

CHI-KWONG FOK

CURRICULUM VITAE

Address

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Fields of Research

K -theory, Lie groups, symplectic geometry

Employment

2014-present	Postdoctoral Fellow, National Center for Theoretical Sciences
2008-2014	Teaching Assistant/Instructor, Cornell University
2003-2007	Head Teaching Assistant, Enrichment Program for Young Mathematical Talents, the Chinese University of Hong Kong

Education

2014	PhD in Mathematics, Cornell University
2010	M.S. Special, Cornell University
2007	B.Sc. in Mathematics (First Honours) with a minor in Physics, The Chinese University of Hong Kong

Papers

1. *The Real K -theory of compact Lie groups*,
Symmetry, Integrability and Geometry: Methods and Applications, Vol. 10 (2014), 022, 26 pages,
available at <http://arxiv.org/abs/1308.3871>
2. *KR-theory of compact Lie groups with group anti-involutions*,
Topology and its Applications, Vol. 197, pp. 50-59, 1 January 2016
available at <http://arxiv.org/abs/1405.3571>
3. *Picard group of isotropic realizations of twisted Poisson manifolds*, submitted,
available at <http://arxiv.org/abs/1511.03955>
4. *The Real Freed-Hopkins-Teleman Theorem*, submitted,
available at <http://arxiv.org/abs/1503.00957>
5. *Adams operations on classical compact Lie groups*, submitted,
available at <http://arxiv.org/abs/1510.01984>
6. *Equivariant formality of homogeneous spaces*, joint with Jeffrey Carlson,
preprint available at <http://www.math.cornell.edu/~ckfok>
7. *Equivariant quantum Schubert calculus and equivariant Verlinde algebra*, in preparation
8. *Equivariant K -theory of compact Lie groups with finite fundamental groups* (tentative title), in preparation

Selected Awards

1. Cornell Conference Travel Grant, 2009, 2012 and 2013

2. Cornell Entering Mathematics Graduate Student Fellowship, 2007
3. Sir Edward Youde Memorial Scholarship, 2007
4. Swire Scholarship, 2005, 2006 and 2007
5. Caltech-Hong Kong Undergraduate Research Fellowship 2005
6. Early Admission Scheme Mathematics Scholarship, 2004
7. Dr. Daisy Li Mathematics Award, 2004
8. Mrs. Lam Cheung Lai King Scholarship 2004

Talks

1. *Almost symplectically complete isotropic realizations of twisted Poisson manifolds*
Japan-Taiwan Workshop on Moduli Spaces of Flat Connections on Surfaces and Related Topics
Waseda University, November 2014
Geometry Seminar, the Chinese University of Hong Kong, August 2015
2. *The Real K-theory of compact Lie groups*
Lie Groups Seminar, Cornell University, April 2013
Ottawa Mathematics Conference, May 2013
Topology Seminar, Johns Hopkins University, Baltimore, October 2013
Joint Mathematics Meeting, Baltimore, January 2014
Mathematics Graduate Students Conference, Syracuse University, April 2014
Hong Kong Geometry Colloquium, the Chinese University of Hong Kong, September 2014
The Ninth Taiwan Geometry Symposium, National Central University, October 2014
3. *Fun with Spheres*
Guest lecture for the Enrichment Programme for Young Mathematical Talents,
the Chinese University of Hong Kong, August 2015
4. *An Invitation to Geometric Quantization*
Olivetti Club, Cornell University, April 2012
5. *Equivariant Twisted K-theory of Compact Lie Groups*
Graduate Student Topology Conference 2012, Indiana University, Bloomington, March 2012
6. *The Cohomology of Compact Lie Groups*
Olivetti Club, Cornell University, April 2011
7. *What Is a Bundle Gerbe?*
'What is...' Seminar, Cornell University, March 2011
8. *The Fundamental Theorem of Algebra Revisited*
Olivetti Club, Cornell University, April 2010
9. *Cohomology and K-theory of Abelian Symplectic Reductions*
Graduate Student Topology and Geometry Conference 2009, University of Wisconsin, Madison,
April 2009
10. *From the Octonions to Bott Periodicity*
Olivetti Club, Cornell University, April 2009
11. *Horn's Problem*
Olivetti Club, Cornell University, April 2008
Graduate Student Conference on Algebra and Topology, Binghamton University, November 2008

12. *The Spectrum of the Energy Laplacian on the Sierpinski Gasket*
 Third Conference on Analysis and Probability on Fractals, Cornell University, June 2008
 Young Mathematicians Conference, Ohio State University, August 2006

Conferences Attended

1. East Asian Symplectic Conference 2015, the Chinese University of Hong Kong, November 2015
2. The Eleventh Taiwan Geometry Symposium, National Dong Hua University, October 2015
3. The Tenth Taiwan Geometry Symposium, National Cheng Kung University, May 2015
4. The Annual Meeting of the Taiwanese Mathematical Society, December 2014
5. Japan-Taiwan Workshop on Moduli Spaces of Flat Connections on Surfaces and Related Topics, Waseda University, November 2014
6. The Ninth Taiwan Geometry Symposium, National Central University, October 2014
7. Hong Kong Geometry Colloquium, the Chinese University of Hong Kong, September 2014
8. What's next? The Mathematical Legacy of Bill Thurston, Cornell University, June 2014
9. Mathematics Graduate Students Conference, Syracuse University, April 2014
10. Joint Mathematics Meetings, Baltimore, January 2014
11. Focus Program on Noncommutative Geometry and Quantum Groups, Fields Institute, Toronto, June 2013
12. Ottawa Mathematics Conference, Ottawa, May 2013
13. Joint Symplectic Seminar, Penn State University, State College, April 2013
14. Topology Festival, Cornell University, May 2012
15. Graduate Student Topology Conference, Indiana University, Bloomington, March 2012
16. Joint Symplectic Seminar, Cornell University, Ithaca, October, 2011
17. Mathematical Aspects on Quantization, University of Notre Dame, June 6-10, 2011
18. Summer School on Quantization and Related Topics, University of Notre Dame, May 31-June 4, 2011
19. Southern Ontario Groups and Geometry Meeting, Fields Institute, Toronto, April 2011
20. Joint Symplectic Seminar, Cornell University, Ithaca, November, 2011
21. Symplectic and Poisson Geometry in interaction with Algebra, Analysis and Topology, MSRI, May 2010
22. Graduate Student Topology and Geometry Conference 2010, University of Michigan, Ann Arbor, April 2010
23. Southern Ontario Groups and Geometry Workshop, Fields Institute, Toronto, October 2009
24. Geometry Summer School, Instituto Superior Técnico, Lisbon, July 2009
25. Graduate Student Topology and Geometry Conference 2009, University of Wisconsin, Madison, April 2009
26. Graduate Student Conference on Algebra and Topology, Binghamton University, November 2008

27. Third Conference on Analysis and Probability on Fractals, Cornell University, June 2008
28. Topology Festival, Cornell University, May 2008
29. Conference on Mathematical Physics and Geometric Analysis, Fields Institute, Toronto, January 2008
30. Young Mathematicians Conference, Ohio State University, August 2006

Teaching Experience

2003-2007

Enrichment Program for Young Mathematical Talents, the Chinese University of Hong Kong Head teaching assistant

Fall 2008

MATH 4130 Honors Introduction to Analysis Teaching Assistant

Spring 2009

MATH 6510 Algebraic Topology I (a graduate core course) Teaching Assistant

Summer 2009

MATH1110 Calculus I Teaching Assistant

Fall 2009

MATH 3210 Manifolds and Differential Forms Teaching Assistant

Spring 2010

MATH 6510 Algebraic Topology I Teaching Assistant

Summer 2010

MATH 1110 Calculus I Teaching Assistant

Fall 2010

MATH 1920 Multivariable Calculus for Engineers Teaching Assistant

Spring 2011

MATH 1120 Calculus II Teaching Assistant

Summer 2011

MATH 1110 Calculus I Teaching Assistant

Fall 2011

MATH 1120 Calculus II Instructor

Spring 2012

MATH 4500 Matrix Groups Teaching Assistant

Fall 2012

MATH3210 Manifolds and Differential Forms Teaching Assistant

MATH6520 Differentiable Manifolds I (a graduate core course) Teaching Assistant

Summer 2013

MATH1910 Calculus for Engineers I Teaching Assistant

Fall 2013

MATH1120 Calculus II Instructor

Spring 2014

MATH6510 Algebraic Topology I Teaching Assistant

Services

1. Reviewer for Zentralblatt Math, 2014-present
2. Coaching Ithaca High School Math Team, Spring 2013
3. Organizer of Informal Symplectic Geometry Reading Seminar, Spring 2013
4. Class Representative, 2012-2013
5. Tutor for Office of Academic Diversity Initiatives NYS Opportunity Program
6. Mathematics Tutoring Program, Newfield High School, Spring 2012
7. Co-organizer of Summer Mathematical Physics Seminar, Summer 2011
8. Co-organizer of ‘What is...’ Seminar, a bi-weekly seminar where a faculty member is invited to introduce graduate students to his/her research, Fall 2010-Spring 2011
9. Writing Math Explorers Club teaching module *Geometry of minimal surfaces*, Summer 2009

Professional Memberships

Member, American Mathematical Society, 2007-present

Member, Taiwanese Mathematical Society, December 2014-present

Languages

Mandarin, English (fluent), Cantonese (native)

References

Professor Reyer Sjamaar	Cornell University	sjamaar@math.cornell.edu
Professor Nan-Kuo Ho	National Tsing Hua University	nankuo@math.nthu.edu.tw
Professor Eckhard Meinrenken	University of Toronto	mein@math.utoronto.ca
Professor José Manuel Gomez	Universidad Nacional de Colombia	jmgomez0@unal.edu.co
Dr. Maria Terrell	Cornell University	maria@math.cornell.edu (teaching reference)