

Institute of Mathematics Simion Stoilow of the Romanian Academy

Anca Măcinic

anca.macinic[at]imar.ro

Education

- Ph.D in Mathematics 2010, with the Thesis "*Algebraic methods in differential topology*", advisor CS1 Dr. Ștefan Papadima (diploma issued in 2011)
- Master degree, SNS Bucharest, 2003-2004
- Undergraduate program, SNS Bucharest, 2001-2003
- Graduate student, Faculty of Math. and Computer Science, Ovidius Univ., Constanta, 2003

Employment

- CS3, IMAR Bucharest, 2017 –
- CS3, University of Bucharest, 2011 – 2013 **CNCS grant PN-II-RU-PD-2011-3-0149**
- Researcher, IMAR Bucharest, 2006 – 2017
- Junior Researcher, IMAR Bucharest, 2003 – 2006
- Research grants (team member):
 - Romanian Ministry of Education and Research, CEEX Grant CEX 05-D11-11 (2005-2007)
 - Romanian Ministry of Education and Research, CEEX Grant 2-CEX 06-11-20 (2006-2008)
 - Research grant PN II Idei-1189/2008

List of publications

- 1 Freeness and near freeness are combinatorial for line arrangements in small degrees (with Alexandru Dimca and Denis Ibadula), accepted to publication in **Discrete Mathematics** (2019).
- 2 Numerical invariants and moduli spaces for line arrangements (with Alexandru Dimca and Denis Ibadula), accepted to publication in **Osaka Journal of Mathematics** (2019).
- 3 On the geometry and topology of partial configuration spaces of Riemann surfaces (with Barbu Berceanu, Ștefan Papadima and Radu Clement Popescu), **Algebraic & Geometric Topology**, 17 (2017), no. 2, 1163-1188.
- 4 On the second nilpotent quotient of higher homotopy groups for hypersolvable arrangements (with Daniel Matei and Ștefan Papadima), **International Mathematics Research Notices**, .Volume 2015, Issue 24, Pp. 13194–13207.
- 5 Pencil type line arrangements of low degree: classification and monodromy (with Alexandru Dimca and Denis Ibadula), **Ann. Scuola Norm. Sup. Pisa**, (5) Vol. XV (2016), 249–267.
- 6 Modular equalities for complex reflection arrangements (with Ștefan Papadima and Radu Clement Popescu), **Documenta Mathematica**, Vol. 22 (2017), 135–150.
- 7 Some remarks on the realizability spaces of $(3, 4)$ -nets (with Denis Ibadula), accepted to publication in the Proceedings of the conference "Experimental and Theoretical Methods in Algebra, Geometry and Topology", Bridging Algebra, Geometry, and Topology, **Springer Proceedings in Mathematics & Statistics**, 2014, 159–166.

- 8 Flat connections and resonance varieties: from rank one to higher ranks (with Ștefan Papadima, Radu Clement Popescu and Alexandru Suciu), **Trans. Amer. Math. Soc.** 369 (2017), 1309–1343.
- 9 Cohomology rings and formality properties of nilpotent groups, **Journal of Pure and Applied Algebra** 214 (2010), pp. 1818–1826.
- 10 Characteristic varieties of nilpotent groups and applications (with Ștefan Papadima), **Proceedings of the Sixth Congress of Romanian Mathematicians (Bucharest, 2007)**, vol.1, pp. 57–64, Romanian Academy, Bucharest, 2009.
- 11 On the monodromy action on Milnor fibers of graphic arrangements (with Ștefan Papadima), **Topology and its Applications** 156 (2009), 761-774.
- 12 A survey of combinatorial aspects in the topology of complex hyperplane arrangements, **Contemporary Mathematics** 508 (2009), 113-128.

Research visits

- August 7-19 2016 **Oberwolfach Research Institute for Mathematics, Research In Pairs grant** (with Alexandru Dimca and Denis Ibadula).
- November 18-23 2013 **Osnabrück Univ., Institut für Mathematik.**
- November 2012 (1 week) **Sophia-Antipolis Univ., Nice.**
- March 2012 (1 week) **Sophia-Antipolis Univ., Nice.**

Talks & Conferences attended

- "Freeness and variations", talk presented at The 27th National School on Algebra, May 20-24, 2019, IMAR Bucharest.
- "(Multi)nets and monodromy", talk presented at the 8-th Congress of the Romanian Mathematicians, June 26 - July 1 2015, Alexandru Ioan Cuza University, Iasi.
- "Combinatorics in the topology of hyperplane arrangements", talk presented at the "Graduiertenkollegseminar on combinatorial structures in geometry", November 19 2013, Osnabrück Univ., Institut für Mathematik.
- "Orlik-Solomon algebras", talk presented at the Workshop for Young Researchers in Mathematics, May 09 - May 10, 2013, Ovidius University, Constanta, Romania.
- "On the second nilpotent quotient of higher homotopy groups for hypersolvable arrangements", talk presented at the Joint International Meeting of the AMS and the Romanian Mathematical Society, Special Session: Topics in Geometric and Algebraic Topology, June 27 - 30, 2013, "1 Decembrie 1918" University of Alba Iulia, Romania.
- "Hyperplane arrangements", talk presented at The 21st National School on Algebra "Algebraic Methods in Combinatorics", 2-6 September 2013, IMAR Bucharest.
- "Pencil type line arrangements of low degree and monodromy", talk presented at the Anniversary Conference Faculty of Sciences - 150 years, August 29-September 1 2013, Faculty of Mathematics and Computer Science, University of Bucharest.
- "(Partial) formality.", talk presented at the conference Arrangements in Pyrénées School on hyperplane arrangements and related topics, Université de Pau 11 - 15 June 2012.
- "Graphic arrangements, combinatorial computations and monodromy action on the Milnor fiber", talk presented at the conference Hyperplane Arrangements and Related Topics, Université Sophia-Antipolis Nice, 6 martie 2012.

- "Partial formality and cohomology jump loci", talk presented at the Workshop for Young Researchers in Mathematics, Ovidius University Constanta 12-13 mai 2011.
- "Cohomology jumping loci and formality properties of nilpotent groups", talk presented at The 6th International Congress of the Romanian Mathematicians, , Bucharest, Romania, 28 June–4 July 2007.
- "On the monodromy action on Milnor fibers of graphic arrangements", talk presented at the workshop "Recent developments in Arrangements and Configuration Spaces", Aug. 2006, MSRI, Berkeley, US.
- "The Milnor fiber associated to graphic arrangements", talk presented at the workshop "Hyperplane arrangements and constructible sheaves", Constanta, Romania, Aug. 29 - Sept. 2, 2005.

Conferences organized

- "Selected Topics in Complex and Differential Geometry, Topology, and Singularities", Special Session of The Ninth Congress of Romanian Mathematicians, June 28 - July 3, 2019, "Dunarea de Jos" University of Galati, Romania (co-organizer).
- "Workshop for Young Researchers in Mathematics", June 3-4, 2019, University of Bucharest (co-organizer).
- "Topology and Geometry: A conference in memory of Stefan Papadima", May 28-31, 2018, Simion Stoilow Institute of Mathematics of the Romanian Academy(co-organizer).
- "Workshop for Young Researchers in Mathematics", May 17 – 18, 2018, Simion Stoilow Institute of Mathematics of the Romanian Academy(co-organizer).
- "Workshop for Young Researchers in Mathematics", May 17 – 20, 2017, Simion Stoilow Institute of Mathematics of the Romanian Academy(co-organizer).
- "Workshop for Young Researchers in Mathematics", May 19 – 22, 2016, Ovidius University Constanta (co-organizer).
- "Computational Geometric Topology in Arrangement Theory", July 6 - 10, 2015, ICERM, Brown University, USA (co-organizer).
- "Workshop for Young Researchers in Mathematics", May 21– 24, 2015, Ovidius University Constanta (co-organizer).
- "Computational Geometric Topology in Arrangement Theory", July 6–10, 2015, ICERM Brown University (co-organizer).
- "Workshop for Young Researchers in Mathematics", May 22–23, 2014, Ovidius University Constanta (co-organizer).
- "Workshop for Young Researchers in Mathematics", May 9–10, 2013, Ovidius University Constanta (co-organizer).
- "Experimental and Theoretical Methods in Algebra, Geometry and Topology", June 21–24, 2013, Eforie Nord, Ovidius University Constanta & IMAR (co-organizer).