

Curriculum Vitae: Yongnam Lee

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Citizenship: Korean

Place and Date of birth: Seoul, Korea (May, 1964)

Degrees:

- B.S. Seoul National Univ, Mathematics, Feb. 1987
- M.S. Seoul National Univ, Mathematics, Feb. 1989
- Ph.D. University of Utah, Mathematics, Jun. 1997
Degeneration of Numerical Godeaux Surfaces (Thesis advisor: H. Clemens)

Academic Positions:

- Sep 2012 – now, Professor, Mathematical Sciences, KAIST
- Mar 2009 – Aug 2012, Professor, Mathematics, Sogang Univ.
- Mar 2004 – Feb 2009, Associate Professor, Mathematics, Sogang Univ.
- Mar 2000 – Feb 2004, Assistant Professor, Mathematics, Sogang Univ.
- Sep 1999 – Feb 2000, Visiting Assistant Professor, Mathematics, POSTECH
- Sep 1997 – Aug 1999, Research Fellow, KIAS

Honors and prizes;

- Prize for Honorable Alumnus, KIAS, Oct 2006
- Prize for Excellent Research Paper, Sogang Univ, Jun 2008
- KMS Excellent Research Paper Award, Apr 2009
- This Month Science Engineer Award from Ministry of Education, Science and Technology, Nov 2009

Some distinctions:

- Aug 2009 – now, Affiliate Member, KIAS

- Jun 2017 – May 2022, Grant from Samsung Science & Technology Foundation
- Jan 2015 – Dec 2016, Editor in Chief, Bulletin of Korean Math. Soc.
- Sep 2016 – Dec 2016, Visiting professor in RIMS in Kyoto University
- Local Organizing Committee of Seoul ICM 2014
- Mar 2012 – Dec 2014, Chair of Algebra Committee in Korean Math. Soc.
- Jan 2007 – Dec 2012, Editor, Bulletin of Korean Math. Soc.
- Dec 2008 – Aug 2012, PI of WCU (the 3rd type)
- Sep 2007 – Aug 2009, Chairman of the Department of Mathematics, Sogang University
- Apr 2010 – Jul 2010, Visiting Professor at RIMS in Kyoto University
- Feb 2006 – Nov 2006, Long term invitation fellowship by JSPS, RIMS in Kyoto University
- Nov 2008 – Oct 2011, Committee Member, National Institute for Mathematical Sciences
- Jan 2009, Research Member at MSRI
- Jul 2000 – Jul 2009, Associate Member at KIAS
- Jan 2007, Visiting Fellow at Mittag-Leffler Institute
- Jan 2004 – Dec 2006, Editor, Comm. Korean Math. Soc.
- Jul 2001, JSPS Fellow at RIMS at Kyoto University
- Jul 2000, Visiting Fellow at MPI in Bonn

Ph.D. Students:

1. Kim, Hosung, Sogang University, Feb. 2008, Chow stability of curves of genus 4 in \mathbb{P}^3 .
2. Shin, Yongjoo, Sogang University, Feb. 2013, Involutions on surfaces of general type with $p_g = 0$.
3. Kim, Soonyoung, Sogang University, Feb. 2015, Numerical Godeaux surfaces with an involution in positive characteristic.
4. Byun, Sangho, KAIST, Feb. 2016, GIT and singularities on algebraic surfaces.

5. Cho, Yonghwa, KAIST, Feb. 2017, On derived categories of algebraic surfaces constructed via \mathbb{Q} -Gorenstein smoothings

Publications:

1. Catanese, Fabrizio; Lee, Yongnam, Deformation of a generically finite map to a hypersurface embedding, arXiv:1708.07745, to appear in *J. Math. Pures Appl.*
2. Cho, Yonghwa; Lee, Yongnam, Exceptional collections in Dolgachev surfaces associated with degenerations, *Adv. Math.* 324 (2018) 394–436.
3. Lee, Yongnam; Pirola, Gian Pietro, On rational maps from the product of two general curves, *Ann. Sc. Norm. Super, Pisa Cl. Sci. XVI*, no. 4 (2016), 1139–1152.
4. Lee, Yongnam; Pirola, Gian Pietro, On subfields of the function field of a general surface in \mathbb{P}^3 , *IMRN* 2015 (2015), 13245–13259.
5. Lee, Yongnam; Polizzi, Francesco, Deformations of product-quotient surfaces and reconstruction of Todorov surfaces via \mathbb{Q} -Gorenstein smoothing, *Adv. Stud. Pure Math.*, 65, Math. Soc. Japan, Tokyo, 2015.
6. Byun, Sangho; Lee, Yongnam, Stability of hypersurface sections of quadric threefolds, *Sci. China Math.* 58 (2015), no. 3, 479–486.
7. Hyeon, Donghoon; Lee, Yongnam, Birational contraction of genus two tails in the moduli space of genus four curves. I, *IMRN*. 2014 (2014) 3735–3757.
8. Lee, Yongnam; Shin, YongJoo; Involutions on a surface of general type with $p_g = q = 0, K^2 = 7$, *Osaka J. Math.* 51 (2014) 121–139.
9. Lee, Yongnam; Nakayama, Noboru, Simply connected surfaces of general type in positive characteristic via deformation theory, *Proc. London Math. Soc.* 106 (2013) 225–286.
10. Keum, JongHae; Lee, Yongnam; Park, Heesang, Construction of surfaces of general type from elliptic surfaces via \mathbb{Q} -Gorenstein smoothing, *Math. Z.* 272 (2012) 1243–1257.
11. Hwang, Jun-Muk; Kim, Hosung; Lee, Yongnam; Jihun Park, Slopes of smooth curves on a Fano manifold, *Bull. London Math. Soc.* 43(5) (2011) 827–839.
12. Lee, Yongnam, Complex structure on the rational blowdown of sections in $E(4)$, *Algebraic geometry in East Asia, Seoul 2008*, 259–269, *Adv. Stud. Pure Math.*, 60, Math. Soc. Japan, Tokyo, 2010.

13. Lee, Yongnam; Park, Jongil, A construction of Horikawa surface via \mathbb{Q} -Gorenstein smoothings, *Math. Z.* 267 (2011), 15–25.
14. Hyeon, Donghoon; Lee, Yongnam, Log minimal model program for the moduli space of stable curves of genus three, *Math. Res. Lett.* 17 (2010), 625–636.
15. Hassett, Brendan; Hyeon, Donghoon; Lee, Yongnam, Stability computation via Gröbner basis, *Jour. Korean Math. Soc.* 47 (2010), 41–62.
16. Hyeon, Donghoon; Lee, Yongnam, A new look at the moduli space of hyperelliptic curves, *Math. Z.* 264 (2010), 317–326.
17. Hyeon, Donghoon; Lee, Yongnam, Stability of bicanonical curves of genus three, *J. Pure. Appl. Alg.* 213 (2009), 1991–2000.
18. Lee, Yongnam; Park, Jongil, A complex surface of general type with $p_g = 0$, $K^2 = 2$ and $H_1 = \mathbb{Z}/2\mathbb{Z}$, *Math. Res. Lett.* 16 (2009), 323–330.
19. Lee, Yongnam, Chow stability criterion in terms of log canonical threshold. *Jour. Korean Math. Soc.* 45 (2008) 467–477.
20. Lee, Yongnam; Park, Jongil, A simply connected surface of general type with $p_g = 0$ and $K^2 = 2$. *Invent. Math.* 170, (2007) 483–505.
21. Kim, Bumsig; Lee, Yongnam; Oh, Kyungho, Rational curves on blow-ups of projective spaces. *Michigan Math. J.* 55 (2007) 335–345.
22. Hyeon, Donghoon; Lee, Yongnam, Stability of tri-canonical curves of genus two. *Math. Ann.* 337 (2007), no. 2, 479–488.
23. Lee, Yongnam, Special members in the bicanonical pencil of Godeaux surfaces, *Osaka J. Math.* 42 (2005) 163–171.
24. Kim, Hosung; Lee, Yongnam, Log canonical thresholds of semistable plane curves. *Math. Proc. Cambridge Philos. Soc.* 137 (2004), no. 2, 273–280.
25. Lee, Yongnam, Projective systems and perfect codes with a poset metric, *Finite Fields and Their Applications*, 10 (2004) 105–112.
26. Lee, Yongnam, Topological Euler numbers in a semi-stable degeneration of surfaces, *Proc. Japan Acad.* 79, Ser. A (2003) 42–45.
27. Lee, Yongnam, Deformation theory of smoothable semi log canonical surfaces, *Proceedings of the Symposium on Algebraic Geometry in East Asia*, (2002) 175–185, World Scientific Publishing Co. Pte. Ltd.
28. Lee, Yongnam, Bounds and \mathbb{Q} -Gorenstein smoothings of smoothable stable log surfaces, *Symposium in honor of C. H. Clemens*, *Contemp. Math.* 312 (2002) 153–162.

29. Lee, Yongnam, Interpretation of the deformation space of a determinantal Barlow surface via smoothings, *Proc. Amer. Math. Soc.* 130 (2002) 963–969.
30. Lee, Yongnam, Bicanonical pencil of a determinantal Barlow surface. *Trans. Amer. Math. Soc.* 353 (2001), no. 3, 893–905.
31. Lee, Yongnam, Semistable degeneration of Godeaux surfaces with relatively nef canonical bundle. *Math. Nachr.* 219 (2000), 135–146.
32. Keum, JongHae; Lee, Yongnam, Fixed locus of an involution acting on a Godeaux surface. *Math. Proc. Cambridge Philos. Soc.* 129 (2000), no. 2, 205–216.
33. Lee, Yongnam, A compactification of a family of determinantal Godeaux surfaces. *Trans. Amer. Math. Soc.* 352 (2000), no. 11, 5013–5023.
34. Lee, Yongnam, Numerical bounds for degenerations of surfaces of general type. *Internat. J. Math.* 10 (1999), no. 1, 79–92.

Preprints.

- Lee, Yongnam; Nakayama, Noboru, Grothendieck duality and \mathbb{Q} -Gorenstein morphism, arXiv:1612.01690.

Grants.

- Jun 2017 – May 2022, Grant from Samsung Science & Technology Foundation
- Nov 2016 – Oct 2018, Basic Science Research from NRF of Korea
- Jun 2013 – May 2016, Basic Science Research from NRF of Korea
- Mar 2013 – Feb 2016, Member of SRC (PI: Sunghan Bae)
- May 2010 – Apr 2013, Basic Science Research from NRF of Korea
- Dec 2008 – Aug 2012, WCU (the 3rd type)
- May 2007 – Feb 2010, PI of Specific Research from KOSEF
- 2006, PI of Cooperative Research from Korea Research Foundation
- 2005, Cooperative Research from Korea Research Foundation (PI: Bumsig Kim)
- 2005 – 2007, Pure Basic Research from Korea Research Foundation (PI: Changho Keem)

- 2002 – 2004, Pure Basic Research from Korea Research Foundation (PI: Ja Kyung Koo)
- Sep 2002 – Aug 2005, Specific Research from KOSEF (PI: Dae-San Kim)
- Sep 1999 – Aug 2002, Specific Research from KOSEF (PI: Jong-Hae Keum)

Co-organizer (from 2013)

- Algebraic Geometry Conference, Busan, Mar 28-Apr 1, 2017
- KAIST CMC Workshop on Algebraic Surfaces and Moduli, Apr 11-15, 2016
- Workshop on Deformation and Moduli, Busan, Jan 20-23, 2016
- Workshop on Algebraic Geometry, Songni-san, Nov 12-14, 2015
- 2015 Fudan-KAIST Workshop on Algebra and Geometry, May 21–23, 2015
- KAIST CMC School on Algebraic Geometry, Apr 17–23, 2015
- Seoul ICM 2014 Satellite Conference on Algebraic and Complex Geometry, Aug 6–10, 2014
- KAIST CMC School on Algebraic Geometry, Mar 18–21, 2014
- Symposium in Algebraic Geometry, Busan, Dec 19–20, 2013
- Center for Mathematical Challenges Inaugural Conferences, KAIST, Dec 5–6, 2013
- 2013 Fudan-KAIST Workshop on Algebra and Geometry, Nov 21–23, 2013
- 2013 KMRS Symposium on Algebraic Geometry, JeonJu, Nov 1–2, 2013
- AMC2013, Algebraic/Complex Geometry Session, June 30–July 4, 2013
- JeonJu Workshop on Projective Algebraic Geometry and Moduli, JeonJu, Mar 22–23, 2013
- 2013 KAIST Winter School on Algebraic Geometry, Jan 22–25, 2013

Invited Talks (from 2013)

- Mar 2018, Higher dimensional algebraic geometry (A conference to mark the retirement of Yujiro Kawamata), University of Tokyo, Exceptional collections on Dolgachev surfaces associated with degenerations
- Feb 2018, Frontiers of Algebraic Surfaces, IBS, POSTECH, Deformation of a generically finite map to a hypersurface embedding

- Feb 2018, Workshop in Complex Algebraic Geometry (in honor of Gian Pietro Pirola on the occasion of his 60th birthday), University of Barcelona, On function fields of general hypersurface sections of Fano 3-folds and double covers
- Dec 2017, The Shokurovs: workshop for birationalists, IBS, POSTECH, On function fields of general hypersurface sections of Fano 3-folds and double covers
- Sep 2017, Classification and Moduli Theory of Algebraic Varieties, Cetraro, Deformation of a generically finite map to a hypersurface embedding
- Jul 2017, First Spain - South Korea bilateral workshop on Algebraic Geometry, University of Madrid, Deformation of a generically finite map to a hypersurface embedding
- Jun 2017, Higher dimensional algebraic geometry, NCTS, Taipei, On \mathbb{Q} -Gorenstein morphisms and refinement
- Jun 2017, 2017 Fudan-KAIST Joint Workshop on Algebra and Geometry, On \mathbb{Q} -Gorenstein morphisms and refinement
- May 2017, Algebraic Geometry Seminar, University of Bayreuth, On \mathbb{Q} -Gorenstein morphisms and refinement
- Mar 2017, SSAG-Seoul Seminars on Algebraic Geometry, III, Seoul National University, On \mathbb{Q} -Gorenstein morphisms and refinement
- Feb 2017, Vietnam-Korea Workshop on Selected Topics in Mathematics, Duy Tan University, On rational maps from a hypersurface section of Fano 3-fold and double cover
- Jan 2017, Workshop on higher dimensional algebraic geometry, holomorphic dynamics and their interactions, University of Singapore, On \mathbb{Q} -Gorenstein morphisms
- Oct 2016, University of Tokyo, Algebraic Geometry Seminar, \mathbb{Q} -Gorenstein deformation theory and its applications to algebraic surfaces
- Aug 2016, Workshop on arithmetic and geometry, Cetraro in Italy, On rational maps from a hyperplane section of a Fano 3-fold and its double cover
- Jul 2016, Asian Mathematical Conference 2016, Bali in Indonesia, \mathbb{Q} -Gorenstein deformation theory and its applications
- May 2016, Workshop on rational curves and moduli, Damyang, Dominant rational map from a very general surface in a hyperplane section in Fano threefolds

- Feb 2016, University of Pavia, Algebraic Geometry Seminar, Exceptional collections on Dolgachev surfaces associated with degenerations
- Feb 2016, University of Insubria, Algebraic Geometry Seminar, \mathbb{Q} -Gorenstein deformation and its application to algebraic surfaces
- Jan 2016, Hokkaido University-KAIST(ASARC) Joint Workshop Algebra and Geometry, Hokkaido University, Exceptional collections on Dolgachev surfaces associated with degenerations
- Nov 2015, Workshop on Algebraic Geometry, Fudan University, Exceptional collections on Dolgachev surfaces associated with degenerations
- Aug 2015, Korean-French Conference in Mathematics, POSTECH, Exceptional collections on Dolgachev surfaces associated with degenerations
- Aug 2015, Workshop on Higher Dimensional Algebraic Geometry, National Taiwan University, On subfields of the function field of a general surface in \mathbb{P}^3
- Aug 2015, Workshop on Algebraic Geometry, Jilin University, Exceptional collections on Dolgachev surfaces associated with degenerations
- Jul 2015, University of Bayreuth, Algebraic Geometry Seminar, Exceptional collections on Dolgachev surfaces associated with degenerations
- Jun 2015, INdAM Italian-Korean Meeting on Algebraic Geometry 2015, On subfields of the function field of a general surface in \mathbb{P}^3
- Jan 2015, University of Bayreuth, Algebraic Geometry Seminar, On subfields of the function field of a general surface in \mathbb{P}^3
- Aug 2014, Seoul ICM 2014 Satellite Conference on Algebraic and Complex Geometry, Daejeon DCC, \mathbb{Q} -Gorenstein deformation theory and its applications
- Jul 2014, University of Pavia, Algebraic Geometry Seminar, Construction of surfaces of general type with geometric genus 0 via \mathbb{Q} -Gorenstein smoothings, and \mathbb{Q} -Gorenstein deformation theory and its applications
- Jun 2014, Summer School on Algebraic Geometry 2014, Damyang resort, \mathbb{Q} -Gorenstein deformation theory and its applications
- May 2014, Landau-Ginzburg Theory and Fano Varieties, IBS, POSTECH, \mathbb{Q} -Gorenstein deformation theory and its applications
- May 2014, Workshop on Algebraic Geometry, Sichuan University, \mathbb{Q} -Gorenstein deformation theory and its applications
- Mar 2014, Geometry of Complex Threefolds, Hausdorff Institute of Mathematics, \mathbb{Q} -Gorenstein deformation theory and its applications

- Feb 2014, Symposium on Projective Algebraic Varieties and Moduli 2014, SNU, \mathbb{Q} -Gorenstein deformation theory and its applications
- Jan 2014, Arithmetic and Algebraic Geometry 2014, University of Tokyo, \mathbb{Q} -Gorenstein deformation theory and its applications
- Jan 2014, Workshop on Birational Geometry and Stability of moduli stacks and Spaces of curves, Vietnam Institute for Advanced Study, GIT construction of log minimal models
- Nov 2013, 2013 Fudan-Kaist Joint Workshop on Algebra and Geometry, Fudan University, \mathbb{Q} -Gorenstein deformation theory and its applications
- Sep 2013, Classification of Algebraic Varieties and related topics, Cetraro, \mathbb{Q} -Gorenstein deformation theory and its applications
- June 2013, Workshop in Algebraic Geometry, XiaMen, Stability of n -canonical models of curves and applications to moduli of surfaces
- Mar 2013, Workshop on Higher Dimensional Algebraic Geometry, National Taiwan University, Birational contraction of genus two tails in the moduli space of genus four curves
- Feb 2013, Ajou Workshop on Algebraic Surfaces, Ajou University, \mathbb{Q} -Gorenstein deformation theory and its applications
- Jan 2013, Fudan University, Seminar, Normal Projective Surfaces with Toric Singularities of Class T