CURRICULUM VITAE

LARA BOSSINGER

February 2018

General information

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Professional Experience

2015 – today	PhD student, Thesis: Toric degenerations in representation theory, combinatoric and geometric approaches, supervised by Prof. Dr. Peter Littelmann, University of Cologne, Cologne, Germany
Sep/Oct 2017	Visiting Dr. Martina Lanini at Università degli Studi di Roma "Tor Vergata", Rome, Italy
2011 – 2015	Teaching assistant for undergraduate and advanced classes, webmaster for internal homepage (responsibilities: lecturing tutorials, marking homework, mentoring undergraduates, webmaster for homepage)

Education

2014 – 2015	MASt in Pure Mathematics with merit, Newnham College, University of Cambridge, Cambridge, UK
2013 – 2015	MSc in Mathematics (GPA 4.0), Thesis title: Demazure modules and toric degenerations of Schubert varieties, University of Cologne, Cologne, Germany
2009 – 2013	BSc in Mathematics (GPA 4.0), University of Cologne, Cologne, Germany

Publications and Preprints

2017 "Computing toric degenerations of flag varieties" with Sara Lamboglia, Fatemeh Mohammadi, Kalina Mincheva, In: Smith G., Sturmfels B. (eds) Combinatorial Algebraic Geometry. Fields Institute Communications, vol 80. Springer, New York, NY

Preprint 2016 "Toric degenerations of Gr(2,n) and Gr(3,6) via plabic graphs" with Xin Fang, Ghislain Fourier, Milena Hering, Martina Lanini, arXiv:1612.03838

Preprint 2016 "String cone and Superpotential combinatorics for flag and Schubert varieties in type A" with Ghislain Fourier, arXiv.1611.06504

Other 2016 "Birational sequences and Demazure characters", Oberwolfach Reports (OWR, ISSN 1660-8933), no. 13, 623 pp

2014 "The degree of the Hilbert-Poincaré polynomial of PBW-graded modules" with Teodor Backhaus, Christian Desczyk, Ghislain Fourier, (English, French summary), C. R. Math. Acad. Sci. Paris 352 (2014), no. 12, 959–963

Prizes and grants

2017 QM2 grant for Phd students: research visits abroad

2017 SIAM Student travel award to attend the SIAM Conference on Applied Algebraic Geometry, July/August 2017, Atlanta, GA

2016 MSRI Travel Grant to attend the workshop "Hot Topics: Cluster algebras and wall-crossing", March 2016, MSRI Berkely

2015 Caroline Turle Prize for high achievement in a masters course, Newnham College, University of Cambridge

2014 Sheila Edmunds Bursary for women in Part III, Newnham College, University of Cambridge

Talks

Feb 2018 "Toric degenerations from Tropical Geometry and Representation theory", Commutative Algebra and Algebraic Geometry Seminar, UC Berkeley, US

Feb 2018 "What is Tropical Geometry?", Coloquio UNAM Oaxaca, Mexico

Feb 2018 "Toric degenerations of Grassmannians", Workshop "Cluster varieties and Mathematical physics", Casa Matematica Oaxaca, Mexico

Dec 2017 "Degenerate Schubert varieties", Oberseminar Algebra, number theory, and discrete mathematics, Hannover, Germany

Nov 2017	"Examples for toric degenerations", Seminar on Interactions between symplectic geometry, combinatorics and number theory, Cologne, Germany
Oct 2017	"Birational sequences and the tropical Grassmannians of planes", Workshop "Recent advances on the geometry of valuations", Frankfurt, Germany
Sep 2017	"Toric degenerations of Grassmannians: birational sequences vs. tropical geometry", Algebra seminar, Tor Vergata, Rome, Italy
Aug 2017	"Birational sequences and the tropical Grassmannian of planes" at "A focused research workshop on toric degenerations", Bristol, UK
Jul 2017	"Computing toric degenerations of flag varieties", SIAM AG 2017 Minisymposium on Newton–Okounkov bodies, Atlanta, GA, US
Jun 2017	"Introduction to toric varieties", Seminar on Interactions between symplectic geometry, combinatorics and number theory, Cologne, Germany
Dec 2016	"String cone and Superpotential combinatorics for flag and Schubert varieties in type A", Oberseminar, Cologne, Germany
Oct 2016	"Computing toric degenerations of flag varieties", MPI MiS Leipzig, Germnay
Aug 2016	"String cones arising from cluster varieties", ICRA, Syracuse, NY, US
Jun 2016	"Toric degenerations of the Grassmannian of 2-planes in n-space", Oberseminar, Jena, Germany
Jun 2016	"Toric degenerations in Representation Theory and beyond", YWRep Bonn, Germany
Mar 2016	"Birational sequences and Demazure characters", Oberwolfach, Germany

Workshops and Seminar Organisation

Mar 2018	(Co-)organizer "Workshop for Young Researchers: Tropical Geometry meets Representation Theory" with Sara Lamboglia, Cologne, Germany Funding (in Euro): 10,000 Graduate School Cologne, 4,690 DFG Zukunftskonzept, 2,000 Foundation Compositio, travel support by GDRI Representation Theory
From Nov 2017	Organizer "Pizza-Seminar" for Phd students and Post-Docs to present their work connect different working groups and develop colaborations in a relaxed environment, Cologne, Germany
Nov 2017	Organizer "Graduate School Lectures" by Alfredo Nájera Chávez on "Quivers with potential in algebra and geometry", Cologne, Germany
May 2017	(Co-)organizer "Meet and Greet" during the Chow lectures, with Emre Sertöz, MPI MiS Leipzig, Germany

Activities

From Aug 2017 Member of the SIAM activity group Algebraic Geometry SI(AG)^2

2017 Member of AMS, AMS nominee of the University of Cologne

Teaching

From 2016 Supervising Undergraduate Theses

SS 2018 Student seminar "Representation Theory of Quivers" with Prof. Dr. Peter Littelmann

WS 2017/18 Student seminar[1] "Standardmonomial theory for Schubert varieties" with Prof. Dr. Peter Littelmann

SS 2017 Teaching Assistant[2] "Lie Algebras" with Prof. Dr. Peter Littelmann

WS 2016/17 Student seminar "Representation Theory of the symmetric group – the Okounkov–Vershik approach" with Prof. Dr. Peter Littelmann

SS 2016 Teaching Assistant for "Tropical Geometry" with Dr. Michael Ehrig

WS 2015/16 Exercise class[3] in "Linear Algebra I" with Prof. Dr. Peter Littelmann

WS 2013/14 Exercise class for women[4] in "Algebra" with Prof. Dr. Peter Littelmann

SS 2013 Exercise class for women in "Linear Algebra II" with Prof. Dr. Peter Littelmann

WS 2012/13 Exercise class for women in "Linear Algebra I" with Prof. Dr. Peter Littelmann

SS 2012 Exercise class in "Mathematics for Physicians II" with Prof. Dr. Hansjörg Geiges

WS 2011/12 Exercise class in "Linear Algebra I" with Prof. Dr. Sander Zwegers

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[1] Weekly seminar where talks are given by undergraduate students, preparatory meeting with every student

[2] Preparation of exercise sheets for the lecture, marking of weekly homework assignments and discussion of the solutions

[3] Marking of weekly homework assignments and presentation of solutions to exercise sheets

[4] Exercise class for women only to create a more relaxed atmosphere and encourage female students

Conferences and Academic Visits

Feb 2018 Visiting Lauren Williams and David Eisenbud at UC Berkeley, US

Feb 2018 Visiting Alfredo Nájera Chávez at IMUNAM Oaxaca, Mexico

Jan 2018 Workshop "Cluster varieties and Mathematical physics", Casa Matematica Oaxaca, Mexico

Dec 2017 Visiting Fatemeh Mohammdi at the University of Bristol, UK

Dec 2017 Plücker Lectures by Bernd Sturmfels, Bonn, Germany

Nov 2017 Workshop "Recent advances on the geometry of valuations", Frankfurt, Germany

Oct 2017 Workshop: "Quantum geometric and algebraic representation theory", Hausdorff Institute of Mathematics, Bonn, Germany

Sep 2017 "Advances in Mathematics and Theoretical Physics" Academia Nazionale dei Lincei, Rome, Italy

Aug 2017 A focused research workshop on toric degenerations, Bristol, UK

Jul 2017 SIAM Conference on Applied Algebraic Geometry, Atlanta, GA, US

May 2017 "Interactions between algebra and the sciences", MPI MiS Leipzig, Germany

May 2017 "Chow Lectures", MPI MiS Leipzig, Germany Workshop

May 2017 "Computing in Tropical Geometry" 2017, Berlin, Germany

Apr 2017 "Algebraic Groups", Oberwolfach, Germany

Mar 2017 "Cluster Algebras in Mathematical Physics", Spring School, Mainz, Germany

Mar 2017 "Quiver Grassmannians and their Applications", Workshop, Wuppertal, Germany

Feb 2017 Workshop "Newton-Okounkov Bodies, Test Configurations, and Diophantine Geometry", Banff, AB, Canada

Feb 2017 "A stringy day", Mini-Workshop, Cologne, Germany

Nov 2016 Visiting Fatemeh Mohammadi at TU Berlin, November Berlin, Germany

Oct 2016 Visiting Bernd Sturmfels, Fatemeh Mohammadi, and Sara Lamboglia at MPI Mathematics in the Sciences, Leipzig, Germany

Aug 2016 Conference "Algebraic Combinatorics in Representation Theory", Lumini (Marseille), France

Aug 2016 Lie Theory and Representation Theory Workshop 2016, Cologne, Germany

Aug 2016 Workshop and International Conference on Representations of Algebras (ICRA 2016), Syracuse, NY, US

Jul 2016 Summer School "Geometry of Valuations", Frankfurt, Germany

Jun 2016 Conference "Young Women in Representation Theory", Bonn, Germany

Mar 2016 Workshop "Hot Topics: Cluster algebras and wall-crossing", MSRI Berkeley, CA, US

Mar 2016 Conference "Cluster Algebras and Geometry", Münster, Germany

Feb 2016 Workshop "PBW-structures in Representation Theory", Oberwolfach, Germany

Jan 2016 Conference "Total Positivity: A bridge between Representation Theory and Physics", Canterbury, UK

Nov 2015 46th ARTIN (Algebra and Representation Theory in the North) Meeting, Glasgow, UK

Mar 2015 Annual conference of the DFG priority program in Representation Theory, SPP 1388, Bad Honnef , Germany

Feb 2015 Lecture Series on "Infinite-dimensional Lie algebras", Cambridge, UK

May 2014 Summer School "PBW-filtrations and degenerations of flag varieties", Glasgow, UK

Mar 2014 Seminar on "Kac-Moody groups", Cologne, Germany

Mar 2014 Annual conference of the DFG priority program in Representation Theory, SPP 1388, Soltau, Germany

Languages

German: Mother tongue

English: Fluent (TOEFL iBT >100)

Italian: Basic knowledge

Lara Bossinger