

Fabio BENATTI: CURRICULUM VITAE ET STUDIORUM

Present Position: Associate Professor

Address: Department of Physics, University of Trieste, I-34151 Trieste, Italy

Education:

- 1984, Master Degree in Physics, University of Trieste (Italy)
- 1988, Ph.D. in Mathematical Physics, International School for Advanced Studies (SISSA) of Trieste (Italy)

Career:

- 1989, Post Doc: Institute for Theoretical Physics, University of Vienna (Austria)
- 1990, Post Doc: Dublin Institute for Advanced Studies, Dublin (EIRE)
- 1990-2013, Research Staff Member, Department of theoretical Physics, University of Trieste (Italy)
- 1998, Research visitor: Institute for Theoretical Physics, University of Leuven (Belgium)
- 2014-present, Associate professor, Department of Physics, University of Trieste (Italy)

Research Interests:

1. Many-body open quantum systems
2. Quantum correlations in mesoscopic systems
3. Entropy and complexity in quantum dynamics

Scientific Publications

- Citations: 2276 (WOS)
- h factor: 24 (WOS)
- **Books**
 1. F. Benatti: Deterministic Chaos in Infinite Quantum Systems (Trieste Notes in Physics, Springer-Verlag 1993)
 2. F. Benatti: Dynamics, Information and Complexity in Quantum Systems (Theoretical and Mathematical Physics, Springer-Verlag 2009)
- **Refereed Papers:** 147 (<http://www-dft.ts.infn.it/~benatti/>)
- **Edited Books and Special Issues**
 1. Irreversible Quantum Dynamics, F. Benatti, R. Floreanini eds., Lec. Notes. Phys. **622**, Springer 2003
 2. J. Phys. A **40** (2007), Special Issue, F. Benatti, M. Fannes, R. Floreanini and D. Petritis eds.
 3. Quantum Information, Computation and Cryptography, F. Benatti, M. Fannes, R. Floreanini and D. Petritis eds, Lec. Notes Phys. **808**, Springer 2010
 4. Loss of coherence and memory effects in quantum dynamics, F. Benatti, R. Floreanini and G. Scholes eds, J. Phys. B: At. Mol. Opt. Phys. 45 (2012) 150201

Talks at School and Congresses

1. Quantum Probability Conference, Gdansk (Poland), 1-6 June 1997 (invited speaker)
2. Raach Graduate Triangle School, Raach (Austria) 1999 (invited lecturer)
3. Dresden Symposium on Entropy, Dresden (Germany) 25-26 June 2000 (invited speaker)

4. Quantum Probability Conference, Göd (Hungary), September 2000 (invited speaker)
5. 38 Karpacz Winter School of Theoretical Physics, Ladek Zdroj, Poland, 6-15 February 2002 (invited speaker)
6. International Congress of Mathematical Physics, Lisbon, Portugal, 27 July–2 August 2003 (invited speaker)
7. School on Quantum Information and Computation, Istanbul Feza Gursey Institute, 25 August– 5 September 2003 (invited lecturer)
8. Oberwolfach Workshop on Entanglement and Decoherence: Mathematics and Physics of Quantum Information and Computation, Oberwolfach, Germany, 23-29 January 2005 (invited speaker)
9. Problemi Attuali di Fisica Teorica, Vietri sul Mare, Italy, 18-24 Marzo 2005 (contributed talk)
10. Natural Processes and Models of Computation, Bologna, Italy, June 16-18 2005 (invited speaker)
11. 14th International Laser Physics Workshop, Kyoto, Japan, July 4-8 2005 (contributed talk)
12. Advances in Foundations of Quantum Mechanics and Quantum Information with atoms and photons, Torino, Italy, 2-5 May 2006 (contributed talk)
13. Caos, Complessità ed Informazione III, Bologna, Italy, 20-21 March 2006 (invited speaker)
14. Aspects of Complexity, Rome, September 11-12 2006 (invited speaker)
15. Metodi e Problemi Matematici in Meccanica Quantistica, Modena, Italy, 5-7 October 2006 (invited speaker)
16. Noise Information & Complexity @ Quantum Scale, Erice, Italy, 4-10 November 2007 (contributed talk)
17. Italian Quantum Information Science Conference: Camerino, Italy, October 24–29, 2008 (invited talk)
18. Problemi Attuali di Fisica Teorica: Vietri sul Mare, Italy, 3-8 April

- 2009 (invited lecturer)
19. Workshop on Information Theoretic Methods in Science and Engineering, Tampere, Finland, August 17-19 2009 (invited speaker)
 20. Italian Quantum Information Science Conference 2009, Pisa, Italy, 5–8 November 2009 (contributed talk)
 21. 46 Karpacz Winter School of Theoretical Physics, "Quantum Dynamics and Information: Theory and Experiment", Ładek Zdrój, Poland, 8-13 February 2010 (invited talk)
 22. Leuven Mathematical Physics Days, Leuven, Belgium, 6-7 May 2010 (invited speaker)
 23. Quantum Channels, Quantum Information - Theory & Applications" Torun, Poland, June 19-22, 2010 (invited speaker)
 24. Complex Quantum Systems, IFSC Palma De Mallorca, Spain, 14-15 October 2010 (invited speaker)
 25. Workshop on Information Theoretic Methods in Science and Engineering, Helsinki, Finland, 7-10 August 2011 (invited speaker)
 26. Andrejewski Day Freiburg, The mathematics of quantum transport, Albert-Ludwigs-Universität Freiburg, Freiburg, Germany, Friday, May 18 2012 (invited speaker)
 27. 44 Symposium on Mathematical Physics, New Developments in the Theory of Open Quantum Systems, Torun, Poland, June 20-24 2012 (invited speaker)
 28. The third International Iran Conference on Quantum Information (IICQI-12), Sharif University of Technology, Tehran, Iran, 8-12 September 2012 (invited speaker)
 29. Quantum Information meets Statistical Mechanics, Innsbruck, Austria 22-25 September 2012 (invited speaker)
 30. Nonlinear Dynamics of Electronic Systems, Bari, Italy 10-12 July 2013 (invited speaker)
 31. 6-th Italian Quantum Information Science Conference, Como, Italy,

- 24-26 September 2013 (invited speaker)
32. 48 Symposium on Mathematical Physics: Gorini-Kossakowski-Lindblad-Sudarshan Master Equation –40 Years After, Toruń, Poland, June 10-12 2016 (invited speaker)
 33. Contemporary Trends in the Mathematics of Quantum Mechanics, Rome, Italy, 4-8 July 2016 (invited speaker)
 34. Trieste Quantum Days 2017, SISSA, Trieste, Italy, 20-24 February 2017 (invited speaker)
 35. IQIS 2017 - 10th Italian Quantum Information Science conference, Florence, Italy, 12-15 September 2017 (contributed speaker)
 36. IICQI 2018, International Iran Conferences on Quantum Information, Sharif University of Technology, Teheran, Iran, 8-11 September 2018 (invited speaker)
 37. Quantum Resources and their Application, KCIK, Sopot, Poland on May 23rd-25th 2019 (invited speaker)
 38. Quantum 2019, Turin, May 26th, June 1st 2019 (invited speaker)

Participation in National and International Research Projects

1. PRIN 2002: Classical, Quantum and Stochastic Dynamical Systems
2. 2003-2005: Joint European Master Curriculum Development Programme in Quantum Information, Communication, Cryptography, and Computing, Education Commission of the European Union, under contract 28681-IC-1-2002-1-FR-ERASMUS-PROGUC-1
3. PRIN 2004: Classical, Quantum and Stochastic Systems with Infinitely Many Degrees of Freedom (Local Unit Coordinator)
4. PRIN 2006: Quantum Noise in Mesoscopic Systems (Local Unit Coordinator)
5. INFN 2014-2020: Local responsible for the national research project "Quantum"

School and Workshop Organization

1. Quantum Entropies: Dynamics and Information, SISSA, Trieste, 14-18 December 2001
2. Irreversible Quantum Dynamics, ICTP, Trieste, 29 July-2 August 2002
3. Kolmogorov's Legacy in Physics: One Century of Chaos, Turbulence and Complexity, ICTP, Trieste, 8-17 September 2003
4. Theory and Technology in Quantum Information, Communication, Computation, Cryptography, ICTP, Trieste, 12-23 June 2006
5. School on New Trends in Quantum Dynamics and Quantum Entanglement, ICTP, Trieste, 14-18 February 2011
6. Workshop on New Trends in Quantum Dynamics and Quantum Entanglement, ICTP, Trieste, 21-25 February 2011
7. School on Advances in Quantum Information: Theory and Applications, 15-19 September 2014, Mohammed V Agdal University, Rabat, Marocco
8. Quantum Africa Conference 3: Advances in Quantum Sciences, 22-26 September 2014, Mohammed V Agdal University, Rabat, Marocco
9. Trieste Quantum Days 2017, SISSA, 20-24 February 2017, Trieste, Italy
10. QUANT 2018, Quantum Information, communication and computing: advances in theory and implementations, Université de Cergy-Pontoise, France, 26-28 September 2018
11. School and Workshop on Ubiquitous Quantum Mechanics, ICTP, Trieste, 25 February, 1 March 2019.
12. School and Workshop on Quantum Information Theory and Thermodynamics at the Nanoscale. Al Hoceima, Morocco, 24 February-

6 March 2020

Teaching

- **Courses**

1. Quantum Mechanics (3rd year)
2. Introduction to Quantum Information (4th year)

- **Former students and graduation year**

1. Tamara GRAVA (1994)
2. Renato CAZZARO (1994)
3. Cristiano GNESUTTA (1995)
4. Adriano LAPEL (2000)
5. Marco PIANI (2001)
6. Francesca CHITTARO (2003)
7. Caterina MORA (2004)
8. Alexandra LIGUORI (2006)
9. Luca FERIALDI (2007)
10. Pierfrancesco ROSINI (2008)
11. Giovanni MORAS (2008)
12. GianGiacomo GUERRESCHI (2008)
13. Mauro TONON (2009)
14. Marco BILARDELLO (2013)
15. Marco PEZZUTTO (2013)
16. Stefano MARCANTONI (2014)
17. Van NUNG DON (2014)
18. Enrico SINDICI (2015)
19. Jacopo SURACE (2015)

20. Ayooloowa OLAKUNLE ODUFOWORA (2016)
21. Francesco PETIZIOL (2016)
22. Nehad ATTAELMANAN ABDELRAHIM MABROUK (2017)
23. Eduardo QUINTANA MIRANDA (2018)
24. Luigi BRANCATI (2018)
25. Francesco SPADOTTO (2019)
26. Salvatore GATTO (2019)

• **Former PhD students**

1. Raffaele ROMANO (Trieste University: 2001–2003)
2. Valerio CAPPELLINI (Trieste University: 2002–2004)
3. Marco PIANI (Trieste University: 2003–2005)
4. Sebastiano ANDERLONI (Trieste University: 2007–2009)
5. Alexandra LIGUORI (Trieste University: 2008–2010)
6. Adam NAGY (Budapest Technical University: 2008–2010)
7. Ugo MARZOLINO (Trieste University: 2009–2011)
8. Mahya KARBALAI (SISSA, Trieste: 2010–2012)
9. Giuseppe ARGENTIERI (Trieste University: 2010–2013)
10. Kelvin TITIMBO (Trieste University: 2012–2014)
11. Samad KHABBAZI OSKOUEI (Teheran University: 2013–2015)
12. Federico CAROLLO (Trieste University: 2013–2015)
13. Stefano MARCANTONI (Trieste University: 2015–2017)

• **Present Ph.D Students**

1. Francesca GEBBIA (Trieste University: 2019–2021)