

Laurentiu Maxim – Curriculum Vitae

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Education

- Ph.D. in Mathematics, UNIVERSITY OF PENNSYLVANIA, May 2005.
- Master in Mathematics, UNIVERSITY OF BUCHAREST, ROMANIA, June 1999.
- B.A. and Diploma in Mathematics, UNIVERSITY OF BUCHAREST, ROMANIA, June 1997.

Appointments

- Professor, UNIVERSITY OF WISCONSIN-MADISON, since 2016.
- Associate Professor, UNIVERSITY OF WISCONSIN-MADISON, 2013 – 2016.
- Assistant Professor, UNIVERSITY OF WISCONSIN-MADISON, 2009 – 2013.
- Research Fellow, COURANT INSTITUTE, NEW YORK UNIVERSITY, 2007 – 2009.
- Doctoral Faculty, CITY UNIVERSITY OF NEW YORK, GRADUATE CENTER, 2009.
- Assistant Professor, CITY UNIVERSITY OF NEW YORK, LEHMAN COLLEGE, 2007 – 2009.
- Research Assistant Professor, UNIVERSITY OF ILLINOIS AT CHICAGO, 2005 – 2007.
- Courant Instructor, COURANT INSTITUTE, NEW YORK UNIVERSITY, Spring 2006.
- Research Fellow, INSTITUTE OF MATHEMATICS OF THE ROMANIAN ACADEMY, since 1998.

Awards, Fellowships

- *NSF research grant* DMS-1304999: “Singular Spaces in Geometry and Topology”, 2013 – 2017.
- *NSF research grant* DMS-1005338: “Geometry and Topology of Singularities”, 2010 – 2013.
- *NSF award* #1462433: “Stratified spaces in geometric and computational topology and physics”, for a conference held at UW-Madison during March 30-April 2, 2015.
- *NSF award* #1104329: “International Conference on Singularity Theory and Applications”, for a conference held at USTC (Hefei, China) during July 25-31, 2011.
- *NSA research grant* H98230-14-1-0130: “Singular Spaces in Geometry and Topology”, 2014 – 2016.
- *Simons Foundation Collaboration Grants for Mathematicians* #277891: “Geometry and Topology of Singularities”, 2013 – 2014.
- *Visiting Scientist of Chinese Academy of Sciences*, 2015 – 2016.
- *Romanian Ministry of National Education Grant (Co-PI)*, CNCS-UEFISCDI, project number PN-II-ID-PCE-2012-4-0156, 2013 – 2016.
- *US Junior Oberwolfach Fellow*, 2012.
- The “*Dimitrie Pompeiu*” *Mathematics Prize* of the Romanian Academy, 2008 (awarded 2010).
- 2010 – 2011 *UW-Madison Fall Competition Award* (declined).
- *PSC-CUNY Research Award* # 62295-00 40, 2009 – 2010.
- *PSC-CUNY Research Award* (PSC00C-39-20), 2008 – 2009.
- *NYU Research Challenge Fund* award, 2006.
- *ICM 2006 - NSF Travel Award*, NSF support for attending the ICM 2006, Madrid, Spain.
- *European Union “Tempus” Fellowship*, University of Dortmund, Germany, March-May 1998.

**Publications,
Preprints**

- *Intersection homology and Alexander modules of hypersurface complements*, **Comm. Math. Helvetici** 81 (2006), no. 1, 123-155.
- *A decomposition theorem for the peripheral complex associated with hypersurfaces*, **Int. Math. Res. Not.** 43 (2005), 2627-2656.
- *Multivariable Alexander invariants of hypersurface complements*, **Trans. Amer. Math. Soc.** 359 (2007), no. 7, 3505-3528.
(with A. Dimca)
- *On the Alexander invariants of hypersurface complements*, in “*Singularity Theory*”, Proceedings of the 2005 Marseille Singularity School and Conference, World Scientific, 2007, 725-744.
- *Higher-order Alexander invariants of plane algebraic curves*, **Int. Math. Res. Not.**, Volume 2006 (2006), Article ID 12976, 23 pages.
(with C. Leidy)
- *Euler characteristics of algebraic varieties*, **Comm. Pure Appl. Math.** 61 (2008), no. 3, 409-421.
(with S. Cappell and J. Shaneson)
- *Hodge genera of algebraic varieties, I.*, **Comm. Pure Appl. Math.** 61 (2008), no. 3, 422-449.
(with S. Cappell and J. Shaneson)
- *Obstructions on fundamental groups of plane curve complements*, in “*Real and Complex Singularities*”, **Contemp. Math.** 459 (2008), 117-130.
(with C. Leidy)
- *Hodge genera and characteristic classes of complex algebraic varieties*, **Electron. Res. Announc. Math. Sci.** 15 (2008), 1 - 7.
(with S. Cappell, A. Libgober and J. Shaneson)
- *Hodge genera of algebraic varieties, II.*, **Math. Ann.** 345 (2009), no. 4, 925-972.
(with S. Cappell, A. Libgober and J. Shaneson)
- *L^2 -Betti numbers of plane algebraic curves*, **Michigan Math. J.** 58 (2009), no. 2, 411-421.
(with S. Friedl and C. Leidy)
- *Intersection cohomology invariants of complex algebraic varieties*, in “*Singularities I: Algebraic and Analytic Aspects*”, **Contemp. Math.** 474 (2008), 15-25.
(with S. Cappell and J. Shaneson)
- *Hodge-theoretic Atiyah-Meyer formulae and the stratified multiplicative property*, in “*Singularities I: Algebraic and Analytic Aspects*”, **Contemp. Math.** 474 (2008), 145-167.
(with J. Schürmann)
- *Equivariant genera of complex algebraic varieties*, **Int. Math. Res. Not.** Vol. 2009, no. 11, 2013–2037.
(with S. Cappell and J. Shaneson)
- *On Milnor classes of complex hypersurfaces*, in “*Topology of Stratified Spaces*”, **MSRI Publ.** 58, Cambridge University Press (2011), 161–175.
- *Characteristic classes of complex hypersurfaces*, **Adv. Math.** 225 (2010), no. 5, 2616-2647.
(with S. Cappell, J. Schürmann and J. Shaneson)
- *Hodge polynomials of singular hypersurfaces*, **Michigan Math. J.** 60 (2011), no. 3, 661-673.
(with A. Libgober)
- *Hirzebruch invariants of symmetric products*, in “*Topology of Algebraic Varieties and Singularities*”, **Contemp. Math.** 538 (2011), 163-177.
(with J. Schürmann)

- *Symmetric products of mixed Hodge modules*,
J. Math. Pures Appl. 96 (2011), no. 5, 462–483.
(with M. Saito and J. Schürmann)
- *Twisted genera of symmetric products*,
Selecta Math. (N.S.) 18 (2012), no. 1, 283–317.
(with J. Schürmann)
- *Equivariant characteristic classes of complex algebraic varieties*,
Comm. Pure Appl. Math. 65 (2012), no. 12, 1722–1769.
(with S. Cappell, J. Schürmann and J. Shaneson)
- *Deformation of singularities and the homology of intersection spaces*,
Journal of Topology and Analysis 4 (2012), no. 4, 413–448.
(with M. Banagl)
- *Intersection spaces and hypersurface singularities*,
Journal of Singularities 5 (2012), 48–56.
(with M. Banagl)
- *Characteristic numbers, genera, and resolutions*,
in “*Advances in Mathematics: Invited Contributions to the Seventh Congress of Romanian Mathematicians*”, The Publishing House of the Romanian Academy, 2013, pp. 207–225.
- *Characteristic classes of Hilbert schemes of points via symmetric products*
Geometry & Topology 17 (2013), no. 2, 1165–1198.
(with S. Cappell, T. Ohmoto, J. Schürmann and S. Yokura)
- *Hirzebruch–Milnor classes of complete intersections*,
Adv. Math. 241 (2013), 220–245.
(with M. Saito and J. Schürmann)
- *L^2 –Betti numbers of hypersurface complements*,
Int. Math. Res. Not. Vol. 2014, No. 17, pp. 4665–4678.
- *Characteristic classes of symmetric products of complex quasi-projective varieties*,
J. Reine Angew. Math. 728 (2017), 35–63.
(with S. Cappell, J. Schürmann, J. Shaneson and S. Yokura)
- *Intersection spaces, perverse sheaves and type IIB string theory*,
Adv. Theor. Math. Phys. Vol. 18 (2014), No. 2, 363–399.
(with M. Banagl and N. Budur)
- *Characteristic classes of singular toric varieties* (research announcement),
Electron. Res. Announc. Math. Sci. 20 (2013), 109–120.
(with J. Schürmann)
- *Characteristic classes of singular toric varieties*,
Comm. Pure Appl. Math. 68 (2015), no. 12, 2177–2236.
(with J. Schürmann)
- *Characteristic classes of mixed Hodge modules and applications*,
in *Schubert Varieties, Equivariant Cohomology and Characteristic Classes (Impanga 15)*, EMS Series of Congress Reports (2017), 159–202, European Mathematical Society Publishing House.
(with J. Schürmann)
- *Hirzebruch–Milnor classes and Steenbrink spectra of certain projective hypersurfaces*,
in *Arbeitstagung Bonn 2013*, Progress in Mathematics 319 (2016), 265–287.
(with M. Saito and J. Schürmann)
- *Reidemeister torsion, peripheral complex, and Alexander polynomials of hypersurface complements*, **Algebraic & Geometric Topology** 15 (2015), 2757–2787.
(with Y. Liu)
- *Intersection spaces, perverse sheaves and string theory*,
in *Proceedings of the AMS Special Session on Singularities and Physics, Knoxville, 2014*.
Journal of Singularities 15 (2016), 118–125.

- *Motivic infinite cyclic covers*,
Adv. Math. 298 (2016), 413–447.
(with A. Libgober and M. Gonzalez Villa)
- *Twisted Novikov homology of complex hypersurface complements*,
Math. Nachr. 290 (2017), no. 4, 604–612.
(with S. Friedl)
- *Characteristic varieties of hypersurface complements*,
Adv. Math. 306 (2017), 451–493.
(with Y. Liu)
- *Equivariant characteristic classes of external and symmetric products of varieties*,
Geometry & Topology 22 (2018), no. 1, 471–515.
(with J. Schürmann)
- *Plethysm and cohomology representations of external and symmetric products*,
arXiv:1602.06546.
(with J. Schürmann)
- *Twisted Alexander invariants of complex hypersurface complements*,
Proc. Roy. Soc. Edinburgh Sect. A (published online); DOI: 10.1017/S0308210518000094;
arXiv:1605.06961.
(with K. Wong)
- *Spectral pairs, Alexander modules, and boundary manifolds*,
Selecta Math. 23 (2017), no. 3, 2261–2290.
(with Y. Liu)
- *Spectral Hirzebruch-Milnor classes of singular hypersurfaces*,
arXiv:1606.02218.
(with M. Saito and J. Schürmann)
- *Thom-Sebastiani theorems for filtered D -modules and for multiplier ideals*,
Int. Math. Res. Not. (published online); DOI: 10.1093/imrn/rny032; arXiv:1610.07295.
(with M. Saito and J. Schürmann)
- *Motivic zeta functions and infinite cyclic covers*,
in *Local and Global Methods in Algebraic Geometry*, **Contemp. Math.** 712 (2018), in print.
(with M. Gonzalez Villa and A. Libgober)
- *Topology of subvarieties of complex semi-abelian varieties*,
arXiv:1706.07491.
(with Y. Liu and B. Wang)
- *Generic vanishing for semi-abelian varieties and integral Alexander modules*,
arXiv:1707.09806.
(with Y. Liu and B. Wang)
- *Mellin transformation, propagation, and abelian duality spaces*,
arXiv:1709.02870.
(with Y. Liu and B. Wang)
- *On the signed Euler characteristic property for subvarieties of abelian varieties*,
arXiv:1801.03599.
(with E. Elduque and C. Geske)
- *Homological congruence formulae for characteristic classes of singular varieties*,
arXiv:1802.00139.
(with S. Yokura)
- *Perverse sheaves on semi-abelian varieties*,
arXiv:1804.05014.
(with Y. Liu and B. Wang)

- Books Edited**
- *Topology of Stratified Spaces* (with G. Friedman, E. Hunsiker and A. Libgober) MSRI Publications 58, Cambridge University Press, New York, 2011. ISBN: 9780521191678.
 - *Proceedings of the Hefei International Conference on Singularity Theory and Applications* Journal of Singularities, vol. 5 (2012). ISSN: #1949-2006.
- Teaching Experience**
- **University of Wisconsin-Madison:** *Elementary Geometric and Algebraic Topology* (Spring 2014), *Honors Calculus I* (Fall 2014, Fall 2016), *Honors Calculus II* (Spring 2014), *Geometry for College Students* (Spring 2013); *Topics in Algebraic Topology* (Fall 2012, Fall 2016), *Introduction to Modern Algebra* (Spring 2011); *Algebraic Topology I* (Fall 2010; Fall 2013); *Algebraic Topology II* (Spring 2018); *Introductory Topology II* (Spring 2010, Spring 2012, Spring 2013); *Calculus and Analytic Geometry I* (Spring 2010, Fall 2011); *Introductory Topology I* (Fall 2009, Fall 2010, Fall 2014); *Calculus* (Spring 2017), *Linear Algebra and Differential Equations* (Fall 2017), *Elementary Matrix and Linear Algebra* (Summer 2018), *The Theory of Single Variable Calculus* (Summer 2018).
 - **CUNY-Graduate Center:** *Topology* (Spring 2009).
 - **CUNY-Lehman College:** *Financial Mathematics* (Spring 2009); *Probability* (Fall 2008); *Precalculus* (Fall 2008), *Analysis I* (Spring 2008); *Calculus II* (Fall 2007); *Calculus II Maple Lab* (Fall 2007, Spring 2008).
 - **University of Illinois at Chicago:** *Advanced Topics in Geometric and Differential Topology* (Spring 2007); *Applied Linear Algebra* (Fall 2006); *Calculus III* (Fall 2005).
 - **New York University:** *Multivariable Calculus/Vector Analysis* (Spring 2006).
 - **University of Pennsylvania:** *Calculus* (Summer 01); *Precalculus* (Summer 02).
- Summer School Courses**
- *Characteristic Classes of Stratified Spaces*, two 1-hour lectures at the *Topology, Stratified Spaces and Particle Physics Summer School*, Fields Institute, Toronto, Canada – 08/2016.
 - *Topology of Singularities*, six 2-hour lectures at the *MIST IV Workshop*, CUHK, Hong Kong – 04–05/2016.
 - *Intersection Homology*, six 2-hour lectures at the *2015 Geometry Summer School*, USTC, Hefei, China – 05-06/2015.
 - *Basic introduction to Topology*, five 2-hour lectures at the *2014 Geometry Summer School*, USTC, Hefei, China – 07/2014.
 - *Introduction to Algebraic Topology*, eight 3-hour lectures at the *2012 Geometry Summer School*, USTC, Hefei, China – 06/2012.
 - *Topics in Algebraic Topology*, thirteen 3-hour lectures at the *2011 Geometry Summer School*, USTC, Hefei, China – 05-07/2011.
 - *Intersection Homology and Applications to Singularity Theory*, eight 2-hour lectures at the *2010 Geometry Summer School*, USTC, Hefei, China – 05-06/2010.
- Conference Talks**
- “Topology and Geometry: A conference in memory of Stefan Papadima” – Bucharest, Romania – 05/17.
 - “Workshop for Young Researchers in Mathematics” – Bucharest, Romania – 05/18.
 - Special Session on “Arrangements of Hypersurfaces” at the Spring Eastern AMS Sectional Meeting, Northeastern University – Boston, MA – 04/18.
 - “A Day of Singularities at Northeastern University” – Boston, MA – 04/18.
 - “Workshop for Young Researchers in Mathematics” – Bucharest, Romania – 05/17.
 - “Analysis, Geometry and Topology of Stratified Spaces” – CIRM, Luminy, France – 06/16.
 - “Nonisolated Singularities” – Lille, France – 05-06/16.

- “Workshop for Young Researchers in Mathematics” – Constanta, Romania – 05/16.
- “MIST IV: Mathematics Inspired by String Theory” – CUHK, Hong Kong – 04/16.
- “Singularities and Topology Conference” – Nice, France – 03/16.
- “International Conference on Singularity Theory—in Honor of Henry Laufer’s 70th Birthday” – Sanya, China – 12/15.
- “Geometry, Topology and Combinatorics of Hyperplane Arrangements and Related Problems” – Zaragoza, Spain – 09/15.
- “Topological methods in Singularity Theory” – Edinburgh, UK – 07/15.
- Special Session on “Geometry and Topology of Differentiable Manifolds and Algebraic Varieties” at the Eighth Congress of Romanian Mathematicians – Iasi, Romania – 06-07/15.
- “Workshop for Young Researchers in Mathematics” – Constanta, Romania – 05/15.
- “IMPANGA 15” – Bedlewo, Poland – 04/15.
- “Local and Global Invariants of Singularities” – CIRM, Luminy, France – 02/15.
- Special Session on “New Trends in Toric Varieties” at the Central Fall AMS Sectional Meeting – Eau Claire, WI – 09/14.
- The 2nd Franco-Japanese-Vietnamese Symposium on Singularities – Sapporo, Japan – 08/14.
- “Knots and Low Dimensional Manifolds”, A Satellite Conference of Seoul ICM 2014 – Busan, Korea – 08/14.
- “Analysis and Topology in Interaction” – Cortona, Italy – 06/14.
- “Algebraic Geometry Summer Days in Bucharest” – Bucharest, Romania – 06/14.
- “Workshop for Young Researchers in Mathematics” – Constanta, Romania – 05/14.
- Special Session on “Singularities and Physics” at the 2014 Southeastern Spring Sectional Meeting – Knoxville, TN – 03/14.
- “Hyperplane Arrangements and Characteristic Classes” – RIMS, Kyoto, Japan – 11/13.
- “Algebra, Geometry and Topology of Singularities” – Miraflores de la Sierra, Spain – 09/13.
- Clay Workshop on “Mixed Hodge Modules and Their Applications” – Oxford, UK – 08/13.
- Special Session on “Singularities in Geometry and Topology” at the 2nd PRIMA Congress – Shanghai, China – 06/13.
- “Experimental and Theoretical Methods in Algebra, Geometry, and Topology” (in honor of the 60th birthdays of A. Dimca and S. Papadima) – Eforie Nord, Romania – 06/13.
- “Motivic Invariants and Singularities Thematic Conference” – Notre Dame, IN – 06/13.
- “The 8-th Kagoshima Algebra-Analysis-Geometry Seminar” – Kagoshima, Japan – 02/13.
- Special Session “Singularities in Geometry and Algebra” at the AMS-MAA Joint Meeting – San Diego, CA – 01/13.
- Mini-Workshop “Cohomology Rings and Fundamental Groups of Hyperplane Arrangements, Wonderful Compactifications, and Real Toric Varieties” – Oberwolfach, Germany – 10/12.
- Mini-Workshop “Topology of Real Singularities and Motivic Aspects” – Oberwolfach, Germany – 10/12.
- AIM Workshop on “Motivic Donaldson-Thomas theory and singularity theory” – Budapest, Hungary – 05/12.
- Special Session on “Singularities in Commutative Algebra and Algebraic Geometry” at the 2012 Spring Central Section Meeting – Lawrence, Kansas – 03/12.
- Iberian Meeting on Algebraic Analysis and Geometry – Lisbon, Portugal – 09/11.
- Latin American School of Algebraic Geometry and Applications – Cordoba, Argentina – 08/11.
- Seminar on Singularity Theory and Related Topics - Beijing, China – 07/11.

- The Seventh Congress of Romanian Mathematicians – Brasov, Romania – 06-07/11.
- Special Session on “Complex Algebraic Geometry” at the Joint Meeting of the AMS-SOMACHI – Pucón, Chile – 12/10.
- Special Session on “Singularities in Algebraic Geometry” at the 2010 Fall Central Section Meeting – Notre Dame, IN – 11/10.
- “Summer School and Conference on Hodge Theory and Related Topics” – ICTP, Trieste, Italy – 06-07/10.
- Special Session on “Homotopy Theory and Geometric Aspects of Algebraic Topology” at the 2010 Spring Southeastern Sectional Meeting – Lexington, KY – 03/10.
- Special Session on “Knot Theory and Related Topics” at the Joint Meeting of the AMS-KMS – Seoul, Korea– 12/09.
- “Singularities” – Oberwolfach, Germany – 09/09.
- “Topology of Algebraic Varieties” – Jaca, Spain – 06/09.
- “Algebraic Geometry, D-modules and Foliations” – Buenos Aires, Argentina – 07/08.
- “International Conference in Algebraic Geometry” – IMAR, Bucharest, Romania – 07/08.
- “Knot Theory: Fifty Years since Fox and Milnor” – Brandeis University – 06/08.
- “Singularities in Geometry and Topology” – Courant Institute, NYC, NY – 03/08.
- Special Session on “Higher Dimensional Geometry” at the IV Iberoamerican Conference on Complex Geometry – Ouro Preto, Brazil – 08/07.
- AMS Special Session on “Arrangements and Related Topics” – New Orleans, LA – 01/07.
- CIMPA-UNESCO-SPAIN School “New Trends in Singularity Theory”, ICM 2006 Satellite Activity – Universidad Complutense de Madrid, Spain – 08/06.
- ICM Satellite Conference on Algebraic Geometry – Segovia, Spain – 08/06.
- “Recent Developments in Arrangements and Configuration Spaces” – MSRI, Berkeley, CA – 08/06.
- 9th International Workshop on Real and Complex Singularities – ICMC-USP-Sao Carlos, Brazil – 07/06.
- International Symposium on Singularity Theory and its Applications – Beijing, China – 05/06.
- AMS Special Session on “Arrangements and Configuration Spaces” – Durham, NH – 04/06.
- Hyperplane Arrangements Workshop – PIMS-UBC, Canada – 08/05.
- “Submanifolds, Singular Varieties, and Stratified Spaces” – Courant Institute, NYC, NY – 03/05.
- “Singularities” – CIRM-LUMINY, Marseille, France – 01-02/05.
- Workshop on “Topology of Arrangements and Applications” – MSRI, Berkeley, CA – 10/04.
- “Lehigh Geometry-Topology Conference” – Bethlehem, PA – 06/04.

Seminar Talks

- Georgia Southern University Colloquium – Statesboro, GA – 03/18.
- KU Leuven Colloquium – Leuven, Belgium – 06/17.
- University of Münster Algebra & Geometry Seminar – Münster, Germany – 06/17.
- Algebraic Geometry Seminar, Institute of Mathematics of the Romanian Academy – Bucharest, Romania – 05/17.
- University of Melbourne Colloquium – Melbourne, Australia – 04/17.
- University of Wisconsin-Madison Algebraic Geometry Seminar – Madison, WI – 04/17.
- University of Michigan Algebraic Geometry Seminar – Ann Arbor, MI – 03/17.
- University of Pennsylvania Colloquium – Philadelphia, PA – 02/17.

- University of Pennsylvania Geometry & Topology Seminar – Philadelphia, PA – 02/17.
- University of Colorado-Boulder Kempner Colloquium – Boulder, CO – 10/16.
- University of Colorado-Boulder Topology Seminar – Boulder, CO – 10/16.
- The London Geometry and Topology Seminar – Imperial College, London, UK – 06/16.
- MPIM Topology Seminar – Max Planck Institute, Bonn, Germany – 05/16.
- Hong Kong University Geometry Seminar – Hong Kong, China – 04/16.
- University of Lille Algebraic Geometry Seminar – Lille, France – 02/16.
- University of Heidelberg Colloquium – Heidelberg, Germany – 12/15.
- MPIM Algebraic Geometry Seminar – Max Planck Institute, Bonn, Germany – 11/15.
- KU Leuven Seminar in Number Theory and Algebraic Geometry – Leuven, Belgium – 10/15.
- Purdue University Topology Seminar – West Lafayette, IN – 10/15.
- University of Wisconsin-Madison Algebraic Geometry Seminar – Madison, WI – 10/15.
- Algebraic Geometry Seminar, Institute of Mathematics of the Romanian Academy – Bucharest, Romania – 09/15.
- East China Normal University Topology Seminar – Shanghai, China – 06/15.
- University of Pennsylvania Colloquium – Philadelphia, PA – 10/14.
- Topology Seminar, Institute of Mathematics of the Romanian Academy – Bucharest, Romania – 06/14.
- University of Missouri - St. Louis Colloquium – St. Louis, MO – 11/13.
- Vanderbilt University Geometry Seminar – Nashville, TN – 10/13.
- MPI-Oberseminar – Max Planck Institute, Bonn, Germany – 07/13.
- University of Science and Technology of China Geometry Seminar – Hefei, China – 07/13.
- University of Cologne Seminar on Low-Dimensional Topology – Cologne, Germany – 05/13.
- University of Wisconsin-Madison Algebraic Geometry Seminar – Madison, WI – 02/13.
- University of Heidelberg Colloquium – Heidelberg, Germany – 07/12.
- East China Normal University Topology Seminar – Shanghai, China – 07/12.
- IMS-Chinese University of Hong Kong Geometry Seminar – Hong Kong – 06/12.
- CIMAT Algebraic Geometry Seminar – Guanajuato, Mexico – 05/12.
- University of Wisconsin-Madison Algebraic Geometry Seminar – Madison, WI – 02/12.
- University of Wisconsin-Madison Geometry & Topology Seminar – Madison, WI – 02/12.
- New York University Geometric Analysis and Topology Seminar – New York City, NY – 11/11.
- East China Normal University Topology Seminar – Shanghai, China – 06/11.
- Michigan State University Algebra Seminar – East Lansing, MI – 03/11.
- Iowa State University Colloquium – Ames, IA – 02/11.
- University of Wisconsin-Madison Geometry & Topology Seminar – Madison, WI – 02/11.
- Northeastern University Colloquium – Boston, MA – 01/11.
- University of Heidelberg Topology Seminar – Heidelberg, Germany – 07/10.
- New York University Geometric Analysis and Topology Seminar – New York City, NY – 04/10.
- University of Illinois at Chicago Algebraic Geometry Seminar – Chicago, IL – 02/10.
- University of Notre Dame Algebra Seminar – South Bend, IN – 11/09.
- University of Wisconsin-Madison Algebraic Geometry Seminar – Madison, WI – 10/09.
- University of Wisconsin-Madison Geometry & Topology Seminar – Madison, WI – 09/09.

- CUNY Commutative Algebra & Algebraic Geometry Seminar – New York City, NY – 02/09.
- Tulane University Colloquium – New Orleans, LA – 02/09.
- University of Iowa Colloquium – Iowa City, Iowa – 02/09.
- University of Wisconsin-Madison Colloquium – Madison, WI – 01/09.
- Rutgers University Colloquium – Piscataway, NJ – 01/09.
- UC Santa Cruz Colloquium – Santa Cruz, CA – 01/09.
- Syracuse University Colloquium – Syracuse, NY – 01/09.
- Purdue University Colloquium – West Lafayette, IN – 12/08.
- Ohio State University Algebraic Geometry Seminar – Columbus, OH – 09/08.
- CUNY-Graduate Center Topology Seminar – New York City, NY – 04/08.
- CUNY-Lehman College CSM Scholarship Lecture – New York City, NY – 03/08.
- Wesleyan University Mathematics Colloquium – Middletown, CT – 03/08.
- Northeastern University Geometry-Algebra-Singularities-Combinatorics Seminar – Boston, MA – 12/07.
- University of Illinois at Chicago Algebraic Geometry Seminar – Chicago, IL – 10/07.
- Stony Brook University Algebra, Geometry and Physics Seminar – Stony Brook, NY – 09/07.
- University of Illinois at Chicago Algebraic Geometry Seminar – Chicago, IL – 03/07.
- CUNY-Lehman College Mathematics Colloquium – New York City, NY – 02/07.
- New York University Differential Geometry and Topology Seminar – New York City, NY – 02/07.
- University of Oregon Mathematics Colloquium – Eugene, OR – 02/07.
- University of Western Ontario Mathematics Colloquium – London, Ontario, Canada – 01/07.
- University of Wisconsin–Madison Algebraic Geometry Seminar – Madison, WI – 12/06.
- University of Chicago Algebraic Geometry Seminar – Chicago, IL – 10/06.
- The University of Tokyo, Graduate School of Mathematical Sciences Topology Seminar – Tokyo, Japan – 05/06.
- Tokyo University of Science Seminar on “Singularity theory, geometry and related topics” – Tokyo, Japan – 05/06.
- Stony Brook University Algebra, Geometry and Physics Seminar – Stony Brook, NY – 03/06.
- University of Indiana–Bloomington Topology Seminar – Bloomington, IN – 02/06.
- University of Illinois at Chicago Graduate Student Colloquium – Chicago, IL – 10/05.
- University of Illinois at Chicago Algebraic Geometry Seminar – Chicago, IL – 08/05.
- Northeastern University Geometry-Algebra-Singularities-Combinatorics Seminar – Boston, MA – 01/05.
- University of Pennsylvania Geometry-Topology Seminar – Philadelphia, PA – 12/04.
- University of Illinois at Chicago Algebraic Geometry Seminar – Chicago, IL – 09/04.

Research Visits

- *Max Planck Institute*, Bonn (Germany), 08/2015 – 07/2016.
- *Institute of Mathematics of the Romanian Academy*, Bucharest (Romania), 05 – 07/2014, 05 – 07/2015, 05 – 07/2016, 05 – 06/2017, 05 – 06/2018.
- *Max Planck Institute*, Bonn (Germany), 05 – 08/2013
- *Chinese University of Hong Kong*, Hong Kong, 06/2012, 04 – 05/2016 (invited by Prof. Conan Leung).
- *Centro de Investigación en Matemáticas*, Guanajuato (Mexico), 05/2012 (invited by Prof. Xavier Gómez Mont).

- *Max Planck Institute*, Bonn (Germany), 07 – 08/2010
- *University of Münster*, (Germany), 07/2008, 07/2009, 07/2010, 07/2012, 08/2013, 08/2015, 11/2015, 02/2016, 06/2017
(invited by Prof. Jörg Schürmann).
- *University of Heidelberg*, (Germany), 07/2010, 07/2012, 02/2016
(invited by Prof. Markus Banagl).
- *University of Science and Technology of China*, (China), 05 – 06/2010, 05 – 07/2011, 06/2012, 07/2014, 06/2015, 12/2015, 07/2017
(invited by Prof. Xiuxiong Chen).
- *University of Illinois at Chicago*, 04/2008
(invited by Prof. Anatoly Libgober).
- *Research Fellow*, at *Courant Institute of Mathematical Sciences, NYU*, 2007 – 2009.
- *Research Scientist*, at *Courant Institute of Mathematical Sciences, NYU*, 07/2006, 12/2006
(invited by Prof. Sylvain Cappell).
- *Tokyo University of Sciences*, Tokyo, Japan, 05/2006
(invited by Prof. Mutsuo Oka).

Synergistic Activities

• Conference organization:

- *Topology of Stratified Spaces*, MSRI Workshop, Berkeley, CA, September 8-12, 2008.
- *Singularities in the Midwest Workshop*, Madison, WI, March 19-20, 2010.
- *International Conference on Singularity Theory and Applications*, University of Science and Technology of China, Hefei, China, July 25-31, 2011.
- *Singularities in the Midwest Workshop, II.*, Madison, WI, March 22-24, 2012.
- Special Session on *Singular Spaces in Geometry, Topology, and Algebra* at the 2013 Spring Western Sectional AMS Meeting, Boulder, CO, April 13-14, 2013.
- Special Session on *Singularities in Geometry and Topology* at the 2nd PRIMA Congress, Shanghai Jiaotong University, Shanghai, China, June 24-28, 2013.
- *Stratified spaces in geometric and computational topology and physics*, Madison, WI, March 30-April 2, 2015.
- *Workshop for young researchers in mathematics*, Constanta, Romania, May 21-24, 2015.
- Special Session on *Geometry and Topology of Differentiable Manifolds and Algebraic Varieties* at the Eighth Congress of Romanian Mathematicians, Iasi, Romania, June 26 - July 1, 2015.
- *Computational Geometric Topology in Arrangement Theory*, ICERM-Brown University, July 6-10, 2015.
- Special Session on *Singularities in Algebra, Geometry and Topology* at the 2015 Central Fall Sectional AMS Meeting, Chicago, IL, October 3-4, 2015.
- *Singularities in the Midwest Workshop, III.*, Madison, WI, March 21-24, 2016.
- *Workshop for young researchers in mathematics*, Constanta, Romania, May 18-21, 2016.
- Focus Program on *Topology, Stratified Spaces and Particle Physics*, Fields Institute, Toronto, Canada, August 8-26, 2016.
- *Singularities in the Midwest Workshop, IV.*, Madison, WI, March 17-19, 2017.
- *Workshop for young researchers in mathematics*, Bucharest, Romania, May 17-21, 2017.
- *Singularity Theory Conference*, East China Normal University, Shanghai, China, July 10-14, 2017.
- Oberwolfach Mini-Workshop: *Interactions between Low-dimensional Topology and Complex Algebraic Geometry*, Oberwolfach, Germany, October 22-28, 2017.
- *Singularities in the Midwest Workshop, V.*, Madison, WI, March 23-24, 2018.
- Special Session on *Singularities in Geometry, Topology and Algebra*, at the Joint International Meeting of the American Mathematical Society and the Chinese Mathematical Society, Fudan University, Shanghai, China, June 11-14, 2018.

- **Editor:**

- *Topology of Stratified Spaces* (with G. Friedman, E. Hunsiker and A. Libgober) Mathematical Sciences Research Institute Publications 58, Cambridge University Press, New York, 2011; ISBN: 9780521191678.
- *Proceedings of the Hefei International Conference on Singularity Theory and Applications* Journal of Singularities, vol. 5 (2012), ISSN: #1949-2006.
- Serving on the Editorial Board of *Mathematics* (open access journal) since 2017.

- **Curriculum development:**

- helped with restructuring the *Calculus Sequence* at the University of Wisconsin-Madison, under the *Madison Initiative for Undergraduates* (2011 – 2012).
- developed a *Financial Mathematics* course at the City University of New York, Lehman College (taught during Spring 2009).

- **Seminar organization:**

- *Mathematics Colloquium*, University of Wisconsin-Madison, 2010 – 2012.
- *Geometry and Topology Seminar*, University of Wisconsin-Madison, 2009 – 2010.
- *Topology and Singularities Seminar*, University of Wisconsin-Madison, since 2012.
- *Reading Seminar in Geometry and Topology*, CUNY-Graduate Center, 2008 – 2009.
- *Differential Geometry and Lie Theory Seminar*, CUNY-Graduate Center, 2007 – 2008.
- *Algebraic Geometry and Number Theory Seminar*, University of Illinois at Chicago, 2005 – 2007.
- *Differential Geometry and Topology Seminar*, Courant Institute (NYU), Spring 2006, Fall 2008.

- **Reviewer:**

- *National Science Foundation* (panelist).
- *National Security Agency*.
- *AMS Mathematical Reviews*.

**Postdocs
Mentored**

- Manuel Gonzalez Villa (2014-2017)
- Alexandra Kjuchukova (2015-2018)
- Botong Wang (2015-2017)

**Graduate
Students**

- Yongqiang Liu (USTC, China), 2015 Ph.D.
- Yun Su (UW-Madison), 2016 Ph.D.
- Kai Ho Wong (UW-Madison), 2016 Ph.D.
- Eva Elduque (UW-Madison), 2019 Ph.D. (expected).
- Christian Geske (UW-Madison), 2019 Ph.D. (expected).
- Fenglin Li (USTC, China), 2020 Ph.D. (expected).