

Andrew Yarmola

Email | yarmola@math.princeton.edu
Website | math.princeton.edu/~yarmola

Employment

Princeton University

Instructor

Sept 2019 – July 2020

Postdoctoral Research Associate and Lecturer

July 2018 – Sept 2019

Université du Luxembourg

Postdoctoral Researcher

Sept 2016 – Mar 2018

Education

Ph.D. in Mathematics, **Boston College**, Chestnut Hill, MA

Dissertation: *Convex hulls in hyperbolic 3-space and generalized orthospectral identities* May 2016

Advisor: Martin Bridgeman

Visiting Student Research Collaborator, **Princeton University**, Princeton, NJ

Sept 2015

Research Coordinator: David Gabai

May 2016

B.S. in Mathematics with Honors, **Stanford University**, Stanford, CA

Thesis: *Persistence and Computation of the Cup Product*

June 2010

Advisors: Mikael Vejdemo-Johansson & Gunnar Carlsson

Research Interests

Low-dimensional topology, Kleinian groups, (Higher) Teichmüller Theory, geometric identities, circle packings, and computational geometry and topology.

Papers and Preprints

Hyperbolic 3-manifolds of low cusp volume.

*in preparation** (with David Gabai, Robert Haraway, Robert Meyerhoff, and Nathaniel Thurston)

Random triangles on surfaces.

*in preparation** (with Olivier Glorieux)

Volumes and filling collections of multicurves .

submitted (Tommaso Cremaschi and José Andrés-Rodríguez Migueles)

Properness for circle packing and Delaunay circle patterns in complex projective surfaces.

submitted (with Jean-Marc Schlenker)

The Two-Eyes Lemma: a kissing problem for horoballs.

submitted (with David Gabai and Robert Meyerhoff)

Improved bounds for average bending on the convex core of a Kleinian group

submitted

Basmajian's identity for higher Teichmüller-Thurston theory

Journal of Topology, September 2017. (with Nicholas G. Vlamis)

The Bridgeman-Kahn identity for manifolds with cusped boundary

Geometriae Dedicata, August 2017 (with Nicholas G. Vlamis)

A new bound for Sullivan's Theorem for simply connected domains

Proc. London Math. Soc., January 2016 (with Martin Bridgeman and Richard D. Canary)

* An article is in preparation if it is in the process of being edited or the core theorems have (drafts of) proofs written.

Conference & Colloquium Talks

Chiang Mai University , Combinatorial and algebraic aspects of geometric structures	July 2019
Rutgers University - Newark , Colloquium	Apr 2018
National University of Singapore , Geometric Structures and Representation Varieties	May 2017
Brown University , 3 rd Annual Graduate Student Math Conference	Apr 2016
Princeton University , NSF RTG Geometry & Topology Day	Feb 2016
Joint Mathematics Meetings , Seattle WA MAA General Contributed Paper Session on Geometry, II	Jan 2016
Temple University , Graduate Student Conference in Algebra, Geometry, & Topology	May 2015
Georgia Institute of Technology , Topology Student Workshop	May 2014
University of Michigan , GEAR Junior Retreat	May 2014
Trinity College Dublin , 8th William Rowan Hamilton Geometry & Topology Conference Poster Session	Aug 2011

Seminar Talks

Oklahoma State University , Topology Seminar	Oct 2019
CUNY Graduate Center , Geometry and Topology Seminar	Feb 2019
Temple University , Geometry and Topology Seminar	Jan 2019
Rutgers University , Geometry/Topology Seminar	Nov 2018
CUNY Graduate Center , Hyperbolic Geometry Seminar	Oct 2018
Brown University , Discrete Geometry Seminar	Oct 2018
Université de Strasbourg , Séminaire GT3	Feb 2017
Université de Fribourg , Oberseminar Geometrie	Dec 2016
INRA Nancy , LORIA Seminar	Nov 2016
Université du Luxembourg , Geometry and Topology Seminar	Sep 2016
Université d'Avignon , Séminaire de Systèmes dynamiques, Analyse et Géométrie	Jul 2016
Temple University , Geometry-Topology Seminar	Dec 2015
Princeton University , Graduate Student Seminar	Oct 2015
Harvard University , New Results on Hyperbolic Volume Seminar	Oct 2014
University of Florida , Topology and Dynamics Seminar	Jan 2013

Teaching

Princeton University	
Instructor for <i>Honors Linear Algebra</i> (MAT217)	Spring 2020
Instructor for <i>Multivariable Calculus</i> (MAT201)	Fall 2019
Instructor for <i>Advanced Linear Algebra with Applications</i> (MAT204)	Spring 2019
Instructor for <i>Calculus II</i> (MAT104)	Fall 2018

Université du Luxembourg

Instructor for <i>Analysis for Applications</i> in BiCS program	Fall 2017
Instructor for a reading course on hyperbolic geometry	Spring 2017
Instructor for <i>Introduction to Programming</i> (MAMATH100)	Fall 2016

Boston College

Instructor for <i>Finite Probability and Applications</i> (MATH1004)	Fall 2014
Instructor for <i>Calculus I</i> for small classes of non-science majors (MT100)	Fall 2011 2012 2013
Instructor for <i>Calculus II</i> for small classes of non-science majors (MT101)	Spring 2012 2013 2014
Teaching Assistant for <i>Calculus I, Mathematics for Management Science</i>	Fall 2010 Spring 2011

Stanford University Mathematics Camp

Teaching Assistant	Jun 2008 - Sep 2008
Mentored students on topology and knot theory research projects.	

Tutor, Grader, and Mentor

Stanford University Mathematics Department, ActiveMinds Tutoring LLC, Boston, MA, and Princeton, NJ	Various
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Awards and Certificates

Teaching Transcript Certification , McGraw Center for Teaching & Learning, Princeton A series of workshops, class observation, and creation of teaching materials (expected)	Nov 2019
GEAR REGS: Geometric identities for Higher Teichmüller-Thurston Theory Summer research grant to work with Prof. Greg McShane at Joseph Fourier University	July 2014
Donald J. White Teaching Excellence Award Awarded by Boston College Mathematics Department	2013-2014
VPUE Grant in Mathematics Awarded by Stanford University Mathematics Department	Summer 2008

Computational Experience

Advanced Knowledge	C/C++, Python, Objective-C, bash, Perl, Mathematica, MATLAB, Haskell, SQL
Skills	Computer-assisted proofs, actuarial software, remote system administration, iOS development, networking software, version control (git/svn/mercurial), iOS, Linux, macOS, Microsoft Windows

Service

Co-organizer , <i>Topology Seminar</i> , Princeton University	2018 - 2020
Organizer , <i>Reading Seminar on Geometry</i> , Université du Luxembourg	2016 - 2017
Treasurer , <i>Mathematics Graduate Association</i> , Boston College	2014 - 2015
Treasurer , <i>AMS Graduate Student Chapter</i> , Boston College	2014 - 2015
Financial Officer , <i>Stanford University Mathematics Organization</i>	2008 - 2010
Financial Officer and Founder , <i>Stanford Ceramics Studio</i>	2007 - 2010