

CURRICULUM VITAE

EAMAN EFTEKHARY

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Personal Information

Gender: Male
Marital status: Married
Date of birth: September 23, 1979
Place of birth: Golpayegan, IRAN (Islamic Republic of)
Citizenship: IRAN (Islamic Republic of)

Work History

[MAY 2008- PRESENT] VICE HEAD, School of Mathematics, Institute for Research in Fundamental Sciences (IPM), Tehran, IRAN
[March 2014-PRESENT] ASSOCIATE PROFESSOR, School of Mathematics, Institute for Research in Fundamental Sciences (IPM), Tehran, IRAN
[MAY 2007- March 2014] SENIOR POST-DOCTORAL FELLOW, School of Mathematics, Institute for Research in Fundamental Sciences (IPM), Tehran, IRAN
[JULY 2004- AUGUST 2007] BENJAMIN PIERCE ASSISTANT PROFESSOR OF MATHEMATICS, Department of Mathematics, Harvard University, Cambridge, MA, USA

Education

[AUGUST 2000- JUNE 2004] PH.D. IN MATHEMATICS, PRINCETON UNIVERSITY, PRINCETON, NJ
Thesis: Holomorphic curves in topology and geometry (Advisors: Zoltán Szabó and Gang Tian)
[SEPTEMBER 1997-JUNE 2000] B.SC. IN MATHEMATICS, SHARIF UNIVERSITY OF TECHNOLOGY, TEHRAN, IRAN
B.SC. Project: The Klein curve and its automorphisms (Advisor: Arash Rastegar)
[SEPTEMBER 1994-JUNE 1997] HIGH-SCHOOL DIPLOMA, ALLAMEH HELLI HIGH SCHOOL, TEHRAN, IRAN

Research Interest

HEEGAARD FLOER HOMOLOGY OF KNOTS AND 3-MANIFOLDS: The study of the topology of three-dimensional manifolds, and in particular the study of the null-homologous knots inside them using the techniques of Heegaard Floer homology.
GROMOV-WITTEN THEORY: The study and enumeration of holomorphic curves with fixed combinatorics inside Kähler manifolds and the relations with particular Gopakumar-Vafa conjecture.

FLOER HOMOLOGY OF SURFACE DIFFEOMORPHISM: Understanding the Floer homology groups associated with the members of the mapping class group of a surface of genus bigger than one.

Published Papers

PUBLISHED IN JOURNALS

- Floer homology of certain pseudo-Anosov maps, *J. Symplectic Geom.* 2 (2004), no. 3.
- Longitude Floer homology for knots and the Whitehead double, *Alg. and Geom. Topology* 5 (2005) pp. 1389-1418.
- A combinatorial approach to surgery formulas in Heegaard Floer homology, *Alg. and Geom. Topology* 9 (2009) pp. 2225-2246.
- Knots which admit a surgery with simple knot Floer homology groups, *Alg. and Geom. Topology* 11 (2011) pp. 1243-1256.
- A refinement of sutured Floer homology (with A. S. Alishahi), to appear in *J. Symplectic Geom.*

Preprints

- On the kappa ring of $\mathbb{M}\bar{b}ar_{\{g,n\}}$, (with I. Setayesh) *submitted preprint, available at* math.GT/1307.2754 .
- On the structure of the kappa ring, (with I. Setayesh) *submitted preprint available at* math.GT/1207.2380.
- Floer homology and existence of incompressible tori in homology spheres, *preprint*
- Seifert fibered homology spheres with trivial Heegaard Floer homology, *preprint, available at* math.GT/0909.3975.
- Floer homology and splicing knot complements, *submitted preprint, available at* math.GT/0802.2874
- Finiteness and rigidity of J -holomorphic curves in Calabi-Yau three-folds, *submitted preprint, available at* math.SG/0810.1640
- Heegaard Floer homologies of the pretzel knots, *preprint, available at* math.GT/0311419.

Organizing Conferences

- *Co-Organizer, The 2nd School & Conference on Noncommutative Geometry*, IPM, Tehran, April 19-30, 2009.
- *Co-Organizer, 40th Annual Iranian Mathematics Conference*, Sharif University of Technology, Tehran, August 22-26, 2009.
- *Co-Organizer, Arithmetic and Geometry*, IPM, Tehran, December 25-30, 2010.
- *Co-Organizer, Topology and Dynamics*, IPM, Tehran, Jan 26- Feb 1, 2012.
- *Co-Organizer, Frontiers in Mathematical Sciences I*, Sharif University of Technology, Tehran, December 25-27, 2012.
- *Co-Organizer, Frontiers in Mathematical Sciences II*, Sharif University of Technology, Tehran, December 25-27, 2013.
- *Co-Organizer, Frontiers in Mathematical Sciences III*, IPM, Tehran, December 30, Jan 2, 2014.
- *Co-Organizer, Summer School on Analysis and PDE; from Microscales to Macroscales*, IPM, Tehran, June 28- July 25, 2014.
- *Co-Organizer, 11th Seminar of Differential Equations and Dynamical Systems*, University of Damghan, Damghan, June 23- 25, 2013.
- *Organizer, Geometry and Topology Seminar*, IPM, Tehran, September 2009-March 2011.

Awards and Honors

- *No-Avari-va-Shekoofaie* Research Grant, awarded by National Elites Foundation (Bonyad-e Melli-ye Nokhbegan), March 2009-present
- NSF Research Grant, July 2005- June 2008
- Clay Institute of Mathematics Liftoff Fellowship, June 2004 (declined).
- Princeton University Fellowship 2000-2001.
- Grand First Prize, Mathematics Competition for University Students, Kestely, Hungary 1999.
- 2nd Place, National Mathematics Competition for University Students, Ahvaz, Iran, 1998.
- Undergraduate Support from Institute for Physics and Mathematics (IPM), Tehran, Iran, 1997-2000.
- Full Mark and Gold Medal, International Mathematics Olympiad, Mar del Plata, Argentina, 1997.
- Gold Medal, National Mathematics Olympiad, Tehran, Iran, 1996
- Gold Medal, International Mathematics Olympiad, Mumbai, India, 1996.
- Gold Medal, National Mathematics Olympiad, Yazd, Iran 1995.
- Gold Medal, National Informatics Olympiad, Yazd, Iran 1995.

Advising Experience

- AKRAM SHEIKHALISHAHI (Together with Dr. ALIREZA BAHRAINI), Graduated from Sharif University of Tech in March 2014. Her thesis was on *Heegaard Floer homology and sutured manifolds*.
- SRIDHAR RAJAGOPALAN (Together with Dan Ruberman), Graduated from Brandeis university in June 2007. His thesis was on *Heegaard Floer homology and periodic knots*.

Language Knowledge

Farsi : Native

English : Fluent

French : Familiar with mathematical texts

Arabic : Comfortable with classic Arabic, fair in conversation

References

Prof. Zoltán Szabó

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Prof. Gang Tian

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