

CĂLIN POPESCU

CONTACT

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RESEARCH INTERESTS

Loop space homology, combinatorial topology/geometry.

EDUCATION

2000 PhD in mathematics, dissertation: *Characteristic zero loop space homology and universal enveloping algebras*, Université Catholique de Louvain, Belgique, under Yves Félix; jury: Frederick R. Cohen, Yves Félix, Daniel Tanré.

1995 Master's degree in mathematics (structure of Hopf algebras), Université Catholique de Louvain, Belgique, under Yves Félix.

1985 Degree in theoretical electrical engineering (variational methods in electromagnetic field theory), Polytechnic Institute of Bucharest, Romania.

WORK EXPERIENCE

Since 2005:

Researcher, Institute of Mathematics, Bucharest, Romania;
Member of the training team for the International Mathematics Olympics;
Member of the Problem Selection Committee of the Institute of Mathematics contest;
Member of the Problem Selection Committee of the Romanian Mathematics Olympics.

Since 2007:

Editor *Gazeta Matematică — Seria A*, Soc. Sci. Math. Roumanie;
Member of the Problem Selection Committee of the international mathematics contest *Romanian Master of Mathematics*.

Since 2014:

Chair of the Problem Selection Committee of the international mathematics contest *Romanian Master of Mathematics*.

2020:

Lectures on combinatorial geometry — Romanian Mathematical Society.

2018:

Chair of the Problem Selection Committee of the International Mathematics Olympics.

2014:

Lectures on rational homotopy theory and minimal models — IMAR topology seminar.

2007-2009:

Associate professor SNSB — lectures on point-set, algebraic and differential topology.

2001:

Post-doctoral visit, Department of Mathematics, Abdus Salam International Centre for Theoretical Physics, Trieste, Italy;

Post-doctoral visit, Department of Mathematics, University of Rochester, Rochester, NY, USA.

1999:

Temporary lecturer, summer school, Université Catholique de Louvain, Louvain-La-Neuve, Belgique.

1997:

Research assistant, Institut de Mathématiques, Université Catholique de Louvain, Louvain-La-Neuve, Belgique.

1989-1990:

Assistant lecturer, Department of Theoretical Electrical Engineering, Polytechnic Institute of Bucharest, Bucharest, Romania.

1985-1990:

Researcher, Computer Science Department, Institute of Electrical Engineering, Bucharest, Romania — variational methods in electromagnetic field theory.

PUBLICATIONS**Books**

1. *Characteristic Zero Loop Space Homology and Enveloping Algebras*, Editions Universitaires Européennes, 2016, ISBN 978-3-639-54805-1.

Papers

1. *On the Area and the Lattice Diameter of Lattice Triangles*, Bull. Math. Soc. Sci. Math. Roumanie, 1 (2025), 59-62.
2. *Maximal number of diameters of finite lattice point sets*, Gazeta Matematică Seria A, 3-4 (2023), 31-34.
3. *On vertex 3-colourable disc triangulations*, Bull. Math. Soc. Sci. Math. Roumanie, 2 (2021), 131-143.
4. *On Fan's Combinatorial Stokes Formula*, Bull. Math. Soc. Sci. Math. Roumanie, 3 (2018), 327-332.
5. *Algebra Structures Arising from Yang-Baxter Systems* (with Barbu R. Berceanu and Florin F. Nichita), Comm. Algebra, 41 (2013), 4442-4452.
6. *Entwined Bicomplexes* (with Florin F. Nichita), Bull. Math. Soc. Sci. Math. Roumanie, 2 (2009), 161-176.
7. *Characteristic Zero Loop Space Homology of Two-Cones*, Bull. London Math. Soc., 32 (2000), 600-608.

8. *On UHL and HUL*, Bull. Belg. Math. Soc., 6 (1999), 219-235.
9. *Characteristic zero loop space homology for certain two-cones*, Comment. Math. Univ. Carolinae, 3 (1999), 593-597.
10. *On the homology of free Lie algebras*, Comment. Math. Univ. Carolinae, 4 (1998), 661-669.
11. *Note on the Ptolemy theorem*, Nieuw Arch. Wisk., 3 (1997), 193-197.
12. *A proof of a theorem of Kaplanski*, Sci. Bull. Polytech. Inst. Bucharest, Series C, 3-4 (1993), 65-67.
13. *Note on the Tychonoff product theorem*, Sci. Bull. Polytech. Inst. Bucharest, 1-2 (1992), 23-27.
14. *Note on ordering, compactness and continuity*, Sci. Bull. Polytech. Inst. Bucharest, 3-4 (1990), 7-9.
15. *Note on subset systems on the category of posets*, Sci. Bull. Polytech. Inst. Bucharest, 2 (1990), 7-10.
16. *A non-trivial infinitely differentiable map*, Sci. Bull. Polytech. Inst. Bucharest, 1 (1990), 3-5.
17. *A proof of the classical theorem of Tychonoff on the product of compact topological spaces*, Bul. Inst. Politehn. București, 1989, 11-13.
18. *Ordering, compactness, continuity* (with Andrei Baranga), Bull. Math. Soc. Sci. Math. Roumanie, 2 (1987), 99-106.
19. *Asupra simplexelor finit dimensionale*, Bul. Inst. Politehn. București, 1984-1985, 16-21.

COURSES AND TALKS

Courses

2007-2009: Point-set, algebraic and differential topology, Școala Normală Superioară București, București, Romania.

1999: Introduction to the topology of polyhedra, summer school, Université Catholique de Louvain, Louvain-La-Neuve, Belgique.

1989-1990: Field theory and circuit topology, Department of Theoretical Electrical Engineering, Polytechnic Institute of Bucharest, Bucharest, Romania.

Talks

2014: *Complete Hopf algebras and Malcev groups* (Daniel Quillen), IMAR topology seminar, Bucharest, Romania.

2001: *Characteristic zero loop space homology and universal enveloping algebras*, Abdus Salam International Centre for Theoretical Physics, Trieste, Italy.

2001: *Characteristic zero loop space homology and universal enveloping algebras*, Department of Mathematics, University of Rochester, Rochester, NY, USA.

1999: *R-Quillen Theorems*, Fourth International Meeting of the American Mathematical Society and the Sociedad Matematica Mexicana, University of North Texas, Dallas, TX, USA.

Since 2005: Monthly talks on combinatorial topology/geometry, training sessions for the International Mathematics Olympics, Bucharest, Romania.

COMMUNITY WORK

Since 2007:

Editor *Gazeta Matematică — Seria A*, Soc. Sci. Math. Roumanie;

Co-editor of the volume *Romanian Mathematics Competitions*, Soc. Sci. Math. Roumanie.

LANGUAGES

Romanian: mother tongue;

English: very good knowledge — written, read and spoken;

French: very good knowledge — written, read and spoken.