

Xia Liao

Mailing Address

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Education

Florida State University, Tallahassee, FL
Ph.D. in Mathematics, *August 2013*, Advisor: Paolo Aluffi
Dissertation: Chern Classes of Sheaves of Logarithmic Vector Fields for Free Divisors

Peking University, Beijing, China
B.S in Physics, *July 2007*

Academic Positions

9/2013 - 12/2014 : Postdoc position (Wissenschaftlicher Mitarbeiter), Kaiserslautern University of Technology.

2/2015 - 4/2015: Oberwolfach Leibniz Fellow, Mathematisches Forschungsinstitut Oberwolfach.

6/2015 - 5/2017: Postdoc Research Fellow, KIAS

5/2017 - 6/2017: Visiting position at KIAS

Research Interests

- Characteristic Classes of Singular Varieties
- Free Divisors
- Discriminants

Published/Accepted Papers

1. A Cohomological Interpretation of Derivations on Graded Algebras. With Mathias Schulze, *Beiträge zur Algebra und Geometrie*, Article DOI: 10.1007/s13366-017-0357-3.
2. Quasihomogeneous Free Divisors with Only Normal Crossings in Codimension One. With Mathias Schulze, *accepted by Mathematical Research Letters*, *arXiv:1402.2937*.
3. Chern Classes of Logarithmic Derivations For Free Divisors with Jacobian Ideal of Linear Type. *accepted by the Journal of the Mathematical Society of Japan*, *arXiv:1210.6079*.
4. Chern Classes of Logarithmic Vector Fields For Locally Quasi-Homogeneous Free Divisors. *accepted by Mathematical Research Letters*, *arXiv:1205.3843*.
5. Chern Classes of Logarithmic Vector Fields. *Journal of Singularities*, 5:109-114, 2012. *arXiv:1201.6110*.
6. Stable Birational Equivalence and Geometric Chevalley-Warning. *Proc. Amer. Math. Soc.*, 141(12):4049-4055, 2013. *arXiv:1110.2554*.

Preprints

1. On The Explicit Calculation of Hirzebruch-Milnor Classes of Hyperplane Arrangements. With Younghoo Yoon, *in preparation*.
2. K-theoretic Defect in Chern Class Identity For a Free Divisor. *submitted to International Mathematics Research Notices, arXiv:1612.07810*.

Teaching Experience

- **Tutorial instructor** Algebraic Geometry, Spring 2014, Kaiserslautern University of Technology, Germany.
- **Instructor** MAC2313, CALCULUS 3, Spring 2013, Florida State University.
- **Instructor** MAC2311, CALCULUS 1, Fall 2012, Florida State University.
- **Instructor** MAC1140, PRECALCULUS ALGEBRA, Spring 2012, Florida State University.
- **Recitation Instructor.** MAC2311, CALCULUS 1, Fall 2011, Florida State University.
- **Instructor** MAC1140, PRECALCULUS ALGEBRA, Spring 2011, Florida State University.
- **Recitation Instructor.** MAC2311, CALCULUS 1, Fall 2010, Florida State University.
- **Recitation Instructor.** MAC2311, CALCULUS 1, Spring 2010, Florida State University.
- **Instructor.** MAC2311, PRECALCULUS ALGEBRA, Fall 2009, Florida State University.
- **Lab Instructor.** COLLEGE ALGEBRA/TRIGONOMETRY/PRECALULUS ALGEBRA, Fall 2007-Spring 2009, Florida State University.

Conferences

- Second French-Korean Conference in Mathematics, Bordeaux, July 7-12, 2016.
- Workshop on Hyperplane Arrangements and Singularity Theory, Hokkaido, March 22-25, 2016. Talk: “Hirzebruch classes for singular curves”.
- Differential and combinatorial aspects of singularities, Kaiserslautern, August 3-7, 2015. Talk: “Hirzebruch classes for singular curves”.
- Arrangements of Hyperplanes, International Symposium, Bremen University, December 1-3, 2014. Talk: “free divisors with normal crossings”.
- Symposium on Singularities and Their Topology, IAG, Hannover University, July 14-17, 2014. Talk: “Normal Crossing Property for Quasihomogeneous Free Divisors”.
- Conference of Arrangements and Characteristic Classes, RIMS, Kyoto, November 11-15, 2013. Talk: “Chern classes of logarithmic derivations for free divisors.”
- The Commutative Algebra of Singularities in Birational Geometry: Multiplier Ideals, Jets, Valuations, and Positive Characteristic Methods, MSRI, May 06, 2013 - May 10, 2013.
- 2013 Joint Mathematics Meetings, San Diego, CA, January 9-12. Talk: “Chern Classes of Sheaves of Logarithmic Vector Fields for Locally Quasi-Homogeneous Free Divisors.” AMS Session on Algebraic Varieties, Moduli Spaces, and Singularities.
- 2012 Joint Mathematics Meetings, Boston, MA, January 4-7. Talk: “Chern Classes of Sheaves of Logarithmic Vector Fields.” AMS Session on Algebraic Geometry, I.
- Singularity Theory Conference, Hefei, China, July 25-31, 2011.

**Professional
Activities**

- Reviewer for International Mathematics Research Notices.

Language Skills

- Proficient in English and Chinese.
- Reading competence in French.