica de Catalunya), February 2012.
- (14) Ainhoa Aparicio (Université de Limoges), December 2010. (and referee)
- (15) Ana Rita Pires (MIT), April 2010.
- (16) Iman Alamiddine (Université de Toulouse), July 2011 (and referee).

4.6. **Member of HDR juries.** HDR (Habilitation à diriger des recherches) committee: Jean Gutt (July 2021). Member of the jury and referee.

#### 4.7. Host of international students stays:

- Baptiste Coquinot (Master, ENS-Paris-Ulm) in 2020.
- Ainhoa Aparicio (PhD, Limoges) in 2009.

## 5. RESEARCH ACTIVITIES AND FUNDING

I am the principal researcher and group leader of the group GEOMVAP at UPC: <https://geomap.upc.edu/en> of 27 members. Together with Amadeu Delshams we have created a Laboratory of Geometry and Dynamical Systems at EPSEB-UPC. I am the director of this lab <https://geodys.upc.edu/en>.

**5.1. Grants and research networks as main researcher.** I am/have been **principal investigator** of the following projects:

- (1) Principal investigator of the 2022 BBVA Project: COMPLEXFLUIDS (only 4 projects in Mathematics obtained funding). Total amount: 150000 euros (Start date 2022, duration of the grant 3 years), <https://sites.google.com/upc.edu/complexfluids/>.
- (2) Principal investigator of an SGR Research project 2021 SGR00603: 65000 euros 2021-2023.
- (3) Principal investigator of an ICREA Academia 2021 Project: Total amount: 200000 euros (Start date January 2022, duration of the grant 5 years). With this ICREA Academia I have financed several INIREC grants of introduction to research.
- (4) Principal investigator of the AEI research project: Geometría, Álgebra, Topología y Aplicaciones Multidisciplinares, GATATECH, PID2019-103849GB-I00. Total number of internal and external participants: 30. Total amount: 160.809,00 euros (for 4 years). Starting date June 2020 end date May 2024.
- (5) Co-Principal investigator for a Maria de Maeztu project CEX2020-001084-M (Principal investigator is Marcel Guardia). Total amount: 2 Million Euros for 4 years. Date of award: July 2021.
- (6) Principal investigator of an ICREA Academia 2016 Project: Total amount: 200000 euros (Start date January 2017, duration of the grant 5 years). *With this project I have financed other than teaching assistants: 1 PhD student, 1 postdoc student and one student of initiation of research which have been part of the team that I have created.*
- (7) Principal investigator of an SGR Research project 2017SGR935: 65898 euros 2017-2019 (total number of members 21).
- (8) Principal investigator of the project GEOMETRIA Y TOPOLOGIA DE VARIEDADES, ALGEBRA Y APLICACIONES, code MTM2015-69135-P, total number of participants: 24. total number of PI: 2. Total funding: 150600. Start date January 2016 end date December 2019.
- (9) Principal investigator of SGR grant 2017 SGR 932. Total amount: 65896 euros. 2017-2019. Number of PI:1.
- (10) Principal investigator for an AFR-Ph.D. project October, 3, 2016- October 2, 2020, Total amount; 160.901,57 euros.
- (11) I-math future project on Dynamics of Poisson structures (principal investigator) total amount : 37.356,11
- (12) Marie Curie EIF. Total amount (including grant) : EUR 142 866.
- (13) Bourse d'environnement of the Chaire d'Excellence de la FSMP: 10000 euros.
- (14) Spanish project reference number MTM2007-30184-E for the conference on Moment maps. Total amount : 5000 euros.
- (15) Catalan project reference number 2007ARCS2-00079 for the conference moment maps. Total amount : 5000 euros.
- (16) I-math project for GESTA2011 : 6000 euros
- (17) MICINN : J-09422GESTA2011: New Trends in Symplectic and Contact Geometry: 5000 euros
- (18) Responsible for sponsorship of Compositio Mathematica foundation with 4000 euros for the Program Poisson 2022.
- (19) Responsible for sponsorship by Elsevier of 3000 euros for the program Poisson 2022.
- (20) Responsible for the project "GESTA 2011: New trends in Symplectic and Contact Geometry", (5000 euros).
- (21) Responsible of the project " Geometry and Dynamics of Integrable systems" financed by ESF-CAST (16400 euros).

**5.2. Research Stays.**

- (1) Invited professor at the University of Cologne (Research Stay planned for September-December 2022 and September-December 2023 and in 2024).
- (2) Distinguished Professor at the *Oversea Distinguished Lectureship program, University of Henan at Kaifeng*, April 2019 (postponed due to COVID19).
- (3) Invited professor during the semester "Current trends in geometric methods in natural sciences" at ICMAT Madrid (Spain). September, October and December 2019.
- (4) MSRI, Research Member during the parent program to the Program Hamiltonian systems, from topology to applications through analysis, MSRI San Francisco (EEUU) , October-November 2018.
- (5) Observatoire de Paris-IMJ-Ceremade Paris, Excellence Chair of the Fondation Sciences Mathématiques de Paris, September 2017- February 2018.
- (6) MIT, invited visiting Professor, April 2014, December 2016 and February 2018.
- (7) Université de Paris 7 et Observatoire de Paris, invitée, May 2014.
- (8) Institute de Ciencias Matemáticas- ICMAT-Madrid, Invited visiting Researcher February, March and June 2014.
- (9) Toulouse, October 2012, Maitre des Conférences invitée at Université Paul Sabatier.
- (10) MIT June 2012 with Victor Guillemin (visiting scholar).
- (11) Toulouse, January 2011, Maitre des Conférences Invitee at Université Paul Sabatier.
- (12) MIT April 2010 with Victor Guillemin. (visiting scholar)
- (13) MIT April 2009 with Victor Guillemin. (visiting scholar)
- (14) Laboratoire Émile Picard, MCF invitée, November 2008 and January 2009.
- (15) 1 month Invited Research Stay: Observatoire de Paris and IMJ October 2008.
- (16) Laboratoire Emile Picard, Maître des Conférences invitée, November 2008 and January 2009.
- (17) MIT, March 2008 with Victor Guillemin.
- (18) Oberwolfach, February 2008 with Mark Hamilton (in the context of Leibniz Fellowships).
- (19) Paris, October 2007 with Jean-Pierre Marco.
- (20) Lisbon, September 2007 with Rui Loja Fernandes.
- (21) Poitiers, January 2007 with Camille Laurent Gengoux et Pol Vanhaecke.
- (22) Toronto, May 2007 with Yael Karshon.
- (23) Poitiers, december 2007 with Pol Vanhaecke.
- (24) MIT, May 2006 with Victor Guillemin.
- (25) University of California at Santa Cruz, April 2006 with Viktor Ginzburg.
- (26) Toulouse, February 2002 with Nguyen Tien Zung.
- (27) Fields institute à Toronto as invited graduate student during a special semester on group actions, june 2001.

### 5.3. Invitations as main speakers in Workshops, Colloquium and Seminars.

#### 5.3.1. Plenary/Invited speaker at the Workshops and Conferences:

- (1) Plenary speaker at CAST 2024 in February 2024 in Bochum.
- (2) Infinite dimensional Geometry and Fluids Banff (Canada). November 5-November 10, 2023.
- (3) Computation in Dynamical Systems Obergurgl resort. October 9-13, 2023.
- (4) Plenary speaker at Groups in action: from representations and harmonic analysis on Lie groups to index theory Paris (France). September 4-9, 2023.
- (5) Plenary speaker at GSI'23 "Geometric Science of Information" Saint-Maló (France). August 30-September 1st, 2023.
- (6) Plenary speaker at Quantization in Geometry Cologne (Germany) . July 24-28, 2023.
- (7) Invited at Dynamische Systeme Oberwolfach 2023.
- (8) Hardy Lecturer, LMS, London June 30 2023.
- (9) Plenary speaker at The many interactions of symplectic and Poisson geometry A conference in honour of Alan Weinstein's 80th birthday. IHP, June 2023.
- (10) Plenary Speaker at FoCM 2023 (Foundations of Computational Mathematics) in Paris.
- (11) Lecturer at Hypatia Summer School Barcelona. June 5-June 9, 2023.
- (12) Plenary speaker at Symplectic Dynamics-INDAM meeting Rome (Italy). May 22-26, 2023.

- (13) Plenary speaker at the 2023 Dutch Mathematical Congress (NMC) Utrecht (Netherlands). April 11-12, 2023.
- (14) Lecturer at the Winter School on Geometry and Physics Srní, Sumava National Park, Czech Republic. January 14-January 21, 2023.
- (15) Kolloquium Mathematik University of Cologne. November 14, 2022.
- (16) Two days in Symplectic Dynamics ENS Lyon. September 29-30, 2022.
- (17) Brandeis–Harvard–MIT–Northeastern Joint Mathematics Colloquium Cambridge (USA). September 22, 2022.
- (18) Plenary speaker at Symplectic Dynamics Beyond Periodic Orbits Leiden (Netherlands). August 15-August 19, 2022.
- (19) Speaker at the Colloque des sciences mathématiques du Québec, CSMQ Montreal. January 14, 2022.
- (20) Public lecturer at the Workshop Mathematical Physics, Geometry and Integrability 2022 Moscow, Lomonosov University. June 26-July2, 2022.
- (21) Speaker at the Conference in Honor of Ryszard Nest in June 2022.
- (22) Plenary speaker at the Workshop SPQR: Symplectic and Poisson geometry, Quantisation and Reduction 2021 Institut des Etudes Scientifiques (IES) de Cargèse in Corsica (postponed to October 31 - November 4, 2022).
- (23) Plenary speaker at FDIS 2021 (postponed to 2022 due to COVID19) in Tel-Aviv University, June 20-24, 2022.
- (24) Plenary speaker at the workshop Regular & Chaotic Dynamics in memory of Alexey V. Borisov Moscow, Steklov Institute. November 22- December 3, 2021.
- (25) Plenary speaker at the Workshop on the h-principle and beyond IAS, Princeton. November 1-5, 2021.
- (26) Plenary speaker at First Geometry Meeting IM-UFRJ, 30-31 August, 2021.
- (27) Panorama Speaker at the Workshop Learning from Insulators: New Trends in the Study of Conductivity of Metals Leiden (Netherlands). August 09-14, 2021.
- (28) 8ECM, Invited Speaker Portoroz (Slovenia). June 21-25, 2021.
- (29) Plenary Speaker at the International Conference Hamiltonian Dynamical Systems in Honor of Jean-Pierre Marco Paris (France). June, 7-10, 2021.
- (30) Plenary speaker at the 10 Workshop on Geometry and Dynamical Systems Hermosillo, Sonora. April 20-22, 2021.
- (31) Plenary speaker at the Workshop Floer Theory and Hamiltonian Dynamics of Non-Compact Hypersurfaces at ETHZ, Zurich Zurich. January 18-22, 2021.
- (32) Plenary speaker at V Workshop on Symplectic Geometry Brasil. November 5-6, 2020.
- (33) Plenary speaker at Workshop on "Symplectic Dynamics beyond periodic orbits" Lorenz Center, Leiden . August 10-14, 2020.
- (34) Plenary speaker at Workshop on Quantization Cologne (Germany ). July 15-19. 2019.
- (35) Plenary speaker at FDIS 2019 Shanghai (China). May 7-11, 2019.
- (36) Plenary speaker at Symplectic Dynamics at Lorenz Center Leiden (Netherlands). April 8-12, 2019.
- (37) February 2019, Plenary speaker at the Congreso Bienal RSME.
- (38) Plenary Speaker at the workshop Hamiltonian systems, from topology to applications through analysis II, MSRI San Francisco (EEUU). November 28, 2019.
- (39) Research member associated November 1-30.
- (40) Plenary Speaker at XV Encuentro de Topología, CRM Barcelona (Spain). October 19-20.
- (41) Plenary speaker a International Workshop on Geometric Quantization and Applications, CIRM Marseille (France). October 8-12.
- (42) Plenary speaker at Indam Workshop Poisson Geometry and Higher Structures Rome (Italy). September 10-14.
- (43) Plenary speaker at Connections for Women: Hamiltonian Systems, from topology to applications through analysis, MSRI San Francisco (EEUU). August 16-17.
- (44) July 2018, Plenary speaker at Poisson 2018 at the Fields Institute.
- (45) June 2018, Plenary speaker at GDIS2018 in Moscow.
- (46) April 2018, Plenary speaker at the Workshop Geometry of the Momentum Map, Ascona.

- (47) September 2017, Plenary speaker at Classical Integrable Systems and Perturbations, Observatoire de Paris.
- (48) August 2017, Plenary speaker at the Workshop PADGE 2017, Leuven University.
- (49) June 2017, invited speaker at the Workshop RSME-SMM, Valladolid.
- (50) June 2017, Plenary speaker at the Workshop Women in Geometry and Topology in Zurich.
- (51) August 2016, plenary speaker at the Workshop on Celestial Mechanics and Symplectic Geometry.
- (52) August 2016, plenary speaker at XXV International Fall Workshop on Geometry and Physics.
- (53) June 2016, plenary speaker at the Workshop on Integrable Systems in Ascona.
- (54) September 23-25 2016- Invited Speaker at CSASC <http://csasc2016.espais.iec.cat/>
- (55) June 10-13 2015- AMS-EMS-SMP International Meeting, invited speaker at the session on Symplectic and Contact Topology.
- (56) November 2014- Barcelona Mathematical Days (invited speaker at the section Geometric Structures in Interaction).
- (57) July-August 2014- Invited lecturer at the Poisson 2014 Summer School, Illinois, Urbana-Champaign.
- (58) July- Invited speaker at a special sessions at the AIMS conference at ICMAT, Madrid.
- (59) Plenary speaker at April BBQ2014- Belgian Brackets and Quantization, Université Libre de Bruxelles (plenary speaker) , April 1-3, 2014.
- (60) December 9-13 2013- Plenary speaker at Focused research workshop on exterior differential systems and Lie theory, Fields Institute, Toronto, Canada.
- (61) Plenary speaker at Workshop in honour of Alan Weinstein,(main speaker) July 2013.
- (62) Plenary speaker at RSME Young researchers (main speaker), September 2013 (Sevilla).
- (63) Plenary speaker at FDIS 2013 (main speaker), Luminy, July 2013.
- (64) Plenary speaker at Quantization and Reduction 2013 (main speaker), Erlangen 2013.
- (65) Normal forms day (main speaker), Utrecht February 2013.
- (66) Plenary speaker at Joves SCM (main speaker), Octobre, Novembre 2013.
- (67) Plenary speaker at Workshop "Integrability in Dynamical Systems and Control" in Rouen (main speaker), France, November 2012.
- (68) Iberoamerican Workshop on Geometry, Mechanics and Control(main speaker), Salamanca, 2012.
- (69) STS at 6ecm on Integrable Systems (main speaker), June 2012.
- (70) Foliations 2012, invited speaker June 2012.
- (71) Quarterly Seminar on Geometry and Topology in Utrecht (main speaker), February 2012.
- (72) Thematic Day on Poisson Geometry and Applications (main speaker), Zaragoza, February 2012.
- (73) CSASC special session on Geometry (main speaker), Analysis and Mathematical Physics, September 2011.
- (74) Plenary speaker at Modern approaches to dynamical integrability in Portsmouth,(main speaker) July 2011.
- (75) Plenary speaker at Geometric Quantization in the non-compact setting, Oberwolfach, February 2011.
- (76) EMS-RSME Mathematical Weekend (main speaker), September 2011.
- (77) FDIS2011 (main speaker) June 2011.
- (78) CSASC 2011 (main speaker) September 2011.
- (79) Poisson 2010, IMPA, Rio de Janeiro, July 2010. (Plenary Speaker).
- (80) Conference SCAS, Prague, Janvier 2010. (Main speaker)
- (81) Plenary speaker at Workshop on Conservative dynamics and Symplectic Geometry, IMPA, Río de Janeiro, August, 2009. (Main speaker).
- (82) Plenary speaker at "Higher Symmetries in Physics", Universidad Complutense de Madrid . (Main speaker).
- (83) Plenary speaker at Workshop on Transverse Poisson Structures and Poisson Singularities, Lausanne, October, 2008. (Main speaker)
- (84) Plenary speaker at Rencontre Painlevé, Paris, 17-20, September 2007. . (Main speaker, exposé 1 heure)
- (85) Plenary speaker at Moment Maps Conference, Lausanne, August, 2008. . (Main speaker)
- (86) Plenary speaker at New trends in Poisson Geometry, CRM Thematic Day, June 2008. (Main speaker)
- (87) GESTA-Barcelona-Madrid, "Cuantización geométrica con singularidades", April 2008 ( main speaker).

- (88) Minicourse "Coordenadas acción-ángulo y singularidades" at CSIC-Madrid, december 2007. (Minicours 3 hours).
- (89) Rigidity for Poisson group actions, Plenary speaker at Workshop Poisson Geometry and Applications, MFO Oberwolfach, april 29-may 5, 2007. . (Main speaker)
- (90) Some rigidity results for integrable systems and Hamiltonian group actions, Plenary speaker at Conférence, Intégrabilité Dynamique. Dynamical Integrability, CIRM, décembre 2006.
- (91) Ridigity problems for compact group actions and equivariant normal forms for Poisson structures, Conference XV International Conference on Geometry and Physics, A satellite conference of ICM2006, September 2006. (Communication, 30 min.)
- (92) Plenary speaker at Formes normales équivariantes pour les systèmes intégrables non-dégénérées au voisinage d'une orbite compacte. Réunion Hamilton, Limoges, July 2006. (Main speaker).
- (93) Equivariant splitting theorem in Poisson manifolds, July 2005, poster, Trieste.
- (94) Infinitesimal deformations of integrable systems, février 2005, Conference GESTA, Barcelona. (Main speaker)
- (95) Singularities in integrable systems, Poster, Workshop on Geometry and Physics, Murcia, September 2004.
- (96) Equivariant symplectic linearization of integrable systems, minicours GESTA, february 2004, Salamanca. (minicourse 4 hours).
- (97) Foliaciones Lagrangianas, Conférence GESTA, Madrid, February 2000. (Main speaker).
- (98) Symplectic Linearization of singular Lagrangian foliations, Poster Workshop on Geometry and Physics, Vilanova i la Geltrú, june 2000.

### 5.3.2. *Colloquium talks.* (a selection)

- (1) Kolloquium Mathematik, Köln, November 2022.
- (2) Joint Brandeis-Harvard-MIT-Northeastern Colloquium, September 2022.
- (3) Colloquium Montreal, January 2022.
- (4) ICMAT-UAM-UCM-UC3 Colloquium, Madrid, November 2021. Title: Thinking out of the box: Examples of collaborative mathematics.
- (5) Colloquium Speaker at Ateneo UVA, University of Valladolid. Valladolid (Spain). October 21, 2021. Título: Turing, Tao, Navier Stokes y el destino de 29000 patos de goma.
- (6) Colloquium talk at Henan University in Kaifeng (online), October 2021, Title: Undecidability of certain fluid paths, the Navier-Stokes problem and 29000 rubber ducks lost in the ocean.
- (7) Colloquium at FME-IMTech- May 6, 2020 (postponed due to COVID19 to a date to be fixed in 2021).
- (8) I-magine at CaixaForum, Cosmocaixa, March 2020 (postponed due to COVID date to be determined).
- (9) Colloquium talk at the First Junior Global Poisson Workshop Geneva (Switzerland). September 16, 2020.

### 5.3.3. *Speaker at Seminars.* (a selection)

- (1) Seminar Geometria em Lisboa Lisboa. December 14, 2021.
- (2) Seminar on Dynamical Systems Barcelona. may 5, 2021.
- (3) Speaker at DAI Dinamici Seminar Rome (Italy). April 8, 2021.
- (4) Speaker at the Geometry and Analysis Seminar ANTWERP Antwerp. March 17, 2021.
- (5) Speaker at the Research Seminar in Mathematics–Spring 2021 at Northeastern University Boston (EEUU), March 9, 2021.
- (6) Speaker at the Symplectic Zoominar (CRM-Montreal, Princeton/IAS, Tel Aviv, and Paris) Princeton. December 4, 2020.
- (7) Speaker at Oberseminar Differentialgeometrie in Augsburg Augsburg (Germany). November 16, 2020.
- (8) Speaker at GDMseminar (Geometry, Dynamics and Mechanics) Pavia(Italy). October 20, , 2020.
- (9) Speaking at the Virtual Symplectic Seminar Barcelona-Columbia University-NYC. July 24, 2020.
- (10) Speaker at the Global Poisson Webminar Barcelona-Geneva. may 14, 2020.
- (11) March 2019, Seminar at ICMAT.

- (12) Speaker at Journées de Dynamique, Paris, October 2017.
- (13) Seminars 2017: Seminar in Montpellier.
- (14) Seminars 2016: Luxembourg (General Mathematical Seminar), IMJ-Paris (Séminaire de Géométrie Hamiltonienne), Orsay (Séminaire Topologie, Géométrie et Systèmes Dynamiques et Seminaire Symplectique Nantes-Orsay), MIT (Seminar of Geometry and Topology)
- (15) Talk at AG Mathematische Physik Seminar Erlangen (Germany). December 14-16, 2016.
- (16) Geometry Seminar at the MIT
- (17) MIT (USA). December 1-7, 2016. Symplectic and Contact Topology Seminar Paris (France). November 17-20, 2016.
- (18) Séminaire de Géométrie Hamiltonienne Paris (France). November 14-16, 2016.
- (19) Speaker at the General Mathematical Seminar Luxembourg. September 15-16, 2016.
- (20) Seminars 2014: Madrid, Toulouse, Paris.
- (21) Seminars 2013: Bilbao, Madrid, Angers, Metz.
- (22) Seminars 2012: Toulouse, Barcelona, Madrid.
- (23) Seminars 2011: Toulouse, Poitiers, Paris 13 (séminaire des systèmes dynamiques et géométrie ergodique), Lyon (séminaire Géométries), Barcelona, Madrid, Milano....
- (24) Seminar at CRM at Advanced course on Foliations , April 2010.
- (25) Seminar Systèmes dynamiques, Barcelone, March 2010.
- (26) Seminar Géométrie Algébrique, Barcelone, March 2010.
- (27) Seminar Geometria em Lisboa, February, 2010.
- (28) Special Gesta Seminar, Madrid February, 2010.
- (29) Seminar Géométrie Symplectique et Applications, Strasbourg, January 2010.
- (30) Seminari de Geometria Algebraica, Barcelona, January, 2010.
- (31) Special GESTA Seminar on Contact Geometry, Madrid, June, 2009.
- (32) Seminar de Géométrie Symplectique et de Contact, Université Libre de Bruxelles, March 2009.
- (33) Seminari de Geometria, Universitat Autònoma de Barcelona, February 2009.
- (34) Seminario de Geometría y Física, Universidad de Salamanca, February, 2009.
- (35) Seminar d'Équations Différentielles, Université de Toulouse, January 2009.
- (36) Seminar on Symplectic Geometry, Madrid, March, 2009.
- (37) Seminar Géométries, Université de Lyon 1, November 2008.
- (38) Seminario de geometría simpléctica y de contacto, CSIC-Madrid, October, 20-21, 2008.
- (39) Geometric Quantization of Integrable Systems with Singularities, le 10 March 2008, Symplectic Seminar, MIT.
- (40) Simultaneous linearisation of Hamiltonian vector fields, CRM, novembre 2007.
- (41) Autour de la linéarisation des actions des algèbres de Lie semisimples avec des structures géométriques additionnelles, Paris, Chevaleret, October 2007.
- (42) On symplectic linearisation of semisimple Lie algebra actions, Conference "Special day on geometric mechanics and Lie algebroids", Lisbon, September 2007.
- (43) Rigidity results for group actions on Poisson manifolds, Symplectic Seminar, Toronto, May 2007.
- (44) Geometrical Aspects of Integrable systems in Symplectic and Poisson manifolds, Symplectic Geometry, Toronto, May 2007.
- (45) Group actions and integrable systems on Poisson manifolds: normal forms and rigidity, Seminar Géométrie et Dynamique, UMPA, ENS, Lyon, April 2007.
- (46) Rigidity problems for Poisson Group actions, Paris, Chevaleret, January 2007.
- (47) Equivariant normal forms for integrable systems, Observatoire de Paris, January 2007.
- (48) Equivariant Splitting theorem and normal forms for Poisson manifolds, Symplectic Seminar, MIT, May 2006.
- (49) Equivariant normal forms for Poisson structures, PennState University, April 2006.
- (50) Equivariant normal forms for Poisson structures, Berkeley (Seminar on Symplectic Geometry), April 2006.
- (51) Formas normales equivariantes para estructuras de Poisson, Madrid, March 2006.
- (52) Equivariant splitting theorem for Poisson manifolds : Seminaire de Géométrie non Commutative, Marseille, March 2006.
- (53) Complex de deformacions de sistemas integrables, CRM, December 2005.

- (54) Equivariant splitting theorem in Poisson manifolds, June 2005, Institut Fourier
- (55) Infinitesimal Stability for integrable systems with nondegenerate points, Strasbourg, April 2005.
- (56) Equivariant normal forms for integrable systems in a neighbourhood of a singular nondegenerate orbit, Poitiers, January 2005.
- (57) A singular Poincaré Lemma for nondegenerate singular integrable systems, Toulouse, November 2004.
- (58) Linealització d'accions simplèctiques i fibracions singulars, Barcelona December 2004.

## 6. ADMINISTRATION. SERVICES FOR THE MATHEMATICAL COMMUNITY

### 6.1. Editorial Responsibilities.

- (1) Editor of the *Journal of the European Mathematical Society*, JEMS since July 2022.
- (2) Editor of the journal Journal of the Association for Mathematical Research *JAMR* since November 2022.
- (3) Editor of *Revista Iberoamericana de Matemáticas* since January 2020.
- (4) Editor of the Journal *Geometric Mechanics* since September 2023.
- (5) Editor for the Special Issue Poisson 2022 in the journal, *Journal of Geometry and Physics*.
- (6) Editor of a Topical Issue on integrability at the Philosophical Transactions of the Royal Society A, Mathematical, Physical and Engineering sciences (publication scheduled in 2018).
- (7) Editor of the Journal *Newsletter of the European Mathematical Society*. (2010-2017.)
- (8) Guest editor for three Special Issues at *Journal of Geometry and Physics* in 2015, 2016 and 2018.
- (9) Editor of a book in the collection CRM-Advanced Courses (Springer) entitled *Geometry and Dynamics of Integrable system* <http://www.springer.com/gp/book/9783319335025> ISBN 978-3-319-33503-2.
- (10) Guest editor of a Special issue of *Geometriae Dedicata* (volume 1, issue 265, August) and for a Special issue of *Acta Mathematica Vietnamica* published in January 2013 (issue 38).
- (11) Responsible for the EMS Column at *Notícies de la Societat Catalana de Matemàtiques*.

**6.2. Participation in Boards, research evaluation and panels.** I am acting/have acted as reviewer and panel expert for several boards and international agencies including:

- Conseil d'Administration at IHP, Paris.
- Member of the Governing Body of the Barcelona Graduate School in Mathematics, BGSMath, (2018–).
- Member of the Scientific Advisory Board at **Centre de Recerca Matemàtica, CRM** (2017–).
- Member of the scientific committee of RSME (2020–).
- Member of advisory committee of Fundación GADEA Ciencia (since 2022).
- Member of the Evaluation committee for the program Ambizione SNSF (since 2022).
- **AEI** (Agencia Estatal de Investigación, Spain): Manager of the National Plan in Mathematics in the area of Geometry (since October 2022).
- **AEI** (Agencia Estatal de Investigación, Spain): Member of Panel of selection of research projects (1 participation) and Member of Panel of selection of Juan de la Cierva and Ramón y Cajal positions (1 participation).
- **ESF** European Science Foundation (2020–).
- **ANR** (Agence National de Recherche, France): evaluation of research projects.
- **ANEP** (Agencia Nacional de Evaluación y Prospectiva, Spain): evaluation of research projects.
- **NWO** (De Nederlandse Organisatie voor Wetenschappelijk, The Netherlands): evaluation for Veni grants within the Innovational Research Incentives Scheme.
- **DFG** (Deutsche Forschungsgemeinschaft, Germany): Evaluation of Collaborative Research Centres.
- **FNRS** Fonds de la Recherche Scientifique, Belgium: Evaluation of Research projects.
- Member of the Selection committee or external evaluation committees at national and international positions in Spain, France and Germany.
- Eventual Evaluator for calls at the Barcelona Graduate School of Mathematics and Serra Hünter Programme.

### 6.3. Scientific Committees:

- Scientific Committee of the Global Poisson Seminar (2020–).
- Scientific Committee of the Poisson 2024 Conference.
- Scientific Committee of the Poisson 2020 Conference.
- Scientific Committee of the Poisson 2018 Conference.
- Scientific Committee of two CRM Research Programs.
- Scientific Committee of the FDIS conferences (Finite Dimensional Integrable Systems (since 2015)).
- Scientific Committee of GESTA conferences.

6.4. **Organization of conferences and research programs:** Over 30 conferences organized including the scientific coordination of 3 research programmes at CRM and a Follow-up program at CRM. Next research program organized Poisson semester at CRM and ICMAT.

### 6.5. Administrative experience (other).

- Member of the committee Mujeres y Matemáticas of the RSME.
- Principal researcher at GEOMAP: <https://geomap.upc.edu/en>.
- Coordinator for studies of Mathematics in Building Engineering (2010–2016).

## 7. PUBLIC OUTREACH AND APPEARANCES IN MEDIA

### 7.1. Appearances in Media either as an interviewee or about my research.

- (1) Toni Pou, *La bellesa de les matemàtiques consisteix en captar l'essència de les coses* interview to Eva Miranda, 2 pages full colour interview also on the on the Cover of ARA and on the "Person of the day" part, Maig 2023.
- (2) Robert Cardona, Eva Miranda and Daniel Peralta-Salas, *Rechnende Flüssigkeiten*, Spektrum der Wissenschaft, , February, 2023.
- (3) R. Cardona, E. Miranda and Daniel Peralta Salas, *Hidrodinámica y Máquinas de Turing*, Investigación y Ciencia, May 2022.
- (4) *Où vas-tu, petit canard ? Une question indécidable !*, Outreach article about my joint result on undecidability of some fluid paths at PNAS by Sean Balley for *Pour la Science*, Dans la section, Actualités, Juillet 2021 (in the paper version published in number 527, August 2021).
- (5) *Patillos al Mar* by Clara Grima, 6 pages inside Jotdown Magazine, number 36 September 2021. (on the research of my article at PNAS for general public).
- (6) *Cuatro matemáticos demuestran que era imposible predecir el destino de 29.000 patitos de goma en el mar*, El Pais, April 2021.
- (7) *Four mathematicians demonstrate it is impossible to predict where 29,000 rubber ducks in the sea will wash up*, El Pais, April 2021.
- (8) *Matemáticos demuestran la indecibilidad de ciertos fenómenos de hidrodinámica*, La Vanguardia, May 2021.
- (9) *Més enllà de la teoria del caos: mai es podrà saber on va l'ampolla amb el missatge*, Notícies de TV3, May 2021.
- (10) *Científicos españoles diseñan la primera máquina de Turing de agua*, El mundo, May 2021.
- (11) *Soluciones para un fluido capaz de simular cualquier máquina de Turing*, Clarín, May 2021.
- (12) *Soluciones para un fluido capaz de simular cualquier máquina de Turing*, Europa Press, May 2021.
- (13) *Interview of Eva Miranda*, May 2020, The webpage of CNRS.
- (14) *Eva Miranda, About the Importance of organizing conferences for Women in Mathematics*. Newsletter of the European Mathematical Society, 10.4171/NEWS/113/7, September 2019.
- (15) *La matemática Eva Miranda: "¡Ya era hora que le dieran el Nobel a una mujer!"*, La Vanguardia, 2019.
- (16) *La matemática Eva Miranda: "¡Ya era hora que le dieran el Nobel a una mujer!"*, El Periódico, 2019.
- (17) *"Ja era hora. Uhlenbeck és un model a seguir"* , Ara, 2019.
- (18) *Karen Keskulla, la primera dona que guanya el premi Abel, el Nobel de les matemàtiques*, Vilaweb, 2019.

- (19) Interview at El ABCdario de las matemáticas. April, 2017. ABC.
- (20) Interview at La Mirada. April 22, 2019. Canal Sur.

### 7.2. Panelist at:

- Panelist at the International Congress of Mathematical Physics Geneva (Switzerland). August 6, 2021.
- Panelist at Potencia tu Talento STEM Barcelona (Spain). April 25, 2019.
- Panelist at Dia de la Dona i la Ciència, Institut d'Estudis Catalans, IEC-Barcelona, February 14, 2019.
- Panelist at BCNspiracy, October 27, 2018, Panel of Women in Science.

### 7.3. Divulgatio.

- Outreach articles at El Pais that I wrote:
  - (1) Manuel de León, Eva Miranda and Ágata Timón, *Anna Kiesenhofer: del infinito al oro olímpico*. Agosto 2021 El País.
  - (2) Eva Miranda, En recuerdo de Maryam Mirzakhani, la exploradora de superficies, El Pais 11 de Julio de 2018, [https://elpais.com/elpais/2018/07/11/ciencia/1531326711\\_222889.html](https://elpais.com/elpais/2018/07/11/ciencia/1531326711_222889.html)
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- Other (written by me):
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  - (3) Miranda, Eva; Muñoz, Miguel Carlos Maryam Mirzakhani, a light that will never go out. (Catalan) SCM Not. No. 42 (2017), 53–55.
  - (4) Eva Miranda, Columnes de la EMS al Noticias de la SCM 2011-2017 (published twice a year).
  - (5) Maryam Mirzakhani, una luz que nunca se apagará (con M. Muñoz Lecanda), Boletín de la RSME. 544, 2017.
  - (6) Congresos y charlas plenarias (Elisa Lorenzo García, Eva Miranda Galcerán, Teresa E. Pérez Fernández y Elena Vázquez Cendón), Boletín de la RSME, 571, 2018.
  - (7) Eva Miranda, Faces of Women in mathematics, Boletín de la RSME, 573, 2018.
  - (8) Eva Miranda, El efecto Matilda Columna Mujeres y Matemáticas, Boletín de la RSME, 576, 2018.
  - (9) Eva Miranda, Entrevista a Sílvia Casacuberta (Boletín de la RSME), Mayo 2018, Boletín 577.
  - (10) Eva Miranda, Entrevista a Miriam Lorenzo (Boletín de la RSME), Mayo 2018, Boletín 578.
  - (11) Eva Miranda, Buscando órbitas periódicas, La Gaceta de la RSME, vol. 23 (2020), Núm. 3, Págs. 631–654.

## 8. TEACHING

I have taught at four Different Universities at undergraduate, graduate and postgraduate level : University of Barcelona, Universitat de Lleida, Universitat Autònoma de Barcelona and Universitat Politècnica de Catalunya which is my current institution. I have spent 2 years and a half at Universite de Toulouse as Postdoc and Marie Curie researcher. At Universite de Toulouse my teaching experience was in PhD advising (tutorials). At the BGSMath I had the pleasure to teach a postgraduate course onSymplectic techniques in dynamical systems and mathematical physics back in 2017.

The detailed experience is available at the section Teaching of my webpage.

### 8.1. Minicourses at International Schools.

- Minicourse *Contact geometry and the many facets of complexity of hydrodynamics* 8 hours minicourse at Hypatia School, CRM, June 2022.
- Minicourse *From fluid computers to escape trajectories: Two sides of a mirror* at 43rd WINTER SCHOOL GEOMETRY AND PHYSICS, Srní, January, 2022.
- Minicourse *Looking at Euler flows through a contact mirror: From universality to Turing completeness*, XXIX International Fall Workshop on Geometry and Physics from September 7 to September 10, 2021. <https://ifwgp2020.ubi.pt/program/>
- Minicourse *Geometry and Dynamics of singular symplectic manifolds*, at Henan University (online course) September 2021 <https://web.mat.upc.edu/eva.miranda/coursHenan.htm>. Minicourse of 12 hours and a Public lecture. This course is offered associated to the Program *Oversea Distinguished lectureship Program*.
- Minicourse at Fall Workshop on Geometry and Physics on *Looking at Euler flows: undecidability and Turing completeness*, September 2021.
- Minicourse *Geometric Quantization via integrable systems*, at GEOQUANT, Freiburg, August 2021.
- Cours entitled *An invitation to b-symplectic geometry: from quantization to periodic orbits*. at the 13th International Summer School on Geometry, Mechanics and Control in July 2019, <http://gmcnet.webs.u11.es/?q=activity-detaill/2074>.
- Cours Geometry and Dynamics of Singular Symplectic Manifolds, 20 hours at Institut Henri Poincaré in the context of my Chaire d'Excellence de la Fondation Sciences Mathématiques de Paris. Available online here.
- Lecturer at the Summer School Poisson 2014 <http://www.math.illinois.edu/Poisson2014/school.html> ( minicourse on Poisson manifolds and Integrable Systems) available on youtube: <https://www.youtube.com/watch?v=IQzR4mZfkpE&feature=youtu.be>.
- Autumn School at Universität Würzburg, *From Poisson Geometry to Quantum Fields on Noncommutative Spaces* on Basics on Poisson manifolds and *b*-Symplectic manifolds <https://www.mathematik.uni-wuerzburg.de/autumnschool2015/>.

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