CURRICULUM VITAE

PERSONAL DATA

- First Name: Cătălin Bogdan
- Last Name: Galeș
- Date and place of birth: July 29, 1976/ Gura Humorului (Romania)
- Work address: Al. I. Cuza University of Iași, Faculty of Mathematics, Blvd. Carol I, No. 11, 700506, Iași, Romania
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- Nationality: Romanian

EDUCATION

- 1990-1994: High School: Liceul Petru Rareș (Suceava);
- 1994-1998: Faculty of Mathematics, Al.I. Cuza University of Iași;
- 1998-2000: Master studies, Faculty of Mathematics, Al. I. Cuza University of Iași
- 2000-2004: Ph.D. thesis: Initial boundary value problems in continuum mechanics, Al.I. Cuza University of Iași (supervisor: Prof. Stan Chiriță).
- 2018: Habitation thesis: Mathematical modelling in Celestial and Continuum Mechanics

RESEARCH INTERESTS

Fundamental Astronomy
- Celestial mechanics and Astrodynamics
- Perturbation theories
- Hamiltonian and Lagrangian mechanics

Mechanics of deformable solids
- Mixture effects
- Saint-Venant's principle
- Uniqueness of solutions
- Stability
- Vibrations

ACADEMIC CAREER

- 1999 - 2001: Research assistant, Faculty of Mathematics, Al. I. Cuza University of Iași
- 2001 - 2004: Assistant professor, Faculty of Mathematics, Al. I. Cuza University of Iași
- 2004 - 2014: Lecturer, Faculty of Mathematics, Al. I. Cuza University of Iași
- Since 2014: Associate Professor, Faculty of Mathematics, Al. I. Cuza University of Iași

AWARDS

1. **Romanian Academy Prize Spiru Haret** for the group of papers: *Modelling in continuum mechanics*, published in 2011.
2. **Researcher of the year**, prize offered by Al. I. Cuza University of Iași for the papers published in 2012.

HIGHEST ACADEMIC RECOGNITION RECEIVED

1. **Keynote speaker at Stardust Final Conference**, 31st October - 4th November, 2016, **ESA ESTEC**, Netherlands: *Dynamics of resonances in the space debris problem* (https://www.stardust2013.eu/Training/Conferences/KeynoteTalks/tabid/5863/Default.aspx);

2. Committee member of the school: *Satellite Dynamics and Space Missions: Theory and Applications of Celestial Mechanics*, August 28 - September 2, 2017, San Martino al Cimino (VT), Italy, (http://adams.dm.unipi.it/~simca/sdsm2017/).

PAPERS

Author of 44 scientific research papers, 36 of which are published in ISI indexed journals, and 6 book chapters.

EDITED BOOKS

Baù G., Celletti A., Gales C., Gronchi G.F., eds., *Satellite Dynamics and Space Missions*, Springer INDAM Series n. 34 (2019).

GRANTS

a. Member of the international grant: H2020-MSCA-ITN-ETN Project "STARDUST-R", period 2019-2022. (http://www.stardust-network.eu/)
b. Director of two national grants for young researches:
   1. CEEX grant, code 72, no. 1510/7.04.2006, period 2006-2008.
   2. CNCSIS grant, code TE_184, no. 86/30.07 2010, period 2010-2013.

   Member of 8 national grants.

INTERNATIONAL COLLABORATION

Alessandra Celletti, Department of Mathematics, University of Rome Tor Vergata;
Christoph Lhotka, Space Research Institute, Austrian Academy of Sciences;
Giuseppe Pucacco, Department of Physics, University of Rome Tor Vergata;
Christos Efthymiopoulos, Research Center for Astronomy and Applied Mathematics, Academy of Athens;
Aaron Rosengren, Department of Aerospace and Mechanical Engineering, University of Arizona;
Fabien Gachet, Office national d'études et de recherches aérospatiales (ONERA) - The French Aerospace Lab.

INVITED LECTURER AT INTERNATIONAL TRAINING SCHOOLS

1. **STARDUST-R, The Opening Training School,** Glasgow (UK), December 2-7, 2019: *Global dynamics around irregularly-shaped bodies* (one-hour lecture).
2. **STARDUST-R, The Opening Training School**, Glasgow (UK), December 2-7, 2019: *Resonance effects on the long-term evolution of circumterrestrial orbits* (one-hour lecture).
3. **The JASSY Summer School (A Journey Through Hard Sciences, Economics, Social Sciences And The Tourism Industry)**, Iași (Romania), July 9-22, 2018: *Astronomy and sky map reading* (two-hours lecture).
4. **The JASSY Summer School (A Journey Through Hard Sciences, Economics, Social Sciences And The Tourism Industry)**, Iași (Romania), July 7-21, 2019: *Astronomy and sky map reading* (two-hours lecture).
5. **I-CELMECCH Training School,** Milan (Italy), February 3-7, 2020: *Space debris* (two-hours lecture).

INVITED SPEAKER AT ACADEMIC CONFERENCES

1. **The Ninth Congress of Romanian Mathematicians**, June 28-July 3, 2019, Galati, Romania: A portrait of resonances in the space debris problem.
2. **2018AMC$_{70}$ Between Mathematics and Astronomy**, A workshop in honour of Andrea Milani Comparetti on the occasion of his 70th birthday, 3-5 September 2018, Pisa, Italy: *Dynamical effects of tesseral resonances in the LEO region.*
3. **Outlook in Astronomy, Astrophysics, Space and Planetary Sciences,** 17 - 19 May 2018, Cluj-Napoca, Romania: *On the dynamics of space debris*.
4. **International Conference on Applied and Pure Mathematics**, 5th edition, November 2-5, 2017, Iași, Romania: *Effects of gravitational resonances in the space debris problem*.

5. **The Seventh International Meeting on Celestial Mechanics (CELMEC VII)**, September 3-9, 2017, San Martino al Cimino (VT), Italy: *Resonance effects within LEO, MEO and GEO regions*.
6. **9th Humboldt Colloquium on Celestial Mechanics**, March 19-25, 2017, Bad Hofgastein, Austria: *Dissipative effects in the space debris problem*.
7. **Stardust Final Conference**, 31st October - 4th November, 2016, **ESA ESTEC**, Netherlands: *Dynamics of resonances in the space debris problem* (**keynote speaker**).
8. **XIII-ème Colloque Franco Roumain de Mathématiques Appliquées**, 25-29 Août, 2016, Iași: *Resonance effects in the dynamics of space debris*.
9. **Computational perturbative methods for Hamiltonian systems - Applications in physics and astronomy**, July 11-July 13, 2016, Athens: *A study of the lunisolar secular resonances for space debris by using the Hamiltonian formalism*.
10. **The Eighth Congress of Romanian Mathematicians**, June 26-July 1, 2015, Iași: *Dynamics of space debris: resonances and long term orbital effects*.
11. **1st Stardust Global Virtual Workshop (SGVW-1) on Asteroids and Space Debris**, 6-9 May 2014, Glasgow, Scotland: *A description of the dynamics of space debris in the 1:1 and 2:1 resonances by using the Hamiltonian formalism*.
12. **The Sixth International Meeting on Celestial Mechanics (CELMEC VII)**, September 1-7, 2013, San Martino al Cimino (VT), Italy: *A cartographic study of satellite and space debris dynamics.*
13. **European Congress on Computational Methods in Applied Sciences and Engineering**, September 10-14, 2012, Vienna: *Spatial behavior in the electromagnetic theory of microstretch elasticity.*
14. **8th European Solid Mechanics Conference**, July 9-13, 2012, Graz, Austria: *On the bending of plates in the electromagnetic theory of microstretch elasticity*.
15. **6th European Congress of Mathematics**, July 2-7 2012, Krakow, Poland: *Structural stability and convergence in piezoelectricity*.
16. **2th International Conference on Material Modelling**, August 31-September 2, 2011, Paris: *Spatial behavior of harmonic vibrations in viscoelastic materials.*
17. **Seventh Congress of the Romanian Mathematicians**, June 29-July 5, 2011, Braşov: *Spatial behaviour in the linear dynamic theory of magnetoelectroelasticity*.
18. **9th International Congress on Thermal Stresses**, June 5-9, 2011, Budapest: *On the asymptotic partition of energy in micromorphic thermopiezoelectricity*, (in collaboration with I.D. Ghiba and I. Ignătescu).
19. **Workshop for Young Researches in Mathematics**, May 12-13, 2011, Constanţa: *On the spatial behavior in viscoelastic cylinders*.
20. **Workshop on Partial Differential Equations**, November 25-26, 2010, Bucharest: *On the phase space of the restricted three body problem. Application to the Sun-Jupiter-Asteroid system.*
21. **10ème Colloque Franco Roumain de Mathématiques Appliquées**, 26-31 Août 2010, Poitiers (France): *Spatial behavior in viscoelastic materials.*
22. **3rd Conference on Nonlinear Science and Complexity**, July 28-31, 2010, Ankara (Turkey): *A cartographic study of the phase space of the restricted three body problem.*
23. **The Fifth International Meeting on Celestial Mechanics**, September 6-12, 2009, Viterbo (Italy): *On the phase space of the restricted three body problem.*
24. **The Asian Conference on Mechanics of Functional Materials and Structures**, October 31-November 3, 2008, Matsue (Japan): *On spatial behaviour in viscoelastic mixtures.*
25. **The International Congress of Theoretical and Applied Mechanics (ICTAM2008)**, August 24-29 2008, Adelaide (Australia).
26. **9 ème Colloque Franco Roumain de Mathématiques Appliquées**, Braşov, Roumanie, 28 Août - 2 Septembre 2008: *A mixture theory for micropolar thermoelastic solids.*
27. **The Mechanics Conference to celebrate the 100th Anniversary of the Department of Engineering Science and Mechanics**, May 29 & 30, 2008, Blacksburg, Virginia, USA: *A mixture theory for microstretch thermoviscoelastic solids.*
28. **The meeting Theory and Applications of Dynamical Systems**, Spoleto (Italy), June 24-28, 2007: *On the Dynamics of Asteroids*.
29. **5th SREAC's Meeting: Latest Progress in Astrophysics**, Athens, 5-6 October, 2007: *Investigation of asteroid dynamics via numerical methods* (in collaboration with C. Chiruţă).
30. **The international conference New Trends in Continuum Mechanics**, Constanţa, September 2003: *On the spatial behavior in the theory of swelling porous elastic soils*.
31. **The XXIII National Conference of Solid Mechanics**, Ploieşti, Romania, May 1999: *The Saint-Venant`s problem in micropolar elasticity.*

POPULARIZATION OF SCIENCE

A) Over 500 planetarium lessons for students and pupils interested in astronomical phenomena;
B) Articles published in the local newspaper *Evenimentul de Iaşi*:
   1. *Total Lunar Eclipse: May 3-4, 2004* (May 3, 2004, in collaboration with S. Chiriţă);
   2. *Transit of Venus,* (June 5, 2004, in collaboration with Chiriţă);
   3. *Total Lunar Eclipse: October 28, 2004* (October 27, 2004);
   4. *The astronomical winter starts today* (December 21, 2004);
   5. *Vernal equinox* (March 19, 2005);
   6. *Autumnal equinox* (September 22, 2005);
   7. *Annular Solar eclipse: October 3, 2005* (September 30, 2005).
C) Interviews given to the local press for promoting various astronomical events.

DIDACTICAL ACTIVITIES

Courses:

1. Astronomy (Faculty of Mathematics, Al. I. Cuza University of Iaşi);
2. Hamiltonian and Lagrangian mechanics (Faculty of Mathematics, Al. I. Cuza University of Iaşi);
3. Celestial Mechanics (Faculty of Mathematics, Al. I. Cuza University of Iaşi);
4. C sharp programming (Faculty of Mathematics, Al. I. Cuza University of Iaşi);
5. Rational Mechanics (Faculty of Mathematics, Al. I. Cuza University of Iaşi);
6. Mathematics (Faculty of Geography and Geology, Al. I. Cuza University of Iaşi);
7. Continuum Mechanics (Faculty of Mathematics, Al. I. Cuza University of Iaşi).

Seminars:

1. Astronomy (Faculty of Mathematics, Al. I. Cuza University of Iaşi);
2. Hamiltonian and Lagrangian mechanics (Faculty of Mathematics, Al. I. Cuza University of Iaşi);
3. Rational Mechanics (Faculty of Mathematics, Al. I. Cuza University of Iaşi);
4. Continuum Mechanics (Faculty of Mathematics, Al. I. Cuza University of Iaşi);
5. Thermoelasticity (Faculty of Mathematics, Al. I. Cuza University of Iaşi);
6. Generalized models of continua (Faculty of Mathematics, Al. I. Cuza University of Iaşi);
7. Probabilities (Faculty of Mathematics, Al. I. Cuza University of Iaşi);
8. Mathematics (Faculty of Chemistry and Faculty of Geography and Geology, Al. I. Cuza University of Iaşi);
9. JAVA programming (Faculty of Mathematics, Al. I. Cuza University of Iaşi).

December, 2019 Cătălin Galeş