

Daniela-Anca Măcinic

Simion Stoilow Institute of Mathematics of the Romanian Academy
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CURRENT POSITION

2025- Researcher (CS2), Simion Stoilow Institute of Mathematics of the Romanian Academy

EDUCATION

- 2011 **Ph.D. in Mathematics**
Simion Stoilow Institute of Mathematics of the Romanian Academy, Ph.D. Thesis
"Algebraic methods in differential topology", Advisor CS1 Dr. Ștefan Papadima,
thesis defense 2010 / diploma issued 2011
- 2003-2004 **Master's degree in Mathematics**
Școala Normală Superioară Bucharest
- 2001-2003 **Undergraduate program**
Școala Normală Superioară Bucharest
- 1999-2003 **Bachelor's degree**
Faculty of Mathematics and Computer Science, Ovidius University, Constanța

EMPLOYMENT

- 2025 - **Researcher, CS2**
Simion Stoilow Institute of Mathematics of the Romanian Academy
- 2017 - 2025 **Researcher, CS3**
Simion Stoilow Institute of Mathematics of the Romanian Academy
- 2011 - 2013 **Researcher, CS3, CNCS-UEFISCDI grant PN-II-RU-PD-2011-3-0149**
University of Bucharest
- 2006 - 2017 **Researcher**
Simion Stoilow Institute of Mathematics of the Romanian Academy
- 2003 - 2006 **Junior Researcher**
Simion Stoilow Institute of Mathematics of the Romanian Academy

GRANTS

- 2025-2027 **Research grant of the Romanian Ministry of Education and Research, CNCS - UEFISCDI, project number PN-IV-P1-PCE-2023-2001** (team member), Simion Stoilow Institute of Mathematics of the Romanian Academy
- 2021-2023 **Research grant of the Romanian Ministry of Education and Research, CNCS - UEFISCDI, project number PN-III-P4-ID-PCE-2020-2798** (team member), Simion Stoilow Institute of Mathematics of the Romanian Academy
- 2011-2013 **Postdoc grant CNCS - UEFISCDI project number PN-II-RU-PD-2011-3-0149** (team leader), University of Bucharest
- 2009-2011 **Research grant PN II Idei-1189/2008** (team member), Simion Stoilow Institute of Mathematics of the Romanian Academy
- 2006-2008 **Romanian Ministry of Education and Research, CEEX Grant 2-CEX 06-11-20** (team member), Simion Stoilow Institute of Mathematics of the Romanian Academy
- 2005-2007 **Romanian Ministry of Education and Research, CEEX Grant CEX 05-D11-11** (team member), Simion Stoilow Institute of Mathematics of the Romanian Academy

AWARDS

2019 "GHEORGHE LAZĂR" prize of the Romanian Academy

PUBLICATIONS

- 2026 D. A. Măcinic, *Modular inequalities and Alexander polynomials of pencil type conic-line arrangements*, arXiv:2606.03706
- 2026 J. I. Cogolludo-Agustín, D. A. Măcinic, *On modular inequalities for plane projective curves*, arXiv:2605.26237
- 2026 D. A. Măcinic, *Deletion-addition of a smooth conic for free curves*, **Nagoya Mathematical Journal**, Vol. 261 (2026), e20. DOI: 10.1017/nmj.2026.10100
- 2025 D. A. Măcinic, J. Vallès, *Addition-deletion for conic-line arrangements with split Chern polynomial*, arXiv:2510.02771
- 2024 T. Abe, D. Ibadula, D. A. Măcinic, *On some freeness-type properties for line arrangements*, **Annali della Scuola normale superiore di Pisa - Classe di scienze** (5) Vol. XXV (2024), 427–447, https://doi.org/10.2422/2036-2145.202105_038
- 2024 D. A. Măcinic, P. Pokora, *Addition-deletion results for plus-one generated curves*, **Journal of Algebraic Combinatorics** Vol. 60, 723 – 734 (2024), <https://doi.org/10.1007/s10801-024-01350-x>
- 2024 D. A. Măcinic, J. Vallès, *A geometric perspective on plus-one generated arrangements of lines*, **International Journal of Mathematics** Vol. 35, No. 10, 2450034 (2024), <https://doi.org/10.1142/S0129167X24500344>
- 2024 D. A. Măcinic, P. Pokora, *On plus-one generated conic-line arrangements with simple singularities*, **Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. (Rendiconti Lincei-Matematica e Applicazioni)** 35 (2024), no. 3, pp. 349–364, <https://doi.org/10.4171/rln/1044>
- 2022 D. A. Măcinic, *On torsion freeness for the decomposable Orlik-Solomon algebra*, preprint, arXiv:2212.12275
- 2020 A. Dimca, D. Ibadula, D. A. Măcinic, *Numerical invariants and moduli spaces for line arrangements*, **Osaka Journal of Mathematics** Vol. 57, No.4, 847 – 870 (October 2020), <https://doi.org/10.18910/77234>
- 2019 A. Dimca, D. Ibadula, D. A. Măcinic, *Freeness for 13 lines arrangements is combinatorial*, **Discrete Mathematics** Vol. 342, Issue 8, 2445 – 2453 (2019) ISSN: 0012-365X, <https://doi.org/10.1016/j.disc.2019.05.016>
- 2017 B. Berceanu, D. A. Măcinic, Ș. Papadima, R. Popescu, *On the geometry and topology of partial configuration spaces of Riemann surfaces*, **Algebraic & Geometric Topology** Vol. 17, no. 2, 1163–1188 (2017), <https://doi.org/10.2140/agt.2017.17.1163>
- 2017 D. A. Măcinic, Ș. Papadima, R. Popescu, *Modular equalities for complex reflection arrangements*, **Documenta Mathematica** Vol. 22, 135–150 (2017), <https://doi.org/10.4171/dm/561>
- 2017 D. A. Măcinic, Ș. Papadima, R. Popescu, A. Suciu, *Flat connections and resonance varieties: from rank one to higher ranks*, **Transactions of the American Mathematical Society** Vol. 369, 1309–1343 (2017), <https://doi.org/10.1090/tran/6799>
- 2016 A. Dimca, D. Ibadula, D. A. Măcinic, *Pencil type line arrangements of low degree: classification and monodromy*, **Annali della Scuola normale superiore di Pisa - Classe di scienze** (5) Vol. XV, 249–267 (2016), https://doi.org/10.2422/2036-2145.201306_003
- 2015 D. A. Măcinic, D. Matei, Ș. Papadima, *On the second nilpotent quotient of higher homotopy groups for hypersolvable arrangements*, **International Mathematics Research Notices** Vol. 2015, Issue 24, 13194–13207 (2015), <https://doi.org/10.1093/imrn/rnv080>

- 2014 D. A. Măcinic, D. Ibadula, *Some remarks on the realizability spaces of $(3, 4)$ -nets*. In: Ibadula, D., Veys, W. (eds) *Bridging Algebra, Geometry, and Topology*. Springer Proceedings in Mathematics & Statistics, vol 96 (2014), Springer, Cham. DOI:10.1007/978-3-319-091860_10.
- 2010 D. A. Măcinic, *Cohomology rings and formality properties of nilpotent groups*, **Journal of Pure and Applied Algebra** Vol. 214, Issue 10, 1818–1826 (2010), <https://doi.org/10.1016/j.jpaa.2009.12.025>
- 2009 D. A. Măcinic, Ș. Papadima, *Characteristic varieties of nilpotent groups and applications*, **Proceedings of the Sixth Congress of Romanian Mathematicians (Bucharest, 2007)**, Vol.1, pp. 57–64, Editura Academiei Române, Bucharest, 2009, MR2641547
- 2009 D. A. Măcinic, Ș. Papadima, *On the monodromy action on Milnor fibers of graphic arrangements*, **Topology and its Applications** Vol. 156, Issue 4, 761–774 (2009), <https://doi.org/10.1016/j.topol.2008.09.014>
- 2009 D. A. Măcinic, *A survey of combinatorial aspects in the topology of complex hyperplane arrangements*, *Combinatorial aspects of commutative algebra*, pp 113–128 (2009), Book Series: **Contemporary Mathematics**, Vol. 502, American Mathematical Society, Providence, RI, 2009, MR2583276, <https://doi.org/10.1090/conm/502>

RESEARCH VISITS

- November 18-22 2024 **Institut für Algebra, Zahlentheorie und Diskrete Mathematik, Leibniz Universität Hannover**
- 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**
- March, November 2012 (2 weeks) **Université Sophia-Antipolis Nice**

TALKS & CONFERENCES

ATTENDED

- June 1, 2026 **"From line arrangements to conic-line arrangements"**, talk presented at the workshop On Singularities and Related Fields Ovidius University of Constanța Constanța, Romania.
- May 12, 2026 **"Nets and realizability"**, talk presented at the workshop Women in Mathematics Day, May 12, 2026, IMAR, Bucharest.
- April 30, 2026 **"Addition-deletion for conic-line arrangements with split Chern polynomial"**, talk presented at the workshop Commutative Algebra Day, April 30, 2026, IMAR, Bucharest.
- September, 2025 **"Curve arrangements. Freeness and geometric constraints"**, talk presented at the conference Moduli, Hilbert Schemes and Singularities, Cluj-Napoca, September 8-12, 2025.
- November 21, 2024 **"Freeness-type properties and combinatorics of line arrangements"**, talk presented at Oberseminar Algebra, Zahlentheorie und Diskrete Mathematik, Institut für Algebra, Zahlentheorie und Diskrete Mathematik, Leibniz Universität Hannover.
- September 9-13, 2024 **"Line arrangements and their combinatorics"**, talk presented at the Research School Topology and Algebra of Singularities and their Applications, Ovidius University, Constanța.
- July 7-11, 2023 **"A Yoshinaga-type criterion for POG arrangements"**, talk presented at Geometry, Topology and Algebra of Singular Spaces, IMAR, Bucharest, Romania.
- May 18-19, 2023 **"Ziegler restrictions and combinatorics of line arrangements"**, talk presented at Workshop for Young Researchers in Mathematics, 12th edition, Alexandru Ioan Cuza University, Iași, Romania.

- May 20-24, 2019 **"Freeness and variations"**, talk presented at The 27th National School on Algebra, IMAR Bucharest.
- June 26 - July 1, 2015 **"(Multi)nets and monodromy"**, talk presented at the 8-th Congress of the Romanian Mathematicians, Alexandru Ioan Cuza University, Iasi.
- November 19, 2013 **"Combinatorics in the topology of hyperplane arrangements"**, talk presented at the "Graduiertenkollegseminar on combinatorial structures in geometry", Osnabrück Univ., Institut für Mathematik.
- May 09 - May 10, 2013 **"Orlik-Solomon algebras"**, talk presented at the Workshop for Young Researchers in Mathematics, Ovidius University, Constanta, Romania.
- June 27 - 30, 2013 **"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, "1 Decembrie 1918" University of Alba Iulia, Romania.
- September 2-6, 2013 **"Hyperplane arrangements"**, talk presented at The 21st National School on Algebra "Algebraic Methods in Combinatorics", IMAR Bucharest.
- August 29-September 1, 2013 **"Pencil type line arrangements of low degree and monodromy"**, talk presented at the Anniversary Conference Faculty of Sciences - 150 years, Faculty of Mathematics and Computer Science, University of Bucharest.
- June 11 - 15, 2012 **"(Partial) formality"**, talk presented at the conference Arrangements in Pyrénées School on hyperplane arrangements and related topics, Université de Pau.
- March 6, 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.
- May 12 - 13, 2011 **"Partial formality and cohomology jump loci"**, talk presented at the Workshop for Young Researchers in Mathematics, Ovidius University Constanta.
- June 28 June - July 4, 2007 **"Cohomology jumping loci and formality properties of nilpotent groups"**, talk presented at The 6th International Congress of the Romanian Mathematicians, Bucharest, Romania.
- August, 2006 **"On the monodromy action on Milnor fibers of graphic arrangements"**, talk presented at the workshop "Recent developments in Arrangements and Configuration Spaces", MSRI, Berkeley, US.
- August 29 - September 2, 2005 **"The Milnor fiber associated to graphic arrangements"**, talk presented at the workshop "Hyperplane arrangements and constructible sheaves", Constanta, Romania.

EVENTS ORGANIZED

- August 24-28, 2026 **"Moduli and Friends II"**, Simion Stoilow Institute of Mathematics of the Romanian Academy, Bucharest, Romania (co-organizer).
- September 11-15, 2023 **"Moduli and Friends"**, Simion Stoilow Institute of Mathematics of the Romanian Academy, Bucharest, Romania (co-organizer).
- June 28 - July 3, 2019 **"Selected Topics in Complex and Differential Geometry, Topology, and Singularities"**, Special Session of The Ninth Congress of Romanian Mathematicians, "Dunarea de Jos" University of Galati, Romania (co-organizer).
- June 3-4, 2019 **"Workshop for Young Researchers in Mathematics"**, University of Bucharest (co-organizer).
- May 28 - 31, 2018 **"Topology and Geometry: A conference in memory of Stefan Papadima"**, Simion Stoilow Institute of Mathematics of the Romanian Academy (co-organizer).

- May 17 - 18, 2018 **"Workshop for Young Researchers in Mathematics"**, Simion Stoilow Institute of Mathematics of the Romanian Academy(co-organizer).
- May 17 - 20, 2017 **"Workshop for Young Researchers in Mathematics"**, Simion Stoilow Institute of Mathematics of the Romanian Academy(co-organizer).
- May 19 - 22, 2016 **"Workshop for Young Researchers in Mathematics"**, Ovidius University Constanta (co-organizer).
- July 6 - 10, 2015 **"Computational Geometric Topology in Arrangement Theory"**, ICERM, Brown University, USA (co-organizer).
- May 21 - 24, 2015 **"Workshop for Young Researchers in Mathematics"**, Ovidius University Constanta (co-organizer).
- May 22-23, 2014 **"Workshop for Young Researchers in Mathematics"**, Ovidius University Constanta (co-organizer).
- May 9-10, 2013 **"Workshop for Young Researchers in Mathematics"**, Ovidius University Constanta (co-organizer).
- June 21-24, 2013 **"Experimental and Theoretical Methods in Algebra, Geometry and Topology"**, Eforie Nord, Ovidius University Constanta & IMAR (co-organizer).

