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EDUCATION

- **Ph.D. in Mathematics**, Rice University, Houston, TX *2017 (Expected)*  
Advisors: Dr. Tim Cochran, Dr. Shelly Harvey  
Research area : Knot theory and low-dimensional topology
- **Visitor, Junior Hausdorff Trimester Program (Topology)** *Sep-Dec 2016*  
Hausdorff Research Institute for Mathematics, Bonn, Germany
- **B.S. in Mathematics**, POSTECH, Pohang, South Korea *2005-2011*
- **Study Abroad**, University of California, Berkeley, Berkeley, CA *2009-2010*

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PAPERS AND PUBLICATIONS

- Inequality on  $t_\nu(K)$  defined by Livingston and Naik and its applications  
Proc. Amer. Math. Soc. 145 (2017), 889-891  
*DOI: 10.1090/proc/13306*
- A family of non-split topologically slice links with arbitrarily large smooth slice genus (joint with Arunima Ray)  
to appear: Proceedings of the American Mathematical Society  
*Available at <http://arxiv.org/abs/1605.07045>*
- A construction of slice knots via annulus modifications  
Submitted.  
*Available at <http://arxiv.org/abs/1512.00401>*
- Milnor's triple linking number and derivatives of genus three knots  
Submitted  
*Available at <http://arxiv.org/abs/1603.09163>*
- On the Upsilon invariant and satellite knots (joint with Peter Feller and Arunima Ray)  
Submitted.  
*Available at <http://arxiv.org/abs/1604.04901>*
- Every genus one algebraically slice knot is 1-solvable (joint with Christopher W. Davis, Taylor E. Martin, and Carolyn Otto)  
Submitted.  
*Available at <http://arxiv.org/abs/1606.00479>*
- Links with nontrivial Alexander polynomial which are topologically concordant to the Hopf link (joint with Min Hoon Kim and David Krcatovich)  
Submitted.  
*Available at <https://arxiv.org/abs/1703.10325>*
- A ribbon obstruction and derivatives of knots (joint with Mark Powell)  
*In preparation*
- An infinite-rank summand of topologically slice knots with nontrivial Alexander polynomial (joint with Min Hoon Kim)  
*In preparation*

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AWARDS AND GRANTS

- 2011 Fulbright Graduate Study Award  
*Fulbright Korean-American Educational Commission, 2011-2013*
- Rice Graduate Student Fellowship  
*Rice University, 2011-*
- Special University Scholarship  
*The Korea Foundation for Advanced Studies 2006, 2009, 2010*
- Excellent Achievement Scholarship for Natural Science Studies  
*Full payment of tuition by Korean government 2005, 2006, 2009, 2010*
- Korean Mathematical Olympiad Award  
*Korean Mathematical Society 2001, 2004*

SELECTED  
TALKS

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- On links with nontrivial Alexander polynomial  
AMS Sectional Meeting  
at Hunter College 5-2017
  - On links with nontrivial Alexander polynomial  
Topology seminar  
at Brandeis University 5-2017
  - On links with nontrivial Alexander polynomial  
CIRGET Geometry and Topology Seminar  
at Université du Québec à Montréal 3-2017
  - On links with nontrivial Alexander polynomial  
Topology seminar  
at Rice University 2-2017
  - On links with nontrivial Alexander polynomial  
Colloquium  
at Texas Christian University 1-2017
  - Milnor's triple linking number and derivatives of knots  
HIM invited addresses for the group knot concordance and 4-manifolds  
at Hausdorff Research Institute for Mathematics 9-2016
  - Milnor's triple linking number and derivatives of knots  
Topology seminar  
at Korea Institute for Advanced Study 8-2016
  - Milnor's triple linking number and derivatives of knots  
Topology in dimension 3.5: a conference in memory of Tim Cochran  
at Rice University 6-2016
  - Milnor's triple linking number and derivatives of knots  
Graduate Student Topology and Geometry Conference  
at Indiana University Bloomington 4-2016
  - A construction of slice knots via annulus modifications  
CIRGET Geometry and Topology Seminar  
at Université du Québec à Montréal 11-2015
  - A construction of slice knots via annulus modifications  
AMS Sectional Meeting  
at Loyola University Chicago 10-2015
  - A construction of slice knots via annulus modifications  
AMS Sectional Meeting  
at University of Wisconsin-Eau Claire 9-2014

TEACHING

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- **Rice University**, Primary instructor  
Math 355: Linear Algebra *Summer 2014*  
Math 211: Ordinary differential equations and linear algebra *Fall 2013*
  - **Rice University**, Teaching Assistant  
Math 445/540: Algebraic topology *Spring 2016*  
Math 444/539: Geometric topology *Fall 2015*  
Math 356: Abstract algebra 1 *Spring 2015*  
Math 368: Topics in combinatorics *Fall 2014*  
Math 211: Ordinary differential equations and linear algebra *Spring 2014*  
Math 211: Ordinary differential equations and linear algebra *Fall 2013*  
Math 102: Calculus II *Fall 2012*  
Math 212: Multivariable Calculus *Spring 2012*  
Math 211: Ordinary differential equations and linear algebra *Fall 2011*

RECENT  
CONFERENCES  
AND  
WORKSHOPS  
ATTENDED

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- Conference on 4-manifolds and knot concordance  
*Max Planck Institute for Mathematics, Oct. 2016*
  - Topology in dimension 3.5: a conference in memory of Tim Cochran  
*Rice University, Jun. 2016*
  - Graduate Student Topology and Geometry Conference  
*Indiana University Bloomington, Apr. 2016*
  - AMS Central Sectional Meeting  
*Loyola University, Oct. 2015*
  - 11th William Rowan Hamilton Geometry and Topology Workshop  
*Trinity College, Aug. 2015*
  - Texas Geometry and Topology Conference  
*University of Texas at Austin, Nov. 2014*
  - AMS Central Sectional Meeting  
*University of Wisconsin-Eau Claire, Sep. 2014*
  - Combinatorial Link Homology Theories, Braids, and Contact Geometry  
*ICERM, Aug. 2014*
  - Graduate Workshop On 4-Manifolds  
*Simons Center, Aug. 2014*
  - Graduate Student Geometry and Topology Conference  
*University of Texas at Austin, Apr. 2014*
  - Tech Topology Conference  
*Georgia Institute of Technology, Dec. 2013*
  - Workshop and Conference on the Topology and Invariants of Smooth 4-manifolds  
*University of Minnesota Twin Cities, Aug. 2013*
  - Texas Geometry and Topology Conference  
*Rice University, Nov. 2012*