

Agnese Seminara

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italian citizen
date of birth: january 16th 1980
languages: english, french, italian

Employment

- 08/2021 – **Università di Genova, Dept of Civil Chemical and Environmental Engineering, Italy**
Professore ordinario.
- 10/2019 – 07/2021 **CNRS, Université Côte d'Azur, Institut de Physique de Nice, France**
Directrice de recherche IIème classe.
- 01/2013 – 09/2019 **CNRS, Université Côte d'Azur, Institut de Physique de Nice, France**
Chargée de recherche Ière classe.
- 01/2012 – 12/2012 **Harvard University, School of Engineering and Applied Sciences, USA**
Lecturer of Applied Mathematics.
- 11/2010 – 12/2011 **Institut Pasteur, Physics of Biological Systems, Paris, France**
Marie Curie postdoctoral fellow (return phase).
- 01/2008 – 10/2010 **Harvard University, School of Engineering and Applied Sciences, USA**
Marie Curie postdoctoral fellow (outgoing phase).

Education

- 2017 Université Côte d'Azur, France.
Habilitation à diriger des recherches: *The fluid dynamics of living systems*
- 2004 – 2007 University of Nice-Sophia Antipolis, France and University of Genova, Italy.
PhD in physics
- 1999 – 2003 University of Genova, Department of Physics, Italy.
Bachelor and master degree in physics, final mark 110/110 *cum laude*

Awards and fellowships

- 2020 ERC Consolidator Grant
- 2018 Research and PhD Supervision Award CNRS (PEDR)
- 2017 Bronze Medal CNRS
- 2012 Rita Levi Montalcini young investigator award (declined)
- 2008 Marie Curie International Outgoing Fellowship
- 2010 Poster award, International Mycological Society Conference, Edinburgh UK

2006	L'Oréal Italia – Unesco fellowship for women in science
2005	HPC-europa transnational access fellowship, super computing center CINECA (IT)
2005	Fellowship for double-badged PhD, Italian-French University
2004	Fellowship for education of young researchers in excellence centers, University of Genova

Keywords

fluid mechanics; turbulence; olfaction; biomechanics; atmospheric transport; fungi; biofilms; out of equilibrium statistical mechanics; cloud microphysics; passive scalar

Long term visits

2010, 2015, 2018	Kavli Institute for theoretical physics, Univ California Santa Barbara, USA
2013 – present (fall)	Harvard University, USA
fall 2006	University of Rome La Sapienza, IT

Publications

- (A) “Learning to predict target location with turbulent odor cues ”
N. Rigolli, N. Magnoli, L. Rosasco and A. Seminara (accepted *eLife*)
- (B) “Alternation emerges as a multi-modal strategy for turbulent odor navigation”
N. Rigolli*, G. Reddy*, A. Seminara** and M. Vergassola** (in revision)
- (E) “Physics Informed Shallow Machine Learning for Wind Speed Prediction”
D. Lagomarsino Oneto, G. Meanti, N. Pagliana, A. Mazzino, A. Verri, L. Rosasco and A. Seminara*, preprint
- (C) “Differences in spore size and atmospheric survival shape stark contrasts in the dispersal dynamics of two closely related fungal pathogens”
J. Golan, S. Ding, D. Lagomarsino Oneto, R. Kessenich, M. Sandler, T. A. Rush, D. Levitis, A. Seminara, A. Gevens, A. Pringle, in preparation
- (D) “Bacterial biofilm expansion on osmotic gradients”
M. Iapichino, C. Claudet, G. Sauder, P. Thomen and A. Seminara in preparation

Peer reviewed journal articles:

- (1) “Plume dynamics structure the spatiotemporal activity of glomerular networks in the mouse olfactory bulb”
S.M. Lewis, L. Xu, N. Rigolli, M.F. Tariq, M. Stern, A. Seminara, D.H. Gire. *Frontiers in Cell Neurosci*, **15**:633757 (2021)
- (2) “Turbulence dictates the fate of virus-containing liquid droplets in violent expiratory events”
M.E. Rosti, S. Olivieri, M. Cavaiola, A. Seminara and A. Mazzino *Phys Rev Res*, **3**, 013091 (2021)
- (3) “A precise relationship among Buller’s drop, ballistospore and gill morphology enables maximal packing of spores within gilled mushrooms.”
M. Iapichino, Y.W. Wang, S. Gentry, A. Pringle, A. Seminara *Mycologia*, 10.1080/00275514.2020.1823175, (2021)
- (4) “Fluid dynamics of COVID-19 airborne infection suggests urgent data for a scientific design of social distancing”
M.E. Rosti, S. Olivieri, M. Cavaiola, A. Seminara and A. Mazzino *Scientific Reports* **10**:22426 (2020)

- (5) "Mechanical force-induced morphology changes in a human fungal pathogen"
C. Puerner, N. Kukhaleishvili, D. Thomson, S. Schaub, X. Noblin, A. Seminara, M. Bassilana, R.A. Arkowitz. *BMC Biol* **18**:122 (2020)
- (6) "Timing of fungal spore release dictates survival during atmospheric transport"
D. Lagomarsino-Oneto, J. Golan, A. Mazzino, A. Pringle and A. Seminara. *PNAS* **117**:5134–5143 (2020)
- (7) "Secretory Vesicle Clustering in Fungal Filamentous Cells Does Not Require Directional Growth"
P.M. Silva, C. Puerner, A. Seminara, M. Bassilana and R.A. Arkowitz. *Cell Reports* **28**:2231-2245 (2019)
- (8) "Myco-Fluidics: the fluid mechanics of fungal adaptation"
M. Roper and A. Seminara. *Annual Review of Fluid Mechanics* **51**:511–538 (2019)
- (9) "A Universal Growth Limit for Circular Lichens"
A. Seminara, J. Fritz, M.P. Brenner, A. Pringle. *J. Roy. Soc. Interface* **15**:20180063 (2018)
- (10) "Reaching the wind: Boundary layer escape as a constraint on ascomycete spore dispersal"
A. Pringle, M.P. Brenner, J. Fritz, M. Roper, A. Seminara. Book chapter in *The Fungal Community: its Organization and Role in the Ecosystem*, Fourth Edition (2017)
- (11) "Mice develop efficient strategies for foraging and navigation using complex natural stimuli"
D.H. Gire, V. Kapoor, A. Arrighi-Allisan, A. Seminara, V.N. Murthy. *Curr. Biol.* **26**:1261-1273 (2016).
- (12) Probing Phenotypic growth in expanding *Bacillus subtilis* biofilms
X. Wang, S.A. Koehler, J.N. Wilking, N.N. Sinha, M.T. Cabeen, S. Srinivasan, A. Seminara, S. Rubinstein, Q. Sun, M.P. Brenner, D.A. Weitz. *Appl Microb Biotechnol* (2016)
- (13) "Phosphatidylinositol-4-phosphate-dependent membrane traffic is critical for fungal filamentous growth"
V. Ghugtyal, R. Garcia-Rodas, A. Seminara, S. Schaub, M. Bassilana, R. Arkowitz. *PNAS* **112**:8644-8649 (2015)
- (14) "The mechanism of ascus firing – Merging biophysical and mycological viewpoints"
F. Trail and A. Seminara *Fungal Biol. Rev.* **28**:70–76 (2014)
- (15) "Nutrient depletion in *Bacillus subtilis* biofilms triggers matrix production"
W. Zhang, A. Seminara, M. Suaris, M.P. Brenner, D.A. Weitz, T.E. Angelini *New Journ. Phys.* **16**:015028 (2014)
- (16) "A natural O-ring optimizes the dispersal of fungal spores"
J. Fritz, A. Seminara, M. Roper, A. Pringle and M.P. Brenner *J. Roy. Soc. Interface* **10**:20130187 (2013)
- (17) "Osmotic spreading of *Bacillus Subtilis* biofilms driven by an extracellular matrix"
A. Seminara, T.E. Angelini, J.N. Wilking, H. Vlamakis, S. Ebrahim, R. Kolter, D.A. Weitz and M.P. Brenner. *PNAS* **109**:1116-1121 (2012)
- (18) "Mechanism of nanostructure movement under electron beam and its application in patterning"
A. Seminara, B. Pokroy, S.H. Kang, M.P. Brenner and J. Aizenberg *Phys. Rev. B* **83**:235438 (2011)
- (19) "Biofilms as complex fluids"
J.N. Wilking, T.E. Angelini, A. Seminara, M.P. Brenner and D.A. Weitz, *MRS Bull.* **36**:1 (2011)
- (20) "Bacterial biofilm shows persistent resistance to liquid wetting and gas penetration"
A. Epstein, B. Pokroy, A. Seminara, J. Aizenberg, *PNAS* **108**:995 (2011)
- (21) "Dispersal of fungal spores on a cooperatively generated wind"
M. Roper*, A. Seminara*, M.M. Bandi, A. Cobb, H.R. Dillard, A. Pringle, *PNAS* **107**:17474 (2010)
- (22) "Cloud droplet growth by condensation in homogeneous isotropic turbulence"[◇]
A. Lanotte, A. Seminara and F. Toschi, *J. Atmos. Sci.* **66**:1685 (2009)
- (23) "How winding is the coast of Britain? Conformal invariance of rocky shorelines"[◇]
G. Boffetta, A. Celani, D. Dezzani and A. Seminara, *Geophys. Res. Lett.*, **35**:L03615 (2008)
- (24) "Droplet condensation in two-dimensional Bolgiano turbulence"[◇]
A. Celani, A. Mazzino, A. Seminara and M. Tizzi, *J. Turbul.*, **8**:1 (2007)

- (25) "Large-scale anisotropy in scalar turbulence"[◇]
A. Celani and A. Seminara, *Phys. Rev. Lett.* **96**:184501 (2006)
- (26) "Large-scale structure of passive scalar turbulence"[◇]
A. Celani and A. Seminara, *Phys. Rev. Lett.* **94**:214503 (2005)
- (27) "Droplet condensation in turbulent flows"[◇]
A. Celani, G. Falkovich, A. Mazzino and A. Seminara, *Europhys. Lett.* **70**:775 (2005)

Conference Proceedings and Abstracts

- (28) "Characterization of Computational Strategies Underlying Arm Coordination of Octopus rubescens During Chemotaxis"
D. M. Siviillli, V. Gopal, A. Seminara, J. Sisneros, D. H. Gire. *Chemical Senses* **43**:E117-E117 (2018)
- (29) "Memory Enhances Search Strategies During Odor-Guided Foraging"
B. J. Jackson, S. Oh, V. Gopal, A. Seminara, G. L. Fatima, D. H. Gire. *Chemical Senses* **43**:E25-E26 (2018)
- (30) "Search strategies in complex olfactory environments"
B.J. Jackson, S. Oh, V. Gopal, A. Seminara, DH. Gire. 17th International Symposium on Olfaction and Taste (ISOT), *Chemical Senses* **41**:P3-002 (2016)
- (31) "Role of Turbulence for Droplet Condensation"[◇]
A. Celani, A. Mazzino, A. Seminara, M. Tizzi, *Advances in Turbulence XI, Springer Proceeding in Physics* **117**:465 (2007).

Theses and popularization

- (a) "The fluid dynamics of living systems"
A Seminara, Research Direction Habilitation thesis, Université Côte d'Azur (2017)
- (b) "Transport and Diffusion in Complex Flows"[◇]
A Seminara, PhD thesis, Université de Nice-Sophia Antipolis and University of Genova (2007)
- (c) "Inside clouds (keeping feet on earth)"
B. Paltrinieri, popularization article on the research of A. Seminara, *quark* (2006)
- (d) "Study of the role of turbulence in cloud microphysics"
A. Seminara, master's thesis, University of Genova (2004)

* equal contributions, [◇] alphabetic order

Selected Invited Presentations

Gave over 50 invited and 25 contributed presentations. Complete list further down in the document.

- 2021 SMEEB 2021 Conference, Venice, IT
Les 60+1 ans de l'institut d'études scientifiques de Cargese, FR
- 2020 Dutch KNAW Biophysics Meeting, Royal Academy of Sciences, Amsterdam (online)
ISOT International Symposium on Olfaction and Taste, Portland ORE, USA (online)
- 2019 Graduate Center CUNY, NYC, USA. Symposium "Towards the physics of complex behaviors"
Boulder, Colorado, USA. Advanced course "Theoretical Biophysics"
Asilomar, USA "Fungal Genetics Conference"
- 2018 KITP, UCSB, USA. Quantitative Biology School "Systems Neurophysics"
Institut Curie, Paris. Advanced course "Multiscale Integration in Biological Systems"
Gif Yvette, PALM Summer School "Physical approaches to understanding microbial life"
- 2017 Institut d'études Scientifiques de Cargese, FR. Summer School "Physics of living systems".
ICTP, Trieste, Conference on "Frontiers in Olfaction".
- 2016 ENS-ESPCI, Paris, Séminaire biophysique
- 2015 Northwestern University, Chicago, USA, Winter Colloquium Series.
Venice, IT, Workshop "Living systems: from interaction patterns to critical behavior"
ICTP, Trieste, IT, Conference "Sensing, Information and Decision at the Cellular Level"
KITP, University California Santa Barbara, USA, Program "Deconstructing the sense of smell"

- 2014 International Mycological Society, Bangkok, Th
Rockefeller University, Center for studies in Physics and Biology Seminar Series, NYC, USA
- 2013 University of California at San Diego (USA)
- 2010 Widely Applied Mathematics seminar series - Harvard University, USA

Mentoring

N. Rigolli (PhD 2018-...) *Olfactory navigation and inference* (w N. Magnoli Genova)
 D. Lagomarsino Oneto (postdoc 2018-...) *The fundamental drivers of fungal spore liberation*
 S. Khaiwal (PhD 2020-...), *Predicting drug resistance* (w G. Liti IRCAN Nice, MC Lagomarsino, Milan)
 D. He (master 2018, PhD 2019-...) *Olfactory navigation in mice* (advisor C. Rycroft, Harvard)
 N. Kulaelashvili (PhD 2018-2021) *Physics of invasion* (advisors M Bassilana, X Noblin, Nice)
 N. Rigolli (master 2018) *The role of geometry in lipid transport* (with G. Drin Nice, N. Magnoli Genova)
 J. Golan (PhD 2016-20) *Physically constrained spore dispersal kernel* (advisor A. Pringle UW Madison)
 C. Puerner (PhD 2016-20) *Physics of invasion in C. albicans* (advisors R Arkowitz, X Noblin Nice)
 M. Iapichino (PhD 2015-19) *Bacterial biofilm biophysics*
 V. Ravera (master 2015) *Bacterial biofilm biomechanics*
 D. Thomson (postdoc 2015) *Physics of invasion* (with R Arkowitz, M Bassilana, X Noblin, Nice)
 M. Rau (master 2014) *Bacterial biofilm biomechanics*
 D. Lagomarsino Oneto (PhD 2014-17) *Dispersion in geophysical flows* (w A Mazzino Genova)
 J. Fritz (master & PhD 2008-2012) *Fluid Dynamics for Fungi* (advisor MP Brenner Harvard)
 M. Tizzi (master 2004-05) *Condensation in warm clouds* (with A. Mazzino Genova)

Mentoring program for gender equality (2018-2021), Université Côte d'Azur.
 Mentoring last year high school students (2014), G.D. Cassini high school, Genova.
 Internship for high school students (2013-19), Institut de Physique de Nice.

PhD thesis committees: J. Mejía (INPHYNI, Nice); C. Puerner (IBV, Nice); P. da Silva (IBV, Nice); E. Martineau (LCB, Marseille); F. Bansept (LJP, Sorbonne Univ); M. Ardoisio (SISSA, Trieste).

Teaching

- 2023 – **University of Genoa.**
instructor "Fluid Mechanics", B.Sc. program in Mechanical Engineering (with Alessandro Bottaro).
- 2022 – **University of Genoa.**
instructor "Mechanics of biological tissue", master program in Bioengineering (with Rodolfo Repetto).
- 2022 – **University of Genoa.**
instructor "Modelling Camp", PhD program in Civil, Chemical and Environmental Engineering (with Rodolfo Repetto, Jan Pralitz and Andrea Mazzino).
- 2022 – **University of Genoa.**
instructor "A tour of Reinforcement learning and applications", PhD program in Civil, Chemical and Environmental Engineering (with Alessandro Verri).
- 2014 – 19 **Université Côte d'Azur.**
Gave lectures on the subject: biomechanics of fungal spore ejection and bacterial biofilm expansion within the course "Soft matter and biophysics", master program "P3M, Physique des matériaux, mécanique et modelisation numérique".
- 2015 **Université Côte d'Azur.**
Gave presentation at researchers/students meetings, organized within the undergraduate program in physics (Licence en physique), Institut de Physique de Nice. Subject: biomechanics of fungal spore ejection and dispersal.

- 2014 **Harvard University.**
Teaching fellow "Applied Mathematics" AM105, Graduate School of Arts and Sciences
- 2012 **Harvard University.**
Instructor "Applied Mathematics" AM201, Graduate School of Arts and Sciences
- 2007 **University of Genoa.**
Gave lectures on fluid dynamics and turbulence within the course "Fluid dynamics", undergraduate program in physics (Corso di Studi di Fisica, vecchio ordinamento).
- 2006 **University of Genoa.**
Gave lectures on the theory of turbulent transport within the course "Fluid dynamics", PhD program in Physics.
- Invited lecturer international summer schools:**
- 2019 Boulder, Colorado, USA. Advanced course "Theoretical Biophysics"
- 2018 KITP, UCSB, USA. Quantitative Biology School "Systems Neurophysics"
Institut Curie, Paris. Advanced course "Multiscale Integration in Biological Systems"
Gif Yvette, PALM Summer School "Physical approaches to understanding microbial life"
- 2017 Institut d'études Scientifiques de Cargese, FR. Summer School "Physics of living systems"
- 2015 Summer School "Aux rencontres de Peyresq" Peyresq, France

Popularization to non-specialists

- June 2019 Popularization seminar within the series "Science pour tous", Biot, FR
- Sept 2018 Adheres to association "Science pour tous", as a volunteer to provide popularization in different towns across Côte d'Azur
- Jan 2018 Conférence Grand Public, Société française de Physique
- Mar 2007 interview Radio 3 Scienza, with F. Pagan
- Nov 2006 open interview with S. Coyaud at the science festival – Genova (Italy)

Funding

- 2021 - 2025 PI, ERC consolidator RIDING
- 2020 - 2024 co-PI, NIH RO1 (with D Gire, U Washington Seattle)
- 2019 - 2022 co-PI, ANR DynCellPol (with R Arkowitz)
- 2019 co-PI, CNRS MITI (with G Drin)
- 2018 - 2021 PI, CNRS PICS (with UW Madison)
- 2018 - 2019 PI, UCA^{JEDI} coup de coeur Excellence.
- 2017 - 2018 PI, UCA^{JEDI} academie 4, "Complexité et diversité des systèmes vivants"
- 2017 - 2018 PI, UCA^{JEDI} international Summer Schools (with Harvard IACS).
- 2017 - 2018 PI UCA^{JEDI} and CNRS "action de site".
- 2017 - 2019 PI Thomas Jefferson Fund (with UW, Seattle).
- 2015 - 2019 Participant ANR FORFUNIGO (PI R. Arkowitz, IBV, Nice) .

2014	PI, Fédération de Recherche Wolfgang Doeblin research grant
2013 – 2014	PI, PEPS Physique théorique et ses Interfaces, CNRS research grant
2010	Participant BASF Advanced Research Initiative at Harvard
2009	Participant Advanced Photon Source grant, Argonne National Laboratory

Responsibilities

2022 - ...	Organizer seminar series Dept Civil, Chemical and Environmental Engineering, Genoa
2021 - ...	Member of the CNRS national committee, theoretical physics division (section 02)
2018 - ...	Scientific Advisory Board International Research Network "Prediction, Adaptation and Navigation"
2018 - ...	Scientific Advisory Board Institut d'études scientifiques de Cargese.
2021	Foreign member scientific Advisory Board Graduate school Chemical, Civil and Environmental Engineering, University of Genova
2020 - 2021	Scientific Advisory Board Graduate school SPECTRUM Physical Sciences and Engineering Université Côte d'Azur
2020 - 2021	Scientific Advisory Board Graduate school LIFE Life and Health Sciences Université Côte d'Azur
June 2020	Interdisciplinary PhD fellowship Committee Graduate school LIFE Life and Health Sciences Université Côte d'Azur
2019	Jury d'évaluation L3 physique, UCA Nice.
2018 - 2021	Steering Committee MODELIFE Core Program Université Côte d'Azur
2018 - 2021	Benevole Science pour tous, Côte d'Azur.
2016 - 2021	Scientific advisory committee Académie 4 de l'Université de la Côte d'Azur, Living Systems Complexity and Diversity'
2015 - 17	Conseil Academique d'Université Côte d'Azur
2016 - 20	Comité permanent des ressources humaines (CPRH)" sec 28-29-30 Univ Nice
2014 - 17	Scientific board Axe interdisciplinaire Physique du vivant, University of Nice, FR

Organization of Scientific Meetings

Jun 2020	EMBO Workshop Adherent microbial communities: Quantitative approaches from single cell to natural ecosystems (postponed to May 2021) IESC, Cargese, FR
Jun 2020	60 years of Institut d'Etudes scientifiques de Cargese (postponed to June 2021) IESC, Cargese, FR
Sep 2019	Signal processing and integration in complex environments. international workshop qBio initiative and FACE Foundation, Harvard University.

Jun 2019	WAVES Côte d'Azur. International conference, Grand Château, parc Valrose Nice.
2019 - ...	Coordinated series of activities within MODELIFE program either as part of the comité de pilotage or as a direct organizer (2 Colloquia, 3 Workshops, 2 Mini-Courses, support 2 conferences, 1 Retreat). Université Côte d'Azur, Nice
2017 - 2018	UCA-Harvard Summer School on "Computational principles to organize complexity : success stories in quantitative biology".
2014 - 2017	"Physics of living matter" workshop series within the "Axe interdisciplinaire physique du vivant", University of Nice, FR
Sep 2016	"Non-equilibrium dynamics of thin films - solids, liquids and bioactive materials" CE-CAM Workshop, EPFL, Lausanne, CH
Jan 2016	"FLOW: Fungal Long Distance Dispersal on Wind" workshop, University of Nice and University of Genova
Dec 2014	Symposium "Physics of living matter", University of Nice, FR
Dec 2013	BioPhysMath2 conference, University of Nice, FR
Jun 2014	Interdisciplinary summer school "Bacterial biofilms: biological, physical and mathematical perspectives", Le Saint Paul, Nice, FR

Editorial commitments:

2019 - ...	Editor for <i>eLife</i> .
2016 - 19	Editor for <i>Fungal Ecology</i> .
2013 - ...	Reviewer for the following journals : <i>Nature Physics</i> ; <i>Nature Communication</i> ; <i>Proceedings of the National Academy of Science</i> ; <i>eLife</i> ; <i>Physical Review Letters</i> ; <i>Physical Review B</i> ; <i>Physical Review E</i> ; <i>Journ Stat Phys</i> ; <i>Scientific Reports</i> ; <i>Fungal Ecology</i> ; <i>PLOS Computational Biology</i> ; <i>Mycologia</i> ; <i>Proceedings of the Royal Society B</i> ; <i>Fungal Ecology</i> ; <i>Ecology</i> ; <i>SciPost</i> .

External referee

Human Frontiers in Science Program; German Science Foundation; CNRS (PEPS, Momentum, MECANO BIO); IDEX UCA^{EDI}; Institut Pasteur ACIP; IDEX Sorbonne Université.

Presentations

Invited

Sep 2022	Applied Harmonic Analysis and Machine Learning summer school, University of Genoa, IT
Aug 2022	Gordon Conference Fluids disease and transmission, Mount Holyoke, MA USA
July 2022	Workshop Challenges and Benchmarks for quantitative AI in Complex Flows, Rome, IT
Mar 2022	Academy 4 biomedical and transdisciplinary research webinars, Université Côte d'Azur
Mar 2022	Colloquium, Laboratoire de Physique, Ecole Normale Supérieure de Lyon, FR
Nov 2021	Theory of Biological Systems virtual seminar series, U Chicago and Northwestern
Oct 2021	Seminar, Newcastle University
Jun 2021	Conference SMEEB 2021 Stochastic Models & Experiments in Ecology & Biology, Venice IT
Jun 2021	Conference Les 60+1 ans de l'IESC, Cargèse, Corsica, FR
May 2021	Seminar, Unité de Mécanique de Lille (online), FR
May 2021	Seminar, Calisto team, Sophia Antipolis (online), FR
May 2021	Seminar, INRIA Sophia Antipolis (online), FR
Dec 2020	Dutch KNAW Biophysics Meeting, Royal Academy of Sciences, Amsterdam (online)

Nov 2020 IEEE Women in Engineering Workshop (postponed 2021)
 Aug 2020 ISOT International Symposium on Olfaction and Taste, Portland ORE, USA (online)
 Mar 2020 Janelia Olfactory Navigation Conference (postponed to date TBD)
 Feb 2020 Physics of Living Systems section meeting, Vrije University of Amsterdam
 Nov 2019 Journée Scientifique pour les 30 ans de l'IPMC, Sophia Antipolis
 Oct 2019 Graduate Center CUNY, NYC. Symposium "Towards the physics of complex behaviors"
 Jul 2019 Boulder, Colorado, USA. Advanced course "Theoretical Biophysics"
 Jul 2019 Seminar at INRA, Sophia Antipolis, FR
 Jun 2019 Science pour tous, Biot, FR
 Mai 2019 Seminar at IRCAN, Nice, FR
 Mar 2019 Fungal genetics Conference, Asilomar, USA
 Dec 2018 seminar ESPCI, Paris.
 Nov 2018 Institut Curie, Paris. Advanced course "Multiscale Integration in Biological Systems"
 Oct 2018 Workshop on statistical and molecular biophysics, SISSA, Trieste
 Sep 2018 Gif Yvette, PALM Summer School "Physical approaches to understanding microbial life"
 Aug 2018 KITP, UCSB, USA. Quantitative Biology School "Systems Neurophysics"
 Apr 2018 Physics of Living Matter, APS Workshop Series Physics Next, Long Island, NY, USA
 Mar 2018 21st Rencontres du non linéaire, Paris
 Jan 2018 Complex Days, Université Côte d'Azur
 Dec 2017 Ceremonie des laureats des prix d'excellence d'Université Côte d'Azur
 Dec 2017 Nice nonlinearities conference in Nice, Saint Paul, Nice
 Nov 2017 Workshop Paris Biological Physics Community Day, Centre Culturel Irlandais, Paris
 Oct 2017 Kavli seminar, School of Engineering and Applied Sciences, Harvard Cambridge MA USA
 Jul 2017 Conference on "Frontiers in Olfaction", ICTP, Trieste
 Jun 2017 Summer School "Physics of living systems", Institut d'études Scientifiques de Cargese, FR
 Jan 2016 Séminaire biophysique, ENS-ESPCI, Paris
 Oct 2015 Winter Colloquium Series, Northwestern University, Chicago, USA
 Oct 2015 Seminar at University of Washington, Seattle, USA
 Sep 2015 Séminaire interface physique/bio, Université Paris Sud, Orsay, FR
 Sep 2015 Seminar PMMH Lab, ESPCI, Paris, FR
 Sep 2015 Workshop "Living systems: from interaction patterns to critical behavior", Venice, IT
 Jul 2015 Conference "Sensing, Information and Decision at the Cellular Level", ICTP, Trieste, IT
 Jun 2015 Summer School "Aux rencontres de Peyresq" Peyresq, France
 Jun 2015 Program "Deconstructing the sense of smell" KITP, University California Santa Barbara, USA
 Apr 2015 Workshop "Micro-Flow and Survival", Leiden, NE
 Feb 2015 Laboratoire de chimie bactérienne, Marseille, Fr
 Nov 2014 Colloque Physique théorique et ses interfaces, Institut Henri Poincaré, Paris, Fr
 Oct 2014 Rockefeller University, Center for studies in Physics and Biology, Seminar Series, NYC, USA
 Aug 2014 IMC10 – International Mycological Society, Bangkok, Th
 Jun 2014 4me Journée de la physique niçoise, Nice (FR)
 Nov 2013 University of California at San Diego (USA): *Osmotic spreading in Bacillus subtilis biofilms*
 Oct 2013 Michigan State University (USA) : *Biomechanics of fungal spore ejection*
 May 2013 Rencontres de mécanique des fluides, Observatoire de Nice (France)
 May 2013 Workshop Quantitative Laws of Genome Evolution, Como (Italy)
 Apr 2013 seminar at IRPHE, Marseille (France)
 Feb 2013 seminar at UPMC, Paris (France)
 May 2012 Materials days Rostock (Germany) lecture
 Jan 2012 seminar at Laboratoire de physique de la matière condensée, Nice (France)
 Oct 2011 seminar at Laboratoire de physique statistique, ENS – Paris (France)
 Jan 2011 seminar at Institut Pierre et Marie Curie, CNRS – Paris (France)
 Nov 2010 Journées départementales, Institut Pasteur, CNRS – Paris (France)
 Oct 2010 Widely Applied Mathematics seminar series - Harvard University, Cambridge - MA (USA)
 Oct 2010 Center for systems biology seminar series - Harvard University, Cambridge - MA (USA)
 Jun 2010 seminar at Université Paris Sud, Orsay (France)
 Jul 2009 seminar at Department of Physics, University of Turin (Italy)
 May 2009 Applied Mathematics seminar series, Dep Mathematics, UC Berkeley (USA)
 May 2008 seminar at Institut Pierre et Marie Curie, CNRS – Paris (France)
 Jul 2007 seminars at the University "La Sapienza" – Rome (Italy)
 Nov 2006 workshop on "Stochastic models for turbulent suspensions of inertial particles", Nice
 Mar 2006 "Rencontres niçoises de mécanique des fluides" – Nice (France)
 Apr 2005 School of mechanical and aerospace engineering seminar, Cornell University, NY (USA)

Jan 2005 seminar at the University "La Sapienza" – Rome (Italy)

Contributed

Feb 2020 European Conference on Fungal Genetics, Rome
Mar 2015 GDR REID, Lyon, FR
Nov 2013 APS Division of Fluid Mechanics, Pittsburgh, (USA)
Nov 2013 Poster Society for Neuroscience Conference, San Diego, USA
Mar 2013 "Soft Matter: From Biology to Physics", Geilo, (Norway)
Nov 2012 DFD - APS San Diego
Jul 2012 ICAM "Emergent order in biology" Cargese, Corse (France)
Dec 2011 poster, Heraeus Seminar "Physics of Biological Function", Physikzentrum, Bad Honnef (Germany)
Aug 2011 Mycological Society of America, Fairbanks Alaska (USA)
Aug 2010 poster, IMC9 The Biology of Fungi, Edinburgh (UK)
Nov 2009 APS 62nd Annual Meeting, Minneapolis (USA)
Nov 2008 retreat BASF Initiative on biofilms at Harvard, Sandwich (USA)
Nov 2008 APS 61th Annual Meeting - Division of Fluid Dynamics, S. Antonio (USA)
May 2008 Frontiers of Climate Science, KITP (UCSB) S. Barbara (USA)
Jul 2007 Statphys23, XXIII IUPAP International Conference on Statistical Physics, Genova (Italy)
Nov 2006 workshop on "stochastic models for turbulent suspensions of inertial particles", Nice (France)
Jul 2006 workshop on "non-equilibrium statistical mechanics and turbulence" Warwick (UK)
Feb 2006 "8th Minerva winter school" the Weizmann Institute of Science, Rehovot (Israel)
Sep 2005 ESF exploratory workshop on "challenging lagrangian turbulent dynamics", Castel Gandolfo (Italy)
Feb 2005 PICS meeting on "transport dans les fluides complexes", Acceglio (Italy)
Oct 2004 Weizmann Institut of Science workshop on "turbulence and mixing", Eilat (Israel)
Oct 2004 European network meeting on "stirring and mixing", Nice (France)
Sep 2004 poster "non-equilibrium systems: turbulence in fluids and plasmas", Villa Gualino, Turin, IT
Sep 2003 conference on "Kolmogorov's legacy in physics: one century of chaos, turbulence and complexity", Trieste (Italy)

Attendance to Advanced Schools and Courses

Mar 2013 "Soft matter confinement: from biology to physics" Geilo (Norway)
Jul 2012 ICAM "Emergent order in biology" Cargese, Corse (France)
Jan 2010 "Evolutionary perspective in cell biology", KITP - University of California Santa Barbara, CA USA
Jun 2009 "Gordon conference on non-linear science", Mount Holyoke College, South Hadley, MA USA
Feb-apr 2007 "Statistical Physics in Biology", Prof. M. Kardar and Prof. L. Mirny, MIT, Cambridge (USA) - not for credit
May 2006 "Statistical Mechanics and Conformal Field Theories", Prof. F. Gliozzi and Prof. M. Caselle, University of Turin (Italy)
Feb 2006 "8th Minerva winter school " the Weizmann Institute of Science, Rehovot (Israel)
Sep 2004 INFN national school on "non-equilibrium systems: turbulence in fluids and plasmas", Turin (Italy)
Sep 2004 INFN national school on "single molecule biophysics", Turin (Italy)
Sep 2003 ICTP-INFN summer school on "transport, reaction and propagation in fluids", Trieste (Italy)

Other Activities

2010 tutoring at public charter school - Cambridge, MA (USA)
2002–2004 dance teacher, Mus-E project, public primary school M. Mazzini, Genova (Italy)
2000–2004 educational custody of a child with special needs, Genova (Italy)
1999–2001 dance teacher for children with special needs, Institut David Chiossone, Genova (Italy)