

Cheol-Hyun Cho

CONTACT INFORMATION	Building 27-413 Department of Mathematical Sciences Seoul National University Gwanak-ro 1 Seoul, South Korea 151-747	+82-2-880-6534 chocheol@snu.ac.kr http://www.math.snu.ac.kr/~chocheol
RESEARCH INTERESTS	Symplectic Geometry and Topology - Lagrangian Floer Theory Mirror Symmetry and related phenomenon Orbifolds and Group action Algebraic structures in Mathematical Physics	
EDUCATION	University of Wisconsin-Madison Ph.D. Mathematics (Aug 2003), Advisor: Yong-Geun Oh <ul style="list-style-type: none">• Dissertation Topic: Holomorphic discs, spin structures and Floer cohomology of the Clifford torus. KAIST B.A. in Mathematics, Feb 1996	
EMPLOYMENTS	Seoul National University, South Korea 2014.9– Professor 2009.3– 2014.8 Associate Professor 2007.2– 2009.2 Assistant Professor University of Toronto at Mississauga, Canada 2006.9– 2006.12 Assistant Professor Northwestern University, USA 2003.9– 2006.8 Ralph Boas Assistant Professor	
HONORS AND AWARDS	2003 Excellence in Mathematical Research Awards (Univ. of Wisconsin) 2012 Excellent Research Paper Award (Korean Mathematical Society) 2018 Excellent Research Paper Award (Korean Mathematical Society)	
PROFESSIONAL SERVICE	2013.3–2015.2 Secretary of Korean Mathematical Olympiad Committee 2013.12– Editor of Journal of Korean Mathematical Society 2019.3– Managing Editor of Journal of Korean Mathematical Society 2015.12– Vice Chair of the department	
ADVISED STUDENTS	2013 Sangwook Lee (Ph.D) 2014 Hansol Hong (Ph.D) 2015 Hyungseok Shin (Ph.D) 2017 Hanwool Bae (Ph.D) 2012 Eunae Cho (Ms) 2011 Dahye Cho (Ms)	

PUBLICATIONS

1. Cheol-Hyun Cho, Hansol Hong, Siu-Cheong Lau *Non-commutative Homological Mirror functor*, Accepted at Memoirs of AMS. (2018)
2. Cheol-Hyun Cho, Hansol Hong, Siu-Cheong Lau *Localized mirror functor for Lagrangian immersions, and homological mirror symmetry for P_{abc}^1* , J. Differential Geom. 106, No 1, (2017) 45–126
3. Cheol-Hyun Cho, Hansol Hong, *Finite Group actions in Lagrangian Floer theory*, J. Symp. Geom. 15, No2, (2017) 307–420
4. Cheol-Hyun Cho, Hansol Hong, Siu-Cheong Lau, Sang-hyun Kim *Lagrangian Floer potential for orbifold spheres*, Adv. Math. **306** (2017) 344–426
5. Kwokwai Chan, Cheol-Hyun Cho, Siu-Cheong Lau, Hsian-Hua Tseng, *Gross fibrations, syz mirror symmetry, and open Gromov-Witten invariants for toric Calabi-Yau orbifolds* Journ. Diff. Geom. **103** (2016), 207-288.
6. Cheol-Hyun Cho, Hyung-seok Shin, *Chern-Weil Maslov index and its orbifold analogue* Asian J. Math. **20** (2016) No.1, 1-20
7. Cheol-Hyun Cho, Mainak Poddar, *Holomorphic orbidiscs and Lagrangian Floer cohomology of symplectic toric orbifolds* Journ. Diff. Geom. **98** No. 1 (2014), 21-116.
8. Cheol-Hyun Cho, Hansol Hong, *Orbifold Morse-Smale-Witten complex*, Int. J. Math. Vol. 25, No. 5 (2014)
9. Kwokwai Chan, Cheol-Hyun Cho, Siu-Cheong Lau, Hsian-Hua Tseng, *Lagrangian Floer Superpotentials and Crepant Resolutions for Toric Orbifolds* , Comm. Math. Phys. **328** (2014) 83–130
10. Cheol-Hyun Cho, *On the obstructed Lagrangian Floer theory*, Advances in Mathematics **229** (2012) 804–853
11. Cheol-Hyun Cho, Hansol Hong, Sangwook Lee, *Examples of Matrix Factorizations from SYZ*, SIGMA special issue “Mirror Symmetry and Related Topics” **8** (2012), 053, 24p
12. Cheol-Hyun Cho, *On the counting of holomorphic discs in toric Fano manifolds*, Adv. Geom. **13** (2013), 191–210
13. Cheol-Hyun Cho, Sangwook Lee, *Potentials of Homotopy Cyclic A_∞ -algebras*, Homology, Homotopy and Applications, **14**(1), 2012, pp.203–220
14. Cheol-Hyun Cho, Hansol Hong, Hyungseok Shin, *On orbifold embeddings*, J. Kor. Math. Soc. **50** 2013, 1369–1400
15. Cheol-Hyun Cho, Sangwook Lee, *Notes on Kontsevich-Soibelman’s Theorem about cyclic A_∞ algebras*, IMRN, **14** 2011, No. 6, 3095–3140
16. Cheol-Hyun Cho, *Non-displaceable Lagrangian submanifolds and Floer cohomology with non-unitary line bundle*, J. Geom. Phys. 58 (2008), no. 11, 1465–1476
17. Cheol-Hyun Cho, *Strong homotopy inner product of an A_∞ -algebra*, Int. Math. Res. Not. IMRN (2008), no. 13, Art. ID rnn041, 35pp
18. Cheol-Hyun Cho, *Counting real J-holomorphic discs and spheres in dimension four and six*, J. Korean Math. Soc. 45 (2008), no. 5, 1427–1442.
19. Cheol-Hyun Cho, *Products of Floer cohomology of Lagrangian torus fibers in toric Fano manifolds* , Comm. Math. Phys. 260 (2005), 613–640
20. Cheol-Hyun Cho, Yong-Geun Oh *Floer cohomology and disc instantons of Lagrangian torus fibers in toric Fano manifolds*, Asian Journ. Math. Vol 10, no. 4, 773-814 (2006)

21. Cheol-Hyun Cho, *Holomorphic discs, spin structures and Floer cohomology of the Clifford torus*, Int. Math. Res. Notices (2004) no. 35 1803–1843.

SUBMITTED
PREPRINTS

1. Cheol-Hyun Cho, Hansol Hong, Siu-Cheong Lau, *Gluing Localized Mirror Functors* arXiv:1810.02045, 69 pages
2. Cheol-Hyun Cho, Sangwook Lee, Hyungseok Shin *Pairings in mirror symmetry between a symplectic manifold and a Landau-Ginzburg B-model*, arXiv:1810.11172, 35 pages

ORGANIZED
CONFERENCES

1. *Homological Mirror Symmetry and Symplectic Topology*, ICM satellite Conference, Postech, Korea, August 4–8, 2014.
2. *2014 ASARC/SNU Topology Winter School*, Muju, Korea, Feb 26–3.1, 2014
3. *The 6th Pacific RIM Conference on Mathematics 2013*, Symplectic topology session, Sapporo, Japan, July 1-5, 2013
4. *East Asian Symplectic Conference 2013* Kagoshima, Japan, 9.18–21, 2013.
5. *East Asian Symplectic Conference 2011* KIAS, Korea, 6.21–25, 2011.
6. *Conference on complex and symplectic geometry* Seoul National University, Korea, 2. 28–3.3. 2011
7. *Hamiltonian Dynamics and Symplectic Geometry*, KIAS, Korea, July 12–16, 2010
8. *AMS-KMS Conference*, Symplectic geometry and Mirror symmetry session, Ehwa Women’s university, Dec 18–19, 2009
9. *East Asian Symplectic Conference 2009* Taipei, Taiwan, 5.6–10, 2009

SELECTED
INVITED TALKS

1. *Homological mirror functor via counting polygons*. Hong Kong geometry colloquium. Chinese university of Hong Kong, Jan. 2014
2. *Homological mirror functor via counting polygons*. Calabi-Yau geometry and mirror symmetry, National Taiwan University, Jan. 2014
3. *Homological mirror functor from counting polygons*. 5th East Asian conference on Algebraic Topology, Chinese Academy of Science, Dec. 2013
4. *Group action, Floer theory and Mirror symmetry*. Asian Mathematical Conference, Busan, Jul. 2013
5. *Lagrangian Floer theory for toric orbifolds and crepant resolutions* Mirror Symmetry in the Midwest, Univ. of Wisconsin-Madison, Nov. 2012
6. *Lagrangian Floer theory for toric orbifolds and crepant resolutions* Conference on Mirror Symmetry and related topics, KUST, China, Aug 2012
7. *Lagrangian Floer homology for toric orbifolds* Symplectic Geometry and Related topics 2011, Sichuan University, China, May, 2011
8. *Lagrangian Floer homology for toric orbifolds* Workshop on Recent advances on orbifolds, Chern Institute of mathematics, China, Jul. 2011
9. *Lagrangian Floer homology for toric manifolds and orbifolds* Workshop on Symplectic Field Theory 5 ,Hamburg University, Germany, Aug. 2011
10. *Lagrangian Floer homology for toric orbifolds* Mirror Symmetry in the Midwest Kansas State University, Nov. 2011
11. *Lagrangian Floer homology for toric orbifolds* East Asian Conference on Algebraic Topology, University of Tokyo, Japan, Nov. 2011

12. *Potentials in homotopy cyclic A-infinity algebras* Higher structures in mathematics and physics, Erwin Schroedinger Institute, Austria, Oct 2010
13. *On the obstructed Lagrangian Floer theory* Algebraic structures of Holomorphic curves, MSRI, USA, Nov. 2011
14. *Cyclic symmetry of A-infinity algebras* 1st Prima Congress, Pacific Rim Mathematical Association, Sidney, Jul. 2009
15. *Cyclic symmetry of A-infinity algebras* Symplectic geometry and Mirror symmetry, Beijing University, China, May 2009