## Gennaro Ciampa

Contact Information	Università degli Studi dell'Aquila Via Vetoio, 67100, L'Aquila - Italy https://www.disim.univaq.it/GennaroCiampa	ORCiD: 0000-0002-1582-274X Scopus Author ID: 57216568006 gennaro.ciampa@univaq.it				
Personal Informations	Born in Avellino (Italy) on July 12th, 1991. Italian citizen.					
Research Interests	Analysis of PDEs, transport and continuity equations with rough vector fields, fluid dy- namics, singular limits, control of transport equations, applications of KAM techniques in fluids.					
CURRENT POSITION	<b>University of L'Aquila</b> Research Assistant Professor (RTDa), since March 2024.					
Past Positions	<b>University of Milan</b> Postdoctoral researcher (Assegnista), from July 2022 to February 2024					
	<ul> <li>Supervisor: Riccardo Montalto</li> <li>Project: ERC Starting Grant HamDyWWa - Hamiltonian Dynamics, Normal Forms and Water Waves</li> </ul>					
	<b>BCAM - Basque Center for Applied Mathematics</b> Postdoctoral researcher, from July 2021 to June 2022					
	• Supervisors: Pedro Caro, Renato Lucà					
	<b>University of Padova</b> Postdoctoral researcher (Assegnista), from October 2020 to June 2021					
	<ul> <li>Supervisor: Francesco Rossi</li> <li>Project: ConNECT - Control of Nonlocal Equations for Crowds and Traffic models</li> </ul>					
	<b>University of Basel</b> Postdoctoral researcher, from October 2019 to Septe	mber 2020				
	<ul> <li>Supervisor: Gianluca Crippa</li> <li>Project: ERC Starting Grant FLIRT - Fluid Flows and Irregular Transport</li> </ul>					
	<b>University of L'Aquila</b> Research Assistant (Borsista), from November 2018	to September 2019				
	<ul><li>Supervisor: Stefano Spirito</li><li>Project: Transport and continuity equations with irregular vector fields</li></ul>					
	<b>Gran Sasso Science Institute</b> Visiting researcher, from November 2018 to January	2019				
	• Project: Flows of non smooth vector fields and applications to Euler equations					
Education	Gran Sasso Science Institute					
	<ul><li>Ph.D. in "Mathematics in Natural, Social and Lift to October 2019. Program held in collaboration be</li><li>Thesis title: "Flows of irregular vector fields a Euler equations"</li></ul>	Te Sciences", from November 2015 etween GSSI and SISSA of Trieste. and applications to Transport and				

- Advisors: Gianluca Crippa, Stefano Spirito
- Ph.D. fellowship granted by GSSI (3 years)
- Place and date of the final exam: 18 October 2019 at Gran Sasso Science Institute
- Referees: László Székelyhidi, Emil Wiedemann
- Committee: Sara Daneri, Donatella Donatelli, Alessio Porretta, Dario Trevisan, Emil Wiedemann

## University of Napoli "Federico II"

Master of Science in Mathematics, July 2015

- Final grade: 110/110 cum laude
- Grade point average: 28.9/30
- Thesis title: "Optimal constants in Sobolev inequalities" (original version in Italian)
- Advisor: Vincenzo Ferone

## University of Napoli "Federico II"

Bachelor of Science in Mathematics, October 2013

- Final grade: 110/110 cum laude
- Grade point average: 29.8/30
- Thesis title: "Semi classical theory of Calculus of Variations" (original version in Italian)
- Advisor: Bianca Stroffolini

PUBLICATIONS

- G. CIAMPA, G. CRIPPA, S. SPIRITO: Smooth approximation is not a selection principle for the transport equation with rough vector field. Calc. Var. 59, 13 (2020). https://doi.org/10.1007/s00526-019-1659-0
  - G. CIAMPA, G. CRIPPA, S. SPIRITO: Weak solutions obtained by the vortex method for the 2D Euler equations are Lagrangian and conserve the energy. J. Nonlinear Sci. 30, 2787-2820 (2020). https://doi.org/10.1007/s00332-020-09635-8
  - [3] G. CIAMPA, G. CRIPPA, S. SPIRITO: Strong convergence of the vorticity for the 2D Euler Equations in the inviscid limit. Arch. Rational Mech. Anal. 240, 295-326 (2021). https://doi.org/10.1007/s00205-021-01612-z
  - [4] G. CIAMPA: Energy conservation for 2D Euler with vorticity in L(log L)<sup>α</sup>. Commun. Math. Sci. 20(3), 855-875 (2022).
     https://dx.doi.org/10.4310/CMS.2022.v20.n3.a10
  - [5] P. BONICATTO, G. CIAMPA, G. CRIPPA: Advection-diffusion equation with rough coefficients: weak solutions and vanishing viscosity. J. Math. Pures Appl. 167, 204-224 (2022). https://doi.org/10.1016/j.matpur.2022.09.005
  - G. CIAMPA, F. ROSSI: Vanishing viscosity in mean-field optimal control. ESAIM: COCV 29, 29 (2023). https://doi.org/10.1051/cocv/2023024
  - P. BONICATTO, G. CIAMPA, G. CRIPPA: Weak and parabolic solutions of advection-diffusion equations with rough velocity field. J. Evol. Equ. 24, 1 (2024). https://doi.org/10.1007/s00028-023-00919-6
  - [8] G. CIAMPA, R. MONTALTO, S. TERRACINA: Large amplitude traveling waves for the non-resistive MHD system. Accepted on Journal of Hyperbolic Differential Equations, available at https://arxiv.org/abs/2401.17943

	[9] G. <i>inv</i> ing	CIAMPA, G. CRIPPA, S. SPIRITO: Propagation of logarithmic regularity and viscid limit for the 2D Euler equations. Accepted on Mathematics in Engineer- c, available at https://arxiv.org/abs/2402.07622	
Peer-Reviewed Proceedings	[P1] G. fiel cat	CIAMPA, G. CRIPPA, S. SPIRITO: On smooth approximations of rough vector ds and the selection of flows. Hyperbolic Problems: Theory, Numerics, Appli- ions, AIMS on Applied Mathematics vol. 10, 361-368 (2019). tps://www.aimsciences.org/book/AM/volume/Volume%2010	
	[P2] G. pro htt	CIAMPA, F. ROSSI: Vanishing viscosity for linear-quadratic mean-field control oblems. 60th IEEE Conference on Decision and Control (CDC), 185-190 (2021). tps://doi.org/10.1109/CDC45484.2021.9683532.	
	[P3] G. <i>equ</i> HY (20	CIAMPA: On the topology of the magnetic lines of solutions of the MHD nations. Hyperbolic Problems: Theory, Numerics, Applications, Volume I. 7P 2022. SEMA SIMAI Springer Series, vol 34. Springer, Cham, 193-203 924). https://doi.org/10.1007/978-3-031-55260-1_13	
Preprints	[Pre1] P. nar	CARO, G. CIAMPA, R. LUCÀ: Magnetic reconnection in Magnetohydrody- mics. https://arxiv.org/abs/2209.09600	
	[Pre2] G. ten	CIAMPA, G. GIUSTERI, A. SOGGIU: Viscoelasticity, logarithmic stresses, and asorial transport equations. https://arxiv.org/abs/2306.14049	
	[Pre3] P. <i>Pla</i> 231	] P. BONICATTO, G. CIAMPA, G. CRIPPA: A regularity result for the Fokk Planck equation with non-smooth drift and diffusion. https://arxiv.org/al 2310.12625	
	[Pre4] G. and pdf	CIAMPA, R. LUCÀ: Localization of Beltrami fields: global smooth solutions d vortex reconnection for the Navier-Stokes equations. https://arxiv.org/ f/2311.01369.pdf	
Member of projects	03/2024- present	PRIN2020 "Nonlinear evolution PDEs, fluid dynamics and trans- port equations: theoretical foundations and applications". Pareci- pant, PI: Stefano Bianchini.	
	09/2022- present	Spectral theory and PDE: Real and Fourier Analysis, funded by the Spanish "Agencia Estatal de Investigación" - PID2021-123034NB-I00. Partecipant, PI: Renato Lucà, Luca Fanelli.	
	07/2022- 02/2024	HamDyWWa - Hamiltonian Dynamics, Normal Forms and Water Waves, European Research Council - 101039762. Partecipant, PI: Riccardo Montalto.	
	07/2021- 06/2022	BCAM Severo Ochoa excellence accreditation SEV-2017-0718, funded by the Spanish State Research Agency.	
	10/2020- 06/2021	ConNECT - Control of Nonlocal Equations for Crowds and Traf- fic models, funded by the University of Padova. Partecipant, PI: Francesco Rossi.	
	10/2019- 09/2020	<i>FLIRT - Fluid Flows and Irregular Transport</i> , European Research Council - 676675. Partecipant, PI: Gianluca Crippa.	

	03/2019- 03/2020	<b>GNAMPA</b> , Existence, singular limits and asymptotic behavior of Euler/Navier- Stokes-Korteweg equations, funded by the Italian research institute INdAM. Partecipant, PI: Paolo Antonelli.			
Invited Talks at international conferences	1. Enjoying Septembe	probability and fluids in Lausanne, EPFL - Lausanne, Switzerland. er 2023.			
	2. Speaker i incompre Mathema	in the Mini-symposium "Recent trends in the mathematical theory for ssible fluids" at 10th International Congress on Industrial and Applied tics (ICIAM2023), Waseda University, Tokyo, Japan.			
	3. Meeting on Nonlinear Evolution PDEs, Fluid Dynamics and Transport Equations Centro "Ettore Majorana" - Erice, Italy. May 2023.				
	4. Transport, Fluids and Mixing, Centro De Giorgi - Pisa, Italy. January 2022.				
	5. Speaker i ference or USA. Jur	n the Mini-symposium <i>"Irregular flows in PDEs"</i> at 13th AIMS Con- n Dynamical Systems, Differential Equations and Applications, Atlanta, ne 2020. (Cancelled due to pandemic).			
Contributed Talks	1. XVIII In plications	ternational Conference on Hyperbolic Problems: Theory, Numerics, Ap- , Malaga, Spain. June 2022.			
AT INTERNATIONAL CONFERENCES	2. 100 years UMI - 800 years UniPD, Padova, Italy. May 2022.				
	3. <i>IEEE CDC2021 - 60th IEEE conference on Decision and Control</i> , Austin, Texas, USA. December 2021.				
	4. International Conference on Fluids and Variational Methods, Budapest, Hungar June 2019.				
	5. XVIII Italian Hyperbolic Meeting IperPa2019, Palermo, Italy. May 2019.				
	6. School and Conference: Geometric function theory in fluid mechanics, Barcelona, Spain. July 2018.				
	7. XVII International Conference on Hyperbolic Problems: Theory, Numerics, Applications, State College, USA. June 2018.				
Invited Seminars	November 2023	<b>PDE seminar</b> , Università Bocconi, Milano, Italy. Invited by Elia Bruè.			
	January 2023	<b>APDE seminar</b> , Basque Center for Applied Mathematics, Bilbao, Spain. Invited by Renato Lucà.			
	April 2022	<b>Analysis seminar</b> , University of Milan, Italy. Invited by Riccardo Montalto.			
	July 2021	Seminari di equazioni differenziali e applicazioni, University of Padova, Italy. Invited by Francesco Rossi.			
	March 2021	<b>AJS - Analysis junior seminar</b> , SISSA, Trieste, Italy. Invited by Emanuele Caputo.			
	October 2020	<b>Analysis and Probability seminar</b> , University of Pisa, Italy. Invited by Dario Trevisan.			
	June 2020	Seminari di equazioni differenziali e applicazioni, University of Padova, Italy. Invited by Francesco Rossi.			

Honors and	2016	W	inner of the FIAT-Chrysler and CNH Industrial grant for master	
Awards	2014 deg Win		gree. inner of the FIAT-Chrysler and CNH Industrial grant for bach-	
	2010 3rd ranked, "Eduardo R. Caianiello" award for high school stu- dents, awarded by the University of Salerno.			
Organisation of Scientific Events	August 202	3 M <i>co</i> ve	ini-symposium "Recent trends in the mathematical theory for in- mpressible fluids", co-organized with Lars Eric Hientzsch (Uni- rsity of Bielefeld), at <b>ICIAM2023</b> , Tokyo, Japan.	
Visiting Periods	June	2024	Basque Center for Applied Mathematics, Bilbao, Spain (1 week).	
	January April	$\begin{array}{c} 2023\\ 2022 \end{array}$	Basque Center for Applied Mathematics, Bilbao, Spain (2 weeks). Dipartimento di Matematica "Federigo Enriques", University of Milan, Italy (1 week)	
	February	2019	Departement Mathematik und Informatik, University of Basel, Switzerland (3 months).	
	February	2018	Departement Mathematik und Informatik, University of Basel, Switzerland (3 months).	
	February	2017	Departement Mathematik und Informatik, University of Basel, Switzerland (3 months).	
Teaching Experience	Spring	2024	"Geometric structures in incompressible fluids: vortex and mag- netic reconnection", PhD course in Mathematics, University of	
	Spring	2020	Teaching Assistant: Introduction to mathematical fluid dynamics II Faculty of Mathematics University of Basel (24 hours)	
	Fall	2019	Teaching Assistant: Introduction to mathematical fluid dynamics L Faculty of Mathematics, University of Basel (24 hours).	
	Spring	2019	Teaching Assistant: <i>Fluid Dynamics</i> , PhD course in Mathematics, Gran Sasso Science Institute (2 hours).	
Referee for Scientific Journals	SIAM Jour Differential Engineering	nal on Equat ç, IEEF	Mathematical Analysis, Nonlinear Analysis, Journal of Hyperbolic ions, Nonlinearity, Journal of Evolution Equations, Mathematics in E-TAC Transactions on Automatic Control.	
OTHER	May	2024	"Wave Dynamics and Fluid-Structure Interactions", Lake Como School of Advanced Studies, Como (Italy)	
CONFERENCES AND SCHOOLS	December	2023	"Christmas Workshop on Fluid Mechanics", Politecnico di Milano, Milan (Italy).	
	June	2023	"International Conference on Partial Differential Equations and Applications in honor of the 70th birthday of Pierangelo Marcati", Gran Sasso Science Institute, L'Aquila (Italy).	
	September	2022	"First school & workshop PRIN on Hamiltonian and Dispersive PDEs", University of Pisa (Italy).	
	September	2022	"Trials in Wave Turbulence: from random waves to kinetic equa- tions", GSSI, L'Aquila (Italy).	
	January	2020	<i>"Winter School: Turbulence in fluids and PDEs"</i> , EPFL, Lausanne (Switzerland).	
	January	2019	"10th Itinerant Workshop in PDE's", INdAM, Rome (Italy).	
	June	2018	"Intensive Program on Fluids and Waves", GSSI, L'Aquila (Italy).	
	June	2017	"Irregular Transport: Analysis and Applications", University of Basel (Switzerland). "Temperature in Zunich", University of Zunich (C. it	
	Aprii	2017	land).	

November	2016	"Transport phenomena in collective dynamics: from micro to social
		hydrodynamics", ETH, Zurich (Switzerland).
July	2016	"GSSI Summer School on Fluid Dynamics and Related Topics",
		Gran Sasso Science Institute, L'Aquila (Italy).
July	2016	"EVEQ: International Summer School on Evolution equations",
		Charles University of Prague (Czech Republic).
July	2016	"CIME Summer School: Nonlocal and nonlinear diffusions and in-
		teractions: new methods and directions", Cetraro (Italy).
June	2016	"11th Meeting on Nonlinear Hyperbolic PDEs and Applications",
		SISSA, Trieste (Italy).

LANGUAGES Italian (mother tongue) English (fluent) Spanish (basic)