

Contact and Personal Information

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Citizenship : Italian
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Professional Positions

Jul 2016 – present, **University of Virginia**, Assistant Professor
Jul 2013 – Jun 2016, **Brown University**, Tamarkin Assistant Professor
Jan 2015 – May 2015, **MSRI**, Huneke Endowed Postdoctoral Fellow
Sep 2012 – Aug 2013, **University of Paris-Sud 11**, Postdoctoral Fellow
Apr 2012 – Aug 2012, **University of Toulouse**, Postdoctoral Fellow

Extended Visits

Jan – May 2015, **MSRI**, *Dynamics on moduli spaces of geometric structures*
Sep – Dec 2013, **ICERM**, *Low-dimensional Topology, Geometry, and Dynamics*
Feb – Mar 2013, **Osaka University**, JSPS Postdoctoral Fellowship (Short Term)
Jan – Mar 2012, **IHP**, Paris, *Geometry and analysis of surface group representations*
Jun – Aug 2010, **NUS**, Singapore, *Geometry, Topology and Dynamics of Character Varieties*

Education

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| Oct 2008 – Jan 2013, Warwick University , UK Advisor: Prof. Caroline Series | Ph.D. in Mathematics Thesis: Slices of Quasifuchsian space |
| Sep 2006 – Jun 2008, Genoa University , Italy Advisor: Prof. Carlo Petronio (Pisa) | M.Sc. in Mathematics, 100/100 cum laude Thesis: Teichmüller space for orbifolds |
| Sep 2003 – Jun 2006, Genoa University , Italy Advisor: Prof. Claudio Bartocci | B.Sc. in Mathematics, 100/100 cum laude Thesis: Groups $O(p, q)$ and space \mathbb{H}^3 |

Research Interests

Hyperbolic geometry; Kleinian groups, Quasi-Fuchsian space, complex projective structures.
Deformation spaces of geometric structures, their boundaries; character varieties $\chi(\Gamma, G)$, dynamics of $\text{Out}(\Gamma)$ -action on character varieties.
Higher Teichmüller theory; Anosov representations, their limits.
(GHMC) AdS manifolds; bending lamination conjecture; ideal polyhedra.
Combinatorics of curves on surfaces; Train tracks, Dehn–Thurston coordinates.

Publications & Preprints

Published

1. S. Maloni, F. Palesi, S. P. Tan *On the character varieties of the four-holed sphere*, Groups, Geometry, and Dynamics 9 (3) (2015), 737–782.
2. S. Maloni, *Asymptotic directions of pleating rays in the Maskit embedding*, Conformal Dynamics and Hyperbolic Geometry, AMS Contemporary Mathematics, (2012), 159–181.
3. S. Maloni, C. Series, *Top terms of polynomial traces in Kra’s plumbing construction*, Algebraic and Geometric Topology 10 (3) (2010), 1565–1607.

Submitted

4. J. Danciger, S. Maloni, J.-M. Schlenker, *Higher signature Delaunay decompositions*, arXiv:1602.03865, submitted (2015).
5. S. Maloni, F. Palesi, *On the character varieties of the three-holed projective plane*, arXiv:1509.08341, submitted (2015).
6. J. Danciger, S. Maloni, J.-M. Schlenker, *Polyhedra inscribed in quadrics*, arxiv:1410.3774, submitted (2014).

Thesis

7. S. Maloni, *Slices of Quasifuchsian space*, Ph.D. thesis (2013).

In preparation

8. S. Maloni, *\underline{c} -gluing construction and slices of Quasifuchsian space*, in preparation.
9. D. Alessandrini, S. Maloni, A. Wienhard, *The geometry of quasi-Hitchin symplectic representations*, in preparation.
10. F. Bonsante, J. Danciger, S. Maloni, J.-M. Schlenker, *Induced metrics on convex hulls of quasicircles*, in preparation.
11. S. Maloni, F. Palesi, T. Yang, *On type-preserving representations of the three-holed projective plane*, in preparation.
12. C. Lecuire, M. Lee, S. Maloni, *Dynamics on $\mathrm{PSL}(2, \mathbb{C})$ -character varieties of manifolds with compressible boundary*, preliminary results.

Books

13. I. Biringer, A. Lukyanenko, S. Maloni, *Lectures on Higher Teichmüller-Thurston theory*, in preparation.
14. S. Maloni, L. Schaposnik, *Lectures from GEAR Junior Retreat 2014*, in preparation.

Selected Awards & Honors

DDI (Directors of Diversity and Inclusion) Grant, UVa, Mar 2017 - June 2018.

NSF Research Grant – Topology, Sep 2015 - July 2018.

MSRI Huneke Endowed Postdoctoral Fellow, Jan - May 2015.

AMS Simons Travel Grant, Mar 2014 – Feb 2016.

AWM-NSF Travel Grant, Mar 2014.

Special scholarship, Warwick Mathematics Institute Alumni Scholarship for Postgraduate Studies, Mathematical Department, Warwick University, 2008–2012.

Teaching Experience

- Professor; Survey of Algebra, University of Virginia, *Spring 2017*.
- Professor; Calculus I, University of Virginia, *Fall 2016*.
- Professor; Algebraic Topology, Brown University, *Fall 2014, Fall 2015*.
- Professor; Linear Algebra, Brown University, *Spring 2014, Spring 2016*.
- Professor; Functions of several variables, Brown University, *Fall 2013, Fall 2014, Fall 2015*.
- Teaching Assistant; Mathematics, PeiP1, Polytech’ Paris-Sud 11, *Fall 2012*.

- Teaching Assistant; Introduction to Topology, *Fall 2011*.
- Teaching Assistant; Experimental Maths, *Summer 2009, Summer 2010, Summer 2011*.
- Teaching Assistant; Three manifolds, *Spring 2011*.
- Teaching Assistant; Knot Theory, *Spring 2009, Spring 2010, Spring 2011*.
- Teaching Assistant; Hyperbolic Geometry, *Spring 2009, Spring 2010, Spring 2011*.
- Teaching Assistant; Mathematical Excursions, *Fall 2010*.
- Teaching Assistant; Geometry, *Fall 2008, Fall 2009, Fall 2010*.
- Teaching Assistant; Vector analysis, *Fall 2009*.
- Award Introduction to Academic and Professional Practice, University of Warwick, Mar 2011.
- Tutor for Undergraduate students; *Fall-spring-summer 2008, 2009, 2010, 2011*.

Invited talks

Conferences

- Conference Higgs bundles and related topics, Argentina, December 17-21, 2018.
- Workshop on Geometry of Teichmüller Space, Fields Institute, Toronto, August 27-31, 2018.
- Summer School, Luxembourg, June 11-18, 2018.
- 15th annual Bloomington Geometry Workshop, Indiana University, April 6-8, 2018.
- Spring Topology Conference (STDC 2018), Auburn University, March 14-17, 2018.
- Workshop on Moduli Spaces, Ventotene, Italy, Sep 11-16, 2017.
- Geometric structures And Representation Varieties (GEAR) NSF Network Retreat, Stanford University, Aug 6-12, 2017.
- Geometry and Physics of Higgs bundles, Mathematical Congress of the Americas, Montreal, Canada, Jul 24-28, 2017.
- Geometry and Combinatorics of Cell Complexes, Mathematical Congress of the Americas, Montreal, Canada, Jul 24-28, 2017.
- Compactifications of Moduli spaces of Representations, Montana, Jun 11-18, 2017.
- Geometric topology in Cortona, Cortona, Italy Jun 4-10, 2017.
- Graduate Student Geometry Topology Conference, Michigan State University, Apr 8-9, 2017.
- Special Session on Group actions and geometric structures at JMM, Atlanta, Jan 4-7, 2017.
- Symposium on Differential Geometry and Teichmüller theory, BHU, India, Dec 14-17, 2016.
- Tech Topology Conference, Georgia Tech, Dec 2-4, 2016
- Virginia Topology Conference (VTC), University of Virginia, Nov 18-20, 2016 (organiser).
- AMS Sectional Meeting on Convex Cocompactness, Bowdoin College, Sep 24-25, 2016 (organiser).
- Current trends on spectral data for Higgs bundles II, SCGP, Jun 2016.
- Workshop on $\mathrm{Sp}(4, \mathbb{R})$ -Anosov Representations, Colorado, USA, Jan 2016 (organiser).
- Higher Teichmüller theory and Higgs bundles: interactions and new trend, Heidelberg, Nov 2015.
- 3-dimensional Geometric Structures, Representations of Surface Groups and related topics, Luxembourg, Jul 2015.
- Connections for Women: Dynamics on Moduli Spaces of Geometric Structures, MSRI, Jan 2015.
- Young Geometric Group Theory Meeting IV, Spa, Belgium, Jan 2015.
- Mapping Class Groups and Teichmüller Theory, Ramat Hanadiv, Israel, May 2014.
- GEAR NSF Network Junior Retreat, University of Michigan, USA, May 2014 (organiser).
- AMS Special Session on Low-dimensional Topology and Group Theory, Baltimore, USA, Mar 2014.
- New Trends in Teichmüller Theory and Mapping Class Groups, Oberwolfach, Germany, Feb 2014.
- AMS Special Session on Geometric structures on low-dimensional manifolds at the Joint Mathematics Meeting, Baltimore, USA, Jan 2014.
- XXII Rolf Nevanlinna Colloquium, Helsinki, Finland, Aug 2013.
- Higher Teichmüller–Thurston Theory, Northport, Maine, USA, June 2013 (organiser).
- Branched Coverings, Degenerations, and Related Topics, Tokyo, Japan, Mar 2013.
- Higher Teichmüller–Thurston Theory, CRM, Montreal, Canada, Oct 2012.
- Geometric structures And Representation Varieties (GEAR) NSF Network Retreat, UIUC, 2012.
- Senior Seminar, Geometry and analysis of surface group representations, IHP, Paris, Jan 2012.
- Young Researchers in Mathematics, University of Warwick, United Kingdom, Apr 2011 (organiser).
- Fourth de Brún Workshop on Group Actions, NUI Galway, Ireland, Dec 2010.

- International Congress of Mathematicians, Hyderabad (ICM), Hyderabad, India, Aug 2010.
- Geometry, Topology and Dynamics of Character Varieties, NUS, Singapore, Jun–Aug, 2010.
- Women in Mathematics Two Day Meeting, Newton Institute, Cambridge, UK, Apr 2010.
- Summer School in honor of Howard Masur’s 60th birthday, CIRM, Luminy, Jun 2009.

Seminars

- Rainwater Seminar, University of Washington, Fall 2018.
- Geometry and Topology Seminar, Brown University, Fall 2018.
- Geometry and Topology Seminar, Caltech, April 13, 2018.
- Groups and Dynamics Seminar, Texas A&M University, February 15-17, 2018.
- Geometry Seminar, University of Virginia, February 6, 2018.
- Geometry and Dynamics Seminar, Lille, January 26, 2018.
- Geometry and discrete groups Seminar, IHES, January 15, 2018.
- Geometry, Topology and Dynamics Seminar, Paris Sud XI, Orsay, January 11, 2018.
- Geometry Seminar, University of Michigan, April 7, 2017.
- PATCH Seminar, Temple University, March 3, 2017.
- Colloquium, Dartmouth College, February 23, 2017.
- Geometry Seminar, Dartmouth College, February 24, 2017.
- Geometry, Topology and Dynamics, University of Illinois in Chicago, January 9, 2017.
- Colloquium, Tribhuvan University, Kathmandu, Nepal, January 4, 2017.
- Algebra Seminar, Virginia Tech, November 4, 2016.
- Geometry and Topology Seminar, University of Maryland, October 24, 2016.
- Topology, Arithmetic, and Dynamics Seminar, George Mason University, October 21 2016.
- Seminar, University of Genoa, June 30, 2016.
- Colloquium, University of Connecticut, Jan 2016.
- Teichmüller Seminar, University of Rutgers-Newark, Jan 2016.
- Colloquium, University of Rutgers-Newark, Jan 2016.
- Colloquium, Florida State University, Jan 2016.
- Oliver Club, Cornell University, Nov 2015.
- Differential Geometry Seminar, Heidelberg, Germany, Jul 2015.
- Geometry and Topology Seminar, Toronto University, Canada, Spring 2015.
- Topology Seminar, University of California, Santa Barbara, USA, Dec 2014.
- Topology Seminar, Caltech, USA, Dec 2014.
- Geometry and Topology Seminar, Berkeley University, USA, Dec 2014.
- Geometry and Topology Seminar, Wesleyan University, USA, Nov 2014.
- Geometry and Topology Seminar, Stanford University, USA, Oct 2014.
- Max Dehn seminar, University of Utah, USA, Oct 2014.
- Geometry and Topology Seminar, Brown University, USA, Oct 2014.
- Geometry and Topology Seminar, Rutgers University, USA, Apr 2014.
- Geometry and Topology Seminar, Yale University, USA, April 2014.
- Geometry and Topology Seminar, Temple University, USA, Mar 2014.
- Geometry and Topology Seminar, University of Maryland, USA, Mar 2014.
- Geometric Group Theory and Topology Seminar, Tufts University, USA, Feb2014.
- Topology Seminar, University of Michigan, USA, Dec 2013.
- Discrete Math Seminar, Brown University, USA, Dec 2013.
- Weekly Seminar, ICERM, Providence, USA, Nov 2013.
- Geometry and Topology Seminar, CUNY, USA, Nov 2013.
- LAGA Seminar, Paris 13, France, Jun 2013.
- COOL Seminar, IHP, Paris, France, May 2013.
- Differential Geometry Seminar, Heidelberg, Germany, May 2013.
- Global Analysis Seminar, Regensburg University, Germany, May 2013.
- Graduate Students Colloquium, Regensburg University, Germany, May 2013.
- Geometry Seminar, Friburg, Switzerland, May 2013.
- Seminar, University Jawaharlal Nehru, Delhi, India, Apr 2013.
- Geometry Seminar, Lille, France, Apr 2013.
- The Tech Seminar, Marseille, France, Apr 2013.
- Geometry Seminar, Lille, France, Apr 2013.
- Geometry and Topology Seminar, Osaka University, Japan, Feb 2013.

- Geometry and Topology Seminar, University of Pisa, Italy, Jan 2013.
- Geometry and Topology Seminar, University of Paris-Sud 11, France, Dec 2012.
- Geometry Seminar, University Paul Sabatier, Toulouse, June 2012.
- Seminar, City University of New York (CUNY), USA, May 2011.
- Seminar, University of Montreal, Canada, May 2011.
- Seminar, University of Maryland, USA, May 2011.
- Postgraduate Seminar, University of Warwick, Coventry, UK, Feb 2011.
- Geometry and Topology Seminar, University of Warwick, Coventry, UK, Jun 2009.
- Postgraduate Seminar, University of Warwick, Coventry, UK, May 2009.

Other conferences

- Program Geometry, Topology and Dynamics of Moduli Spaces, NUS, Singapore, Aug 2016.
- Classical and quantum hyperbolic geometry and topology, Université Paris-Sud, Orsay, July 2015.
- Visit to Marseille, France, July 2015.
- CooperFest, Berkeley, USA, May 2015.
- The Ahlfors-Bers Colloquium, Yale University, USA, Oct 2014.
- Yamabe Symposium, University of Minnesota, USA, Oct 2014.
- GEAR NSF Network Senior Retreat, University of Maryland, USA, Mar 2014.
- Visit to the University of Luxembourg, Jan 8-10, 2014.
- 9th William Rowan Hamilton Geometry and Topology Workshop, Dublin, Ireland, Aug 2013.
- Geometric Topology in Cortona, Cortona, Italy, Jun 2013.
- Visit to the University Jawaharlal Nehru, Delhi, India, Apr 13-20, 2013.
- Special Program on Teichmüller Theory, Erwin Schrödinger Institute, Vienna, March 25-29, 2013.
- Young Geometric Group Theory Meeting II, Haifa, Israel, Feb 2013.
- Hyperbolic geometry and arithmetic: a crossview, Toulouse, France, Nov 2012.
- GEAR NSF Network (Junior and Senior) Retreat, Champaign-Urbana, USA, Aug 2012.
- Mapping Class Groups and Quantum Topology, IRMA, Strasbourg, France, Jun 2012.
- Rigidity and Flexibility in Dimensions 2, 3 and 4, CIRM, Luminy, France, May 2012.
- Geometry and analysis of surface group representations, IHP, Paris, France, Jan–Mar 2012.
- 7th William Rowan Hamilton Geometry and Topology Workshop, Trinity College, Dublin, 2011.
- Aspects of hyperbolicity in geometry, topology, and dynamics, University of Warwick, Jul 2011.
- MRC Geometry of Real Projective Structures, Utah, USA, Jun 2011.
- Three–manifolds, Groups and Singularities, Columbia University, USA, Jun 2011.
- Geometric and Algebraic Structures in Mathematics, Stony Brook University, USA, May 2011.
- Analysis, Geometry and Surfaces, Autrans, France, Mar 2011.
- International Conference of Women Mathematicians (ICWM), Hyderabad, India, Aug 2010.
- Geometry, Topology and Dynamics of Character Varieties, NUS, Singapore, Jun–Aug, 2010.
- HIM Trimester Program on Geometry and Dynamics of Teichmüller Spaces, Bonn, May 2010.
- Workshop on fundamental group and hyperbolic geometry, Toulouse, France, December 2009.
- Conference in honor of Howard Masur’s 60th birthday, CIRM, Luminy, France, Jun 2009.
- Workshop “Dehn Filling Day and Cannon-Thurston Day”, University of Warwick, May 2009.
- Workshop “Dynamics on character varieties”, University of Warwick, UK, Oct 2009.

Services

Conferences organised

- Co-organizer of the workshop *Virginia Topology Conference*, University of Virginia, Nov 2016.
- Co-organizer of the AMS Special Section *Convex Cocompactness*, Bowdoin College, Sep 2016.
- Co-organizer of the workshop $\mathrm{Sp}(4, \mathbb{R})$ –*Anosov representations*, Colorado, USA, Jan 2015.
- Co-organizer of the (GEAR) NSF Junior Retreat, University of Michigan, USA, May 2014.
- Co-organizer of the workshop *Higher Teichmüller–Thurston Theory*, Maine, USA, June 2013.
- Co-organizer of the conference *Young Researchers in Mathematics (YRM)*, Warwick, Apr 2011.

Seminars organised

- Organizer of the *Geometry and Topology Seminar*, Brown University, 2013 – 2016.

- Co-organizer of the *Geometry and Topology Seminar Brown Yale (GATSBY) Seminar*, Brown and Yale University, 2013–2016.
- Organizer of the reading course *Cluster algebras and geometric applications*, Brown University, 2014.
- Organizer of the reading course *Higher Teichmüller-Thurston Spaces*, University of Paris-Sud, 2012.
- Organizer of the *Postgraduate Seminar*, IHP, Paris, 2012.
- Organizer of the reading course *Ending Lamination Theorem (part I and II)*, Warwick, 2011.
- Organizer of the reading course *Geodesic laminations on surfaces*, University of Warwick, 2010.
- Organizer of the *Postgraduate Seminar*, University of Warwick, 2009–2011.

Other services

- Member of the AWM Student Chapter Committee, 2015 – present.
- Organiser of the Math Club, University of Virginia, 2016 – present.
- Faculty advisor and co-founder of the AWM Student Chapter, University of Virginia, 2016 – present.
- AWM Mentor of a college student and a high school student, 2015 – present.
- First Year Advisor, Brown University, 2015 – 2016.
- Referee for Algebraic and Geometric Topology, Annales de l'École normale supérieure, Geometriae Dedicata, Geometry and Topology, Mathematische Annalen, Lectures Notes Series (IMS, NUS), Transaction of the AMS, and others.
- Advisor for the Rose Whelan Society (for women graduate student), Brown University, 2013 – 2016.
- Member of the Scientific Committee for the *Young GGT Meeting*, CIRM, Luminy, France, 2014.
- Member of the *Warwick Staff Graduate Student Liaison Council*, University of Warwick, 2009–2011.

References

Jeffrey Brock, Brown University, RI, USA

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¹Last updated: March 9, 2018