Yang Liu – Résumé

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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

Riemann Fellow 2019 Jan.-2019 Mar.
Riemann Center for Geometry and Physics (Leibniz University), Hannover

Postdoctoral Fellow 2016 Sep.-2018 Dec.
Max Planck Institute for Mathematics, Bonn.

Visiting 2017 Nov 1.-2017 Dec 31.
I.H.E.S, Bures-sur-Yvette

Lecturer 2015 Sep.- 2016 May
Ohio State University

Publications and Preprints

- Modular curvature for toric noncommutative manifolds, *Journal of Noncommutative Geometry*, Vol 12(2), 2018, 511-575.
- Scalar curvature in conformal geometry of Connes-Landi noncommutative manifolds, *Journal of Geometry and Physics*, Vol 121, Nov 2017, 138-165.
- Hypergeometric function and modular curvature, arXiv:1711.01664 (no intention for publication, covered by later preprints).
- Hypergeometric function and modular curvature I. Hypergeometric functions in Heat Coefficients, arXiv:1810.09939
- Hypergeometric function and modular curvature II. Connes-Moscovici functional relation after Lesch's work, arXiv:1811.07967

Invited talks

2018

- Analysis seminar, Leibniz University, Nov.
- Global analysis seminar, University of Bonn, Oct.
- 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).
- Geometry and Physics Seminar, Yau Mathematical Sciences Center, Beijing (April).
- 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 Collége 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*.
  - *Letters in 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: November 26, 2018