

MILENA PABINIAK

WORK ADDRESS

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FIELD OF RESEARCH

Symplectic geometry and Hamiltonian group actions.

POSITIONS

2016 - now	Post-doctoral researcher, “wissenschaftliche Mitarbeiterin”, at University of Cologne, Germany; Lecturer (Differential Geometry: Riemannian Geometry and Lie Groups);
2013 - 2016	FCT (Fundação para a Ciência e a Tecnologia) Post-doctoral Fellow at CAMGSD Instituto Superior Tecnico, Lisbon, Portugal;
Fall 2015	visiting University of Cologne, Germany;
Spring 2014	visiting University of Illinois at Urbana Champaign, USA;
Fall 2012	Post-doctoral researcher at the University of Toronto; Lecturer (Calculus I; 180 students);
2009 - 2012	Graduate Teaching Assistant at Cornell University, Ithaca NY: Lecturer (Calculus I; 30 students), Recitational TA (Linear Algebra), Grader for higher level courses (Matrix Groups, Groups and Geometry);
2005- 2008	Graduate Teaching Assistant at the George Washington University, Washington DC: Recitational TA for Calculus and Linear Algebra;

STUDENTS:

I was co-supervising a PhD student, Aleksandra Marinković (main supervisor: Prof. Miguel Abreu) who had defended her degree in April 2015;

EDUCATION

2008 - 2012	PhD in Mathematics at Cornell University, advisor - prof Tara Holm, Thesis: Hamiltonian Torus Actions in Equivariant Cohomology and Symplectic Topology,
2005 - 2008	George Washington University, Washington DC Department of Mathematics, advisor prof. Jozef Przytycki, (graduated with Masters Degree),
2000- 2005	The University of Lodz, Poland, Department of Mathematics Specialization: Pure Mathematics, Degree: Magister Title of Master Thesis: Application of the Stokes Theorem in complex analysis- Cauchy’s Theorem and Residue Theorem, Master Thesis advisor - prof Antoni Pierzchalski, Elite grant of Polish Minister of Education (year 2004/2005, Lodz, Poland),
1996 - 2000	XII High School, Lodz, Poland; (mathematical concentration);

PUBLICATIONS AND PREPRINTS

Published articles

1. “Every symplectic toric orbifold is a centered reduction of a Cartesian product of weighted projective spaces”, with Aleksandra Marinković, *International Mathematics Research Notices* 2015, doi:10.1093/imrn/rnv066;
2. “Displacing Lagrangians in the manifolds of full flags in \mathbb{C}^3 ”, *Advances in Geometry*, Volume 15 (2015), Issue 1, 101–108;
3. “Gromov width of non-regular coadjoint orbits of $U(n)$, $SO(2n)$ and $SO(2n+1)$ ”, *Mathematical Research Letters*, Volume 21 (2014), No. 1, 187–205;
4. “Localization and Specialization for Hamiltonian Torus Actions”, *Journal of Symplectic Geometry*, Vol. 12, No. 1 (2014), 23–47;
5. “On the first group of the chromatic cohomology of graphs” with Prof. Jozef H. Przytycki and Radmila Sazdanovic, *Geometriae Dedicata*, Vol 140, No. 1 (2009)19–48, ISSN 0046-5755, math.GT/0607326.

Preprints. Available in the online database: arXiv.

1. “Simplices in Newton-Okounkov bodies and the Gromov width of coadjoint orbits”, with X. Fang and P. Littelmann, arXiv:1607.01163 [math.SG];
2. “The Gromov width of coadjoint orbits of the symplectic group”, with Iva Halacheva, arXiv:1601.02825 [math.SG];
3. “Canonical bases for the equivariant cohomology and K-theory rings of symplectic toric manifolds”, with S. Sabatini, arXiv:1503.04730 [math.SG];
4. “Gromov width of polygon spaces”, with A. Mandini, arXiv:1501.00298 [math.SG];
5. “On displaceability of pre-Lagrangian fibers in toric contact manifolds”, with A. Marinković, <http://www.mi.uni-koeln.de/~pabiniak~/ContactDisplacing.pdf> (updated version, with new results and changes suggested by a referee) and arXiv:1407.1614 [math.SG] (older version);

INVITED TALKS

1. Oberseminar Differentialgeometrie, Max Planck Institute for Mathematics, Bonn, “Arnold Conjectures and introduction to the generating functions technique”, November 12th, 2015,
2. AMS-EMS-SPM International Meeting, “On displaceability of pre-Lagrangians in toric contact manifolds”, 10 - 13 June 2015, Porto, Portugal; Special Session “Contact and Symplectic Topology”,
3. Israel Mathematical Union, “On displaceability of pre-Lagrangians in toric contact manifolds”, May 27-31, Israel,
4. Bochum, Köln, Münster joint Seminar on Symplectic and Contact Geometry, “On displaceability of pre-Lagrangians in toric contact manifolds”, March 27th, 2015,
5. Geometry Seminar, IRMA Strasbourg, “Gromov width of polygon spaces”, February 2nd 2015,
6. Algebra and Geometry Seminar, University of Pavia, Italy, “On displaceability of pre-Lagrangians in toric contact manifolds”, December 2nd, 2014,
7. Seminar at ENS Lyon, “On displaceability of pre-Lagrangians in toric contact manifolds”, October 8th 2014,
8. Symplectic Seminar, University of Toronto, “On displaceability of pre-Lagrangians in toric contact manifolds”, June 9th 2014,

9. Symplectic & Poisson Geometry Seminar, University of Illinois at Urbana Champaign, “Symplectic toric manifolds as centered reductions of products of weighted projective spaces”, May 5th 2014,
10. VIII Workshop on Symplectic Geometry, Contact Geometry and Interactions, “Symplectic toric manifolds as centered reductions of products of weighted projective spaces”, January 30-February 1, 2014, IST, Lisbon, Portugal,
11. Algebra and Geometry Seminar, University of Pavia, Italy, “Arnold Conjectures and introduction to the generating functions technique”, November 27, 2013
12. Geometry and Topology Seminar, Centro da Matematica da Universidade do Porto, “Lower bounds on Gromov width of coadjoint orbits through the Gelfand-Tsetlin pattern”, July 12, 2013,
13. Topology And Geometric Group Theory Seminar, Cornell, April 25th 2013: “The Arnold Conjectures and an introduction to the generating functions technique”.
14. Symplectic Seminar CRM-Montreal, December 3rd 2012: “Lower bounds on Gromov width of coadjoint orbits through the Gelfand-Tsetlin pattern.”
15. Geometry and Topology Seminar, The University of Western Ontario, September 17th 2012: “Lower bounds on Gromov width of coadjoint orbits through the Gelfand-Tsetlin pattern.”
16. Foliations 2012, Lodz, Poland, June 29th 2012: “Lower bounds for Gromov width in the unitary and special orthogonal coadjoint orbits”
17. IAS Women and Mathematics Program, May 19th 2012; IAS, Princeton: “Lower bounds for Gromov width in the unitary and special orthogonal coadjoint orbits.”
18. Toric Geometry Workshops in Oberwolfach, Germany, April 15-21, 2012, short talks session: “Lower bounds for Gromov width of coadjoint orbits of $U(n)$ and $SO(n)$. ”
19. Joint Symplectic Seminar of Penn State & Cornell, University Park, PA, March 31st, 2012: “Lower bounds for Gromov width of coadjoint orbits of $U(n)$ and $SO(n)$. ”
20. Geometry and Topology Seminar, MIT, March 5th, 2012: “ Lower bounds for Gromov width of the unitary and special orthogonal coadjoint orbits. ”
21. Geometry and Topology Seminar, McMaster University, February 23th, 2012: “Lower bounds for Gromov width of the unitary and special orthogonal coadjoint orbits. ”
22. Symplectic Seminar, University of Toronto, February 22th, 2012: “ Lower bounds for Gromov width of the unitary and special orthogonal coadjoint orbits. ”
23. Geometry and Topology Seminar, University of Buffalo, January 20th, 2012: “Lower bounds for Gromov width of coadjoint orbits of $U(n)$ and $SO(n)$. ”
24. Geometry Seminar, ETH Zurich, January 11th, 2012: “Lower bounds for Gromov width of coadjoint orbits of $U(n)$ and $SO(n)$. ”
25. Joint Geometry and Differential Geometry Seminar, University of Illinois at Urbana Champaign, December 6th, 2011: “Lower bounds for Gromov width in the $SO(n)$ coadjoint orbits.”
26. 2011 Fall Eastern Sectional Meeting, Cornell University, Ithaca, NY, September 10-11, 2011: “Lower bounds for Gromov width of coadjoint orbits in $U(n)$.”
27. Symplectic Seminar, University of Toronto, July 22nd, 2011: “Finding the lower bounds for Gromov width of $U(n)$ -coadjoint orbits.”
28. Summer School on Contact and Symplectic Topology, University of Nantes, France, May 31st, 2011: “Lower bounds for Gromov width of coadjoint orbits of unitary group.”
29. Cornell University Analysis Seminar, April 18th, 2011: “New proof of the Newlander-Nirenberg Theorem” (based on joint work with Prof. J. Hubbard);
30. MathFest, Pittsburgh, August 5-7, 2010, Session: Combinatorial Games and Schubert Calculus; title of the talk: Localization and specialization in equivariant cohomology

31. First Joint Meeting of American Mathematical Society and Polish Mathematical Society (PTM), Warsaw, Poland, July 31st-August 3rd 2007; title of talk: “Algebra structure in Kauffman Bracket Skein Module of twisted I-bundles” given at Special Session on Invariants of Links and 3-Manifolds;
32. Conference “Braids and Knots”, Banach Center, Warsaw, Poland, December 11-15 2006; title of talk: “Khovanov-type homology of graphs motivated by Hochschild homology”
33. American Math Society Meeting in Durham, New Hampshire, April 22-23, 2006; title of talk: “Chromatic A_3 graph homology from geometric properties of graphs”, authors: Milena Pabiniak with Jozef H. Przytycki, Radmila Sazdanovic;
34. American Math Society Meeting in Bard College, Annandale-on-Hudson, October 8th 2005; talk: “Introduction to Hochschild homology” together with Prof. Jozef Przytycki and Radmila Sazdanovic;
35. Conference “Knots in Washington XXII”, May 5-7 2006; “Chromatic A_3 graph homology from geometric properties of graphs”, authors: Milena Pabiniak with Jozef H. Przytycki, Radmila Sazdanovic;
36. Conference “Knots in Washington XXI”, December 10th, 2005; “On torsion in the first A_3 graph cohomology”;
37. Workshops on Khovanov and Hochschild Homology, University of Iowa, Iowa City, September 2005; talk “Computing Hochschild homology using normalized Hochschild complex” together with Radmila Sazdanovic;

SELECTED CONFERENCES AND WORKSHOPS

1. Summer School on Moduli Problems in Symplectic Geometry, IHES, Paris, 6-17 July 2015;
2. Workshop on Contact Geometry in Dimension Three and Higher, 28 July - 1 August, 2014, University College London;
3. VIII Workshop on Symplectic Geometry, Contact Geometry and Interactions, January 30-February 1, 2014, IST, Lisbon, Portugal;
4. D-Days: A Panorama of Geometry, ETH Zurich, June 2013;
5. Topology, Symplectic and Contact Geometry in Toulouse, May 27–June 7, 2013;
6. Workshop “J-holomorphic Curves in Symplectic Geometry, Topology and Dynamics”, April 29 –May 10, 2012, CRM, Universite de Montreal;
7. MIT-RTG Geometry Workshop: the theory and application of polyfolds, August 13–17, 2012;
8. CAST Summer School, Budapest, Hungary; July 9-20 2012;
9. Toric Geometry Workshops in Oberwolfach, Germany, April 15-21, 2012;
10. Summer School and Conference on Contact and Symplectic Geometry, University of Nantes, France, May 30-June 18, 2011;
11. Affine Schubert Calculus Workshops and Summer School, Fields Institute, Toronto, Canada, July 7-15th 2010;
12. MSRI Summer School “Toric Varieties”, June 15-26, 2009,
13. PCMI Summer School for Graduate Students, Low Dimensional Topology, June 26-July 15, 2006;

HONORS AND AWARDS

- 2010/2011 Eleanor Norton York Award in Mathematics. This reward is assigned by Cornell University,
- Elite grant of Polish Minister of Education (year 2004/2005, Lodz, Poland);