

CURRICULUM VITÆ ET STUDIORUM

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Actual position

since Dec 2001 CNR Researcher at “Istituto delle Scienze del Clima e dell’Atmosfera (ISAC)”, in Lecce (Italy).

Education & experiences

2000–2001 **Post-doc on the subject “Anisotropic Turbulence”**,
 at Physics Dep., University “Tor Vergata”, Rome.
 1996–1999 **Ph.D. student at Observatoire de la Côte d’Azur**, Nice
 (Advisors: U. Frisch & M. Vergassola, Thesys title “Anisotropie et structures dans
 le transport turbulent”)
 1995 **Graduate student at University La Sapienza**, Rome
 (Advisor: R. Benzi, Dissertation title “Turbolenza nei fluidi viscoelastici”)
 1988–1995 **Undergraduate studies** in Physics, University “La Sapienza”, Rome
 1988 **Italian Baccalauréat** (Science)

Teaching

Feb.–Jun. 2001 Teaching assistant at the course “Fisica I” at the Dep. of Chemistry,
 University “La Sapienza”, Rome.

Grants

Nov. 2005 Visiting grant at INLN, Nice, France
 Sept. 2005 ESF Exploratory Workshop grant EW04-077, to organise the meeting *Challenging
 Lagrangian Turbulence Dynamics*, 1 - 4 Settembre, Castel Gandolfo, Italy. Co-
 organizers: Luca Biferale and Federico Toschi.
<http://www.iac.rm.cnr.it/lagr05>
 Nov. 2003 Visiting grant at NCAR, Boulder, Colorado
 Dec.02-Jan.03 Visiting grant at Observatoire de la Côte d’Azur, Nice
 1996-1999 Marie Curie Ph.D. fellowship “TMR Training and Mobility of Researchers”

Research fields (key-words)

Turbulence, anisotropy, intermittency and anomalous scaling, passive scalars and vectors, turbulent transport, Lagrangian dynamics.

Publications

- A. Lanotte, A. Noullez, M. Vergassola, & A. Wirth,
Large-scale dynamo by negative magnetic eddy diffusivities,
Geophys. Astrophys. Fluid Dynamics **91**, 131–146 (1999).
- A. Celani, A. Lanotte, & A. Mazzino,
Passive scalar intermittency in compressible flow,
Phys. Rev. E **60**, R1138-R1141 (1999).
- A. Lanotte & A. Mazzino,
Anisotropic non-perturbative zero modes for passively advected magnetic fields,
Phys. Rev. E **60**, R3483-R3486 (1999).
- L. Biferale, I. Daumont, T. Dombre, & A. Lanotte,
Coherent structures in random shell models for passive scalar advection,
Phys. Rev. E **60**, R6299-R6302 (1999).
- A. Celani, A. Lanotte, A. Mazzino, & M. Vergassola,
Universality and saturation of intermittency in passive scalar turbulence
Phys. Rev. Lett. **84**, 2385-2389 (2000).
- N.V. Antonov, A. Lanotte, & A. Mazzino,
*Persistence of small-scale anisotropies and anomalous scaling in a model of magnetohydro-
dynamics turbulence*,
Phys. Rev. E **61**, 6586-6611 (2000).
- A. Celani, A. Lanotte, A. Mazzino, & M. Vergassola,
Fronts in passive scalar turbulence,
Phys. Fluids **13**, 1768-1778 (2001).
- L. Biferale, M. Cencini, A. Lanotte, D. Vergni, & A. Vulpiani,
Inverse statistics of smooth signals: the case of two dimensional turbulence ,
Phys. Rev. Lett. **87**, 124501-124504 (2001).
- L. Biferale, I. Daumont, A. Lanotte, & F. Toschi,
Anomalous and dimensional scaling in anisotropic turbulence,
Phys. Rev. E **66**, 056306-056309 (2002).
- L. Biferale, M. Cencini, A. Lanotte, & D. Vergni,
Inverse velocity statistics in two dimensional turbulence ,
Phys. Fluids **15**, 1012-1020 (2003).
- L. Biferale, G. Boffetta, A. Celani, A. Lanotte, F. Toschi, & M. Vergassola,
The decay of anisotropic turbulence,
Phys. Fluids **15**, 2105-2112 (2003).
- L. Biferale, A. Lanotte, & F. Toschi,
Effects of forcing in three dimensional turbulence,
Phys. Rev. Lett. **92**, 094503-094506 (2004).
- L. Biferale, I. Daumont, A. Lanotte, & F. Toschi,
Theoretical and numerical study of highly anisotropic turbulent flow,
European Journ. Mech. / B Fluids, **23**, issue 3, 401-414 (2004).
- L. Biferale, M. Cencini, A. Lanotte, M. Sbragaglia, & F. Toschi,
Anomalous scaling and universality in hydrodynamic systems with power-law forcing,
New J. Phys. **6**, 37, 16pp (2004).

Publications (continue)

- L. Biferale, G. Boffetta, A. Celani, B.J. Devenish, A. Lanotte, & F. Toschi, *Multifractal statistics of Lagrangian velocity and acceleration in turbulence*, Phys. Rev. Lett. **93**, 064502 (2004).
- L. Biferale, G. Boffetta, A. Celani, A. Lanotte, & F. Toschi, *Particle trapping in three dimensional fully developed turbulence*, Phys. Fluids **17**, 021701 (2005).
- L. Biferale, G. Boffetta, A. Celani, B.J. Devenish, A. Lanotte & F. Toschi, *Multi-particle dispersion in fully developed turbulence*, Phys. Fluids **17**, 111701 (2005).
- F. Toschi, L. Biferale, G. Boffetta, A. Celani, B.J. Devenish, & A. Lanotte, *Acceleration and vortex filaments in turbulence*, Journ. Turb. **15**, 6 (2005).
- L. Biferale, G. Boffetta, A. Celani, B.J. Devenish, A. Lanotte & F. Toschi, *Lagrangian statistics of particle pairs in homogeneous isotropic turbulence*, Phys. Fluids **17**, 115101 (2005).
- J. Bec, L. Biferale, G. Boffetta, A. Celani, M. Cencini, A. Lanotte, S. Musacchio, & F. Toschi, *Acceleration statistics of heavy particles in turbulent flows*, to appear on J. Fluid Mechanics(2006).

Conferences (T - talk, P - poster)

- T *Anomalous scaling in turbulence and statistical physics*, June 2005, Beaulieu-sur-mer (France).
- T *Large-scale Computation in Astrophysics*, October 2004, Cambridge (United Kingdom).
- P *10th Euromech European Turbulence Conference*, June 2004, Trondheim (Norway).
- T *INFM Meeting*, June 2004, Genova (Italy).
- T *INFM Meeting*, June 2003, Genova (Italy).
- P *Non-ideal turbulence*, April 2003, Physik-Zentrum Bad Honnef (Germany).
- T *SIF Annual Conference*, September 2002, Alghero (Italy).
- T *INFM Meeting*, June 2002, Bari (Italy).
- T *IUTAM Symposium on Reynolds Number Scaling in Turbulent Flow*, September 2002, Princeton (USA).
- T *Progress in Statistical Hydrodynamics*, April 2002, Santa Fe (USA).
- P *International Conference on Disorder and Chaos III*, September 2001, Rome (Italy).
- T *European Symposium on Turbulence*, April 2001, Porto (Portugal).
- P *8th Euromech European Turbulence Conference*, June 2000, Barcellona (Spain).
- P *EGS-European Geophysical Society Conference*, April 2000, Nice (France).
- T *Universal fluctuations in Correlated Systems*, March 2000, Lion (France).
- P *Statistical Mechanics and Strongly Correlated Systems*, September 1999, Rome (Italy).
- T *Burgers Equation and Beyond*, June 1999, Nice (France).

Proceedings

- L. Biferale, J. Bec, G. Boffetta, A. Celani, M. Cencini, A. Lanotte, S. Musacchio, & F. Toschi
“Inertial particles in Turbulence” In: Proceedings to the iTi Conference 25-28 September 2005, Springer (2005).
- L. Biferale, A. Lanotte, & F. Toschi
“Effects of forcing in three dimensional turbulent flows” In: Advances in Turbulence X, ISBN: 84-95999-55-2, 816-816 (2004).
- G. Boffetta, L. Biferale, A. Celani, A. Lanotte, & F. Toschi
“Lagrangian statistics in fully developed turbulence” In: Advances in Turbulence X, ISBN: 84-95999-55-2, 639-646 (2004).
- F. Toschi, L. Biferale, G. Boffetta, A. Celani, B.J. Devenish, & A. Lanotte
“Lagrangian turbulence from 3D-DNS” In: Advances in Turbulence X, ISBN: 84-95999-55-2, 175-178 (2004).
- L. Biferale, E. Calzavarini, A. Lanotte, F. Toschi, & R. Tripiccione
In: Proceedings of “Second International Conference on Frontier Science”, (2003).
Ed. by Elsevier Publisher.
- L. Biferale, I. Daumont, A. Lanotte, & F. Toschi
In: IUTAM Symposium Proceedings: “Reynolds Number Scaling in Turbulent Flow”, (2003).
Ed. by A. J. Smith, Kluwer Academic Publisher.
- L. Biferale, A. Lanotte, & F. Toschi
In: Advances in Turbulence IX, (2002).
Ed. by C. Dopazo, Kluwer Academic Publisher.
- A. Lanotte & A. Mazzino
In: European Geophysical Society, XXIII General Assembly, (2000).
- L. Biferale, I. Daumont, T. Dombre, & A. Lanotte
In: Advances in Turbulence VIII, (1998).
Ed. by C. Dopazo, Kluwer Academic Publisher.
- A. Lanotte & A. Mazzino
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