

# Yang Liu – Résumé

---

|                 |   |              |                 |
|-----------------|---|--------------|-----------------|
| <b>Address</b>  | Max Planck Institute for Mathematics, Bonn<br>Vivatsgasse 7,<br>Bonn, 53111,<br>Germany | <b>Email</b> | liu.858@osu.edu |
| <b>Homepage</b> | <a href="https://yangliu858.github.io/">https://yangliu858.github.io/</a>               |              |                 |

## Research interests

Global analysis (pseudo-differential calculus, heat kernel expansion), noncommutative geometry and its application to geometry/topology.

## Education

**2008-2015** PH.D in Mathematics, Ohio State University  
Advisor: Henri Moscovici  
Thesis: Modular curvature for toric noncommutative manifolds

**2004-2008** B.S. in Mathematics, Harbin Institute of Technology (China)

## Positions

|  |                          |
|--|--------------------------|
| <b>Postdoctoral Fellow</b><br><i>Max Planck Institute for Mathematics, Bonn.</i> | 2016 Sep.-2018 Sep.      |
| <b>Visiting</b><br><i>I.H.E.S, Bures-sur-Yvette</i>                              | 2017 Nov 1.-2017 Dec 31. |
| <b>Lecturer</b><br><i>Ohio State University</i>                                  | 2015 Sep.- 2016 May      |

## Publications and Preprints

- Modular curvature for toric noncommutative manifolds, arXiv:1510.04668, accepted by Journal of Noncommutative Geometry.
- Scalar curvature in conformal geometry of Connes-Landi noncommutative manifolds, Journal of Geometry and Physics, Vol 121, Nov 2017, 138-165, arXiv:1611.08933.
- Hypergeometric function and modular curvature, arXiv:1711.01664.

## Invited talks

2018

- Oberwolfach workshop on noncommutative geometry, Germany (July)
- International Workshop of Operator Theory and its Applications, special section on “Noncommutative Geometry”, Shanghai, China (July).

- Workshop “Noncommutative geometry and index theory for group actions and singular spaces”, TAMU, College Station, USA.
- Noncommutative Geometry and Representation Theory, Sichuan, China (May).
- Noncommutative geometry seminar, Trieste, Italy (April).
- Analysis seminar, University of Potsdam, Golm, Germany (April).

## 2017

- Working Group on Dirac Operators seminar (two talks), University Paris-Sud, Orsay, Dec.
- IHES seminar, Dec.
- Operator algebras seminar, Université Paris Diderot - Paris 7, Dec.
- Global analysis seminar, University of Bonn, Oct.
- Noncommutative Geometry Seminar, Caltech, Aug.
- Workshop “Analysis, Noncommutative Geometry, Operator Algebras”, Gothenburg, Sweden, Jun.
- Noncommutative Geometry Seminar (two lectures), University of Western Ontario, Feb.
- Noncommutative Geometry Seminar, Ohio State University, Feb.
- Noncommutative Geometry Seminar, Caltech, Feb.
- Global analysis seminar, University of Bonn, Jan.

## 2016

- Noncommutative geometry seminar, University of Copenhagen, Dec.
- MPI-Oberseminar, MPIM Bonn, Nov.
- Rencontre de l'ANR Singstar et du GDR Géométrie non commutative, Metz, Nov.
- Global analysis seminar, University of Bonn, Oct.
- Seminar on Algebra, Geometry and Physics, MPIM Bonn, Oct.
- The Second Summer School on Operator Algebras and Noncommutative Geometry 2016, East China Normal University, Shanghai, Aug.
- Noncommutative geometry seminar, Penn State University, Apr.
- Noncommutative geometry seminar, Texas A&M University, Feb.

## Reference letters

- Henri Moscovici (advisor), Ohio State University;
- Alain Connes, IHÉS and Collège de France;
- Matthias Lesch, University of Bonn;
- Alexander Gorokhovsky, University of Colorado, Boulder;

## Professional services

- Referee for
  - *Journal of Noncommutative Geometry*;
  - *Journal of Geometry and Physics*;
  - *Journal of Mathematical Physics*.

## Teaching

As a teaching assistant at Ohio State University from 2009-2015 May and a lecturer from 2015 Sep.-2016 May, I had taught the following courses:

- Calculus sequence I, II and III. The sequence contains four parts: differential calculus, integral calculus, series and sequences, multivariable calculus.
- Mathematical Topics for Engineers: a rapid course whose topics consist of multivariable calculus, matrix algebra and linear (ordinary and partial) differential equations.

Last updated: March 16, 2018