

CURRICULUM VITAE
of
ALESSANDRA CELLETTI

PLACE AND DATE OF BIRTH

Rome (Italy), February 12, 1962

NATIONALITY

Italian

ACADEMIC DEGREES

Laurea in Mathematics: obtained on July 12, 1984 at the First University of Roma “La Sapienza”; with full marks: 110/110 cum Laude; referee: Prof. G. Gallavotti; title of the dissertation: “Application of the perturbation theory of Hamilton–Jacobi and stability KAM theory to some problems of Celestial Mechanics”

Ph.D. in Mathematics: obtained on June 29, 1989 at the Federal Institute of Technology (ETH), Zürich (Switzerland); referee: Prof. J. Moser, coreferee: Prof. J. Waldvogel; title of the dissertation: “Analysis of Resonances in the Spin–Orbit Problem in Celestial Mechanics”

ACTUAL POSITION

Full Professor of Mathematical Physics at the Department of Mathematics, Università di Roma Tor Vergata.

PREVIOUS POSITIONS

- November 1999-January 2013: Associate Professor of Mathematical Physics at the Department of Mathematics, University of Roma Tor Vergata

- March 1990-October 1999: Associate Researcher of Mathematical Physics at the Department of Mathematics, University of L’Aquila.

AWARDS

- Invited speaker at the “6th European Congress of Mathematics”, Krakow, Poland, July 2012

- Member of the “Celestial Mechanics Institute” (since 2010)

- Member of the Commission 7 “Celestial Mechanics and Dynamical Astronomy”, International Astronomical Union

- President (2001-2013) of the Italian Society of Celestial Mechanics and Astrodynamics (SIMCA)

- The asteroid 2005 DJ1, n. 117539 bears the name “Alessandra Celletti”

- Finalist of the “First National competition” for scientific popular books, 2013
- Finalist of “Premio Galileo” for scientific popular books, May 2008
- Prize of the National Research Council for the young researchers abroad (June 1989)

GRANTS

- In 2008 grant titled “Studi di esplorazione del sistema solare” from the Italian Space Agency
- In 2011 EU grant: Marie Curie Initial Training Network “Astronet-II” (2012-2016)
- In 2012 EU grant: Marie Curie Initial Training Network “Stardust” (2013-2017)

SCIENTIFIC AND ACADEMIC POSITIONS

- Founder (in 2001) and President (2001-2013) of the SIMCA - Italian Society of Celestial Mechanics and Astrodynamics
- Elected Director (2013-2016) of the Scientific Council of the SIMCA - Italian Society of Celestial Mechanics and Astrodynamics
- Director of the Post-graduate Course in “Space Science and Technology”, University of Roma Tor Vergata (since 2009)
- Elected Member (2013-2016) of the Scientific Council of the Italian National Group of Mathematical Physics (GNFM)
- Elected Member (2015-2018) of the Scientific Committee of the Unione Matematica Italiana (UMI)
- Elected vice-President (2015-2018) of the Organizing Committee “Celestial Mechanics” of the International Astronomical Union
- Elected Member of the Organizing Committee “Celestial Mechanics” of the International Astronomical Union (since 2012)
- Member of the EMS/EWM Scientific Committee (since 2012)
- Member of the “Celestial Mechanics Institute” (since 2010)
- Member of the “Gruppo informale in materia di Scienze planetarie”, ASI - Agenzia Spaziale Italiana, since 2015
- Member of the Senato Accademico University of Roma Tor Vergata (from April 2001 until October 2010)
- Member of the Scientific Committee at the Department of Mathematics, University of Roma Tor Vergata (since 2013)

EDITORIAL TASKS

- Associate editor of “Celestial Mechanics and Dynamical Astronomy”, Springer (since 2006)
- Member of the editorial advisory board of the “Journal of Nonlinear Mechanics”, Elsevier (since 2014)
- Member of the editorial board of the “Revista Matemática Complutense”, Springer (since 2015)

- Managing Editor of the Journal of the Italian Mathematical Union “La Matematica nella Società e nella Cultura” (2015-2018)
- Associate Editor of the Journal of the Italian Mathematical Union “La Matematica nella Società e nella Cultura” (since 2013)
- Associate editor of “Scholarpedia, Category: Celestial Mechanics” (since 2009)
- Associate editor of “Maddmaths!” (since 2012)

SCIENTIFIC INTERESTS (Lecturer on the following topics):

- Perturbation theory and stability of nearly-integrable Hamiltonian systems
- KAM theory and computer-assisted proofs
- Dynamics of nearly-integrable systems with dissipation
- Invariant attractors in dissipative systems
- The N -body problem in Celestial Mechanics
- Rotational dynamics in Celestial Mechanics
- Low-energy trajectories in Astrodynamics
- Regularization theory: singularities and collisions
- Chaos theory and numerical indicators
- Complex singularities of KAM surfaces
- Resonances in Celestial Mechanics
- Space debris and asteroid dynamics
- Orbit determination (Gauss and Laplace methods).

INVITED SPEAKER AT CONGRESSES AND SCHOOLS (partial list):

- Computer-assisted proofs in analysis, Oberwolfach, Germany, 4–10 March 1990
- Systemes Dynamiques Discrets, Aussois, France, 11–17 February 1996
- Astronomy and Astrophysics, organized by the Vatican Observatory (Specola Vaticana), Castelgandolfo, Roma (Italy), 15-21 June 1998
- Conference in honor of the 60–th birthday of Prof. J. Waldvogel, Swiss Polytechnic Institute (ETH), Zürich, Swiss, 1998
- “Singularités dans les systèmes gravitationnels”, Arc2000, France, 12–18 March 2000
- 5th Alexander von Humboldt colloquium for Celestial Mechanics “New developments in the dynamics of planetary systems”, BadHofgastein, Austria, 19–23 March 2000
- NATO School “The Restless Universe: Applications of Gravitational N-Body Dynamics to Planetary, Stellar and Galactic Systems”, Blair Atholl, Scotland, 23 July – 5 August 2000
- “Dynamical systems: classical, quantum, stochastic”, Teulada (Cagliari), Italy, 23–30 September 2000
- NATO School “Chaotic worlds: from order to disorder in N–body gravitational systems”, Cortina d’Ampezzo, Italy, 8–20 September 2003
- School “Analyse harmonique et approximation rationnelle: leurs rôle en théorie du signal, du contrôle et des systèmes dynamiques”, Porquerolles, France, 14–20 September 2003

- Workshop “The rotation of celestial bodies”, Namur, Belgium, 1–2 December 2005
- “Atelier de Mechanique Celeste”, Aussois, France, 12–17 March 2006
- “Dynamics, Topology and Computations”, Bedlewo, Poland, 4–10 June 2006
- “7th Alexander von Humboldt Colloquium”, Bad Hofgastein, Salzburg, Austria, 30 March–5 April 2008
- “International Conference on the Dynamics of Celestial Bodies”, Lihoro, Greece, 23–26 June 2008
- “Conference on Stability and Instability in Mechanical Systems: Recent Progress and Mathematical Theory”, Barcelona, Spain, 22–26 September 2008
- “KAM theory and applications”, Leiden, The Netherlands, 1–5 December 2008
- “Convegno Astronomia: storia e cultura”, Campobasso, Italy, 21 May 2009
- “Dynamics, Topology and Computations”, Bedlewo, Poland, 31 May – 6 June 2009
- “La dynamique des systemes gravitationnels: defis et perspectives”, Aussois, France, 28 June – 4 July 2009
- Assemblea GNFM, Montecatini, Italy, 1–3 October 2009
- “Classical and weak KAM theorem”, Montegrotto, Italy, 14–19 February 2010
- “SIAM conference”, Barcelona, Spain, 31 May – 5 June 2010
- “Scuola estiva di fisica matematica del GNFM”, Ravello, Italy, 13–25 September 2010
- “Dynamical Days”, Calatayud, Spain, 4 – 6 November 2010
- “Sistemi dinamici nonlineari e applicazioni”, Pisa, Italy, 18–19 February 2011
- “8th Alexander von Humboldt Colloquium – Resonances in n-body systems”, Bad Hofgastein, Salzburg, Austria, 20–26 March 2011
- “XVI Conference on Waves and Stability in Continuous Media – WASCOM”, Brindisi, Italy, 13–17 June 2011
- “Stabilità ed Analisi Qualitativa nei Sistemi Dinamici”, Levico Terme, Italy, 4–5 October 2011
- “I LINCEI PER LA SCUOLA”, Lezioni Lincee di Matematica con Applicazioni alla Meccanica Celeste e alla Relatività, Roma, Italy, 18 October 2011,
- Invited lecture “6th European Congress of Mathematics”, Cracow, Poland, 2–7 July 2012
- Invited speaker at the “First International Conference on Dynamics of Differential Equations”, Georgia Tech, Atlanta, USA, 15–20 March 2013
- “Planetary Motions, Satellite Dynamics, and Spaceship Orbits”, Montreal, Canada, 22–26 July 2013
- Invited speaker at “Celestial, Molecular, and Atomic Dynamics (CEMAD-2013)”, PIMS - Pacific Institute for the Mathematical Sciences, Victoria, Canada, 29/7-2/8/2013
- Invited speaker workshop ”Symplectic techniques in topology and dynamics”, Cologne (Germany), 22-26 September 2014
- Invited speaker “International Workshop in Astronomy and Dynamics”, Observatoire de Paris, 28-30 April 2015
- Invited speaker “Integrability in Mechanics and Geometry: Theory and Computations”, ICERM, Brown University, 1-5 June 2015

- Invited speaker “Global Dynamics in Hamiltonian Systems”, Nuria (Spain), 28 June - 4 July 2015

ORGANIZATION OF CONGRESSES, WORKSHOPS AND SCHOOLS:

- 1) Workshop “Sistemi Dinamici”, Dipartimento di Matematica, Università di L’Aquila, 13–16 Maggio 1991, in collaboration with P. Negrini and A. De Masi.
- 2) Workshop “Incontro sul Caos” at the Dipartimento di Matematica, Università di L’Aquila, 26–27 Novembre 1992, in collaboration with D. Benedetto and G. Paladin.
- 3) “Primo Convegno Nazionale di Meccanica Celeste CELMEC” at the Dipartimento di Matematica, Università di L’Aquila, 24–27 Maggio 1993. Scientific Committee: G. Gallavotti (Università di Roma “La Sapienza”), A. Milani (Università di Pisa), A. Celletti. Organizing Committee: A. Celletti, E. Perozzi (Telespazio, Roma).
- 4) “Secondo Convegno Nazionale di Meccanica Celeste”, Scuola Superiore “G. Reiss Romoli”, L’Aquila, 21–24 Aprile 1997. Scientific Committee: A. Celletti, A. Milani (Università di Pisa), E. Perozzi (Telespazio, Roma), G.B. Valsecchi (CNR, Roma).
- 5) Member of the Scientific Committee of the “Troisième Atelier formation d’hiver d’Arc 2000”, “Singularities dans les systèmes gravitationnels application au transport chaotique dans le système solaire”, Arc2000, France, 12–18 March 2000.
- 6) “Regular and unstable motions in Hamiltonian system”, Roma, 6–9 September 2000, Organizing Committee: A. Celletti, L. Chierchia (Roma Tre), C. Liverani (Roma Tor Vergata), G. Mancini (Roma Tre).
- 7) “Third Meeting on Celestial Mechanics - CELMEC III”, Villa Mondragone, Monte Porzio Catone (Roma), 18-22 Giugno 2001, Organizing Committee: A. Celletti, A. Milani (Università di Pisa), E. Perozzi (Telespazio, Roma), G.B. Valsecchi (CNR, Roma).
- 8) “Perspectives in Mathematical Physics”, Roma, 4–7 September 2002, Organizing Committee: G. Benettin (Univ. Padova), G. Benfatto (Univ. Roma Tor Vergata), F. Bonetto (IAS, Princeton), M. Cassandro (Univ. Roma “La Sapienza”), A. Celletti (Univ. Roma Tor Vergata), R. Esposito (Univ. L’Aquila), C. Falcolini (Univ. Roma Tre), A. Giorgilli (Univ. Milano), V. Mastropietro (Univ. Roma Tor Vergata).
- 9) Member of the Scientific Committee of the school “Analyse harmonique et approximation rationnelle: leurs rôle en théorie du signal, du contrôle et des systèmes dynamiques”, Porquerolles (France), 14–20 September 2003.
- 10) “Fourth Meeting on Celestial Mechanics - CELMEC IV”, San Martino al Cimino (Viterbo), 11-16 September 2005; Organizing Committee: A. Celletti, A. Milani (Università di Pisa), E. Perozzi (Telespazio, Roma), G.B. Valsecchi (CNR, Roma).
- 11) “Theory and Applications of Dynamical Systems”, Spoleto (Perugia, Italy), 24–28 June 2007; Organizing Committee: A. Celletti (co-chair), E. Lega (co-chair), F. Namouni (co-chair), D. Benest (Osservatorio di Nizza), A. Giorgilli (Università di Milano), M. Guzzo (Università di Padova), D. Laveder (Osservatorio di Nizza), G. Valsecchi (INAF-IASF, Roma).
- 12) Member of the Scientific Committee of the “7th Alexander von Humboldt Colloquium

for Celestial Mechanics – The chaotic dynamics of small bodies and planets”, Bad Hofgastein, Salzburg, Austria, 30 March – 5 April 2008.

13) “Fifth Meeting on Celestial Mechanics - CELMEC V”, 6–12 September 2009; Organizing Committee: A. Celletti, A. Giorgilli (Università di Milano), E. Perozzi (Telespazio, Roma), G.B. Valsecchi (CNR, Roma).

14) “Women and Space”, 8 Ottobre 2009, Accademia Nazionale dei Lincei, Roma (Italy); Organizing Committee: V. Baldoni (Univ. Roma Tor Vergata), A. Celletti, A. Coradini (INAF/IFSI), E. Strickland (Univ. Roma Tor Vergata).

15) Colloquium at the Dipartimento di Matematica, Università di Roma Tor Vergata: Prof. Alain Chenciner (Université Paris VII), May 2006, Prof. Jean-Christophe Yoccoz (College de France, Fields Medal 1994) November 2010.

16) Member of the Scientific Committee of the “8th Alexander von Humboldt Colloquium for Celestial Mechanics – The chaotic dynamics of small bodies and planets”, Bad Hofgastein, Salzburg, Austria, 20–26 March 2011.

17) “Frontiers of Space Science: from Solar Activity to NEOs”, L’Aquila (Italy), 17–22 April 2011, co-directed with F. Berrilli, E. Flamini, D. Müller, E. Perozzi.

18) “CELMEC VI - 6th International Meeting in celestial Mechanics”, 1–7 September 2013, S. Martino al Cimino (Viterbo, Italy), in collaboration with A. Giorgilli (Università di Milano), G.F. Gronchi (Università di Pisa), E. Perozzi (Telespazio, Roma).

19) Scientific director of the workshop “Mathematical models and methods for Planet Earth”, INdAM, 27–29 May 2013, in collaboration con U. Locatelli (Univ. Roma Tor Vergata), T. Ruggeri (Univ. Bologna), E. Strickland (Univ. Roma Tor Vergata).

20) Member of the Scientific and Organizing Committee of the workshop “Planetary Motions, Satellite Dynamics, and Spaceship Orbits”, Montreal, 22–26 July 2013, in collaboration with Walter Craig (McMaster University), Florin Diacu (University of Victoria), Jacques Fejoz (Paris VI), Anatoly Neishtadt (Loughborough University), Christiane Rousseau (Montreal University).

21) Member of the Scientific Committee of the IAU Symposium IAUS 310 “Complex Planetary Systems (CPS)”, University of Namur (Belgio), 7-11 July 2014

22) Stardust Second Training School “Astrodynamics of NEO and Space debris”, Roma, 8-12 September 2014, in collaboration with F. Gachet, I. Gkolias, G. Pucacco, A. Rossi.