

# Jian Liu | CV

School of Mathematical Sciences, University of Science and Technology of China  
Hefei, 230026, Anhui Province, P.R.China

✉ liuj231@mail.ustc.edu.cn      🔗 <https://jianliu.org>

## Research Interests

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My research interests are commutative algebras, derived categories and representation theory of finite dimensional algebras.

## Education

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- **University of Science and Technology of China** **Hefei, China**  
*Ph.D. in Mathematics. Advisor: Xiao-Wu Chen* September 2016 –
- **Northeast Normal University** **Changchun, China**  
*B.S. in Mathematics. Advisor: Xian-Hui Fu* September 2012 – June 2016

## Research Experiences

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- **University of Utah** **Salt Lake City, USA**  
*Joint Ph.D. student. Advisor: Srikanth Iyengar* August 2019 – October 2020

## Publications

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- [6] **Jian Liu**, *Annihilators and dimensions of the singularity category*, arXiv:2202.09584, submitted.
- [5] **Jian Liu**, *Triangulated categories of periodic complexes and orbit categories*, arXiv:2109.08831, submitted.
- [4] **Jian Liu**, Josh Pollitz, *A partial converse ghost lemma for the derived category of a commutative noetherian ring*, arXiv 2101.02829, submitted.
- [3] Srikanth Iyengar, Janina Letz, **Jian Liu**, Josh Pollitz, *Exceptional complete intersection maps of local rings*, **Pacific Journal of Mathematics** (to appear).
- [2] Xiao-Wu Chen, **Jian Liu**, Ren Wang, *Singular equivalences induced by bimodules and quadratic monomial algebras*, **Algebras and Representation theory**, 2021.
- [1] **Jian Liu**, Josh Pollitz, *Duality and symmetry of complexity over complete intersections via exterior homology*, **Proceedings of the American Mathematical Society**, 2021.

## Awards

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- **Chinese Government Scholarship** **University of Science and Technology of China**  
*This award is to support graduate students to study abroad for one or two years.* June 2019
- **National Scholarship** **Northeast Normal University**  
*This is awarded annually in the University with few awards in each school.* October 2014

## Teaching

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**Teaching Assistant**, *University of Science and Technology of China*, Hefei, China.

- *Linear Algebra A2*, lecture: Xiao-Wu Chen, September 2018–January 2019.
- *Linear Algebra A1*, lecture: Xiao-Wu Chen, February 2018–June 2018.
- *Elements of Algebra*, lecture: Xiao-Wu Chen, September 2017–January 2018.

- *Complex Analysis*, lecture: Luo Luo, February 2017–June 2017.

## Talks

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### Invited Talks.....

- **Duality of thick subcategories over complete intersections via cohomological supports**  
*Algebra Seminar, University of Science and Technology of China, January 2 2021.*
- **Duality of thick subcategories over complete intersections**  
*Algebra Seminar, Northeast Normal University, November 6 2020.*

### Student Seminar.....

- **Virtually small complexes and complete intersections**  
*Algebra Seminar, University of Science and Technology of China, December 2020.*
- **Kahler differentials and the Hochschild cohomology ring**  
*Algebra Seminar, University of Utah, October 13 2020.*
- **Classifying thick subcategories of the singularity category over a hypersurface**  
*Algebra Seminar, University of Utah, June 22 2020.*
- **Support varieties and cohomology over complete intersections**  
*Algebra Seminar, University of Utah, February 20 2020.*
- **Local cohomology modules-various definitions**  
*Algebra Seminar, University of Utah, November 15 2019.*
- **Koszul duality patterns in representation theory**  
*Algebra Seminar, University of Science and Technology of China, March 2019.*
- **The singularity category over Gorenstein rings**  
*Algebra Seminar, University of Science and Technology of China, January 2018.*

## Conferences Attended

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| ○ <b>DG Methods in Commutative Algebra and Representation Theory</b>       | <b>University of Utah</b>                            |
| <i>Participant via Zoom, Salt Lake City, Utah, USA</i>                     | <i>May 2 and 3, 2020</i>                             |
| ○ <b>The 20th National Conference on Representation theory of Algebras</b> | <b>Nanjing University</b>                            |
| <i>Participant, Nanjing, Jiangsu Province, China.</i>                      | <i>June 21 2018 – June 26 2018</i>                   |
| ○ <b>The 19th National Conference on Representation theory of Algebras</b> | <b>Huaqiao University</b>                            |
| <i>Participant, Quanzhou, Fujian Province, China.</i>                      | <i>November 08 2017 – November 12 2017</i>           |
| ○ <b>Workshop on Groups and Algebras</b>                                   | <b>Southern University of Science and Technology</b> |
| <i>Participant, Shenzhen, Guangdong Province, China.</i>                   | <i>July 16 2017 – August 11 2017</i>                 |