

# Runhong Zong

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**Date of Birth:** Jan 2nd, 1989

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**Research interests** Algebraic Geometry, Arithmetic Geometry, Mathematical Physics

**Employment**

<b>Nanjing University</b>	Nanjing, China
Professor, Department of Mathematics	July 2019 – present

<b>Johannes Gutenberg University Mainz</b>	Mainz, Germany
Postdoc, Department of Mathematics	May 2017 – June 2019
Mentor: Professor Kang Zuo	

<b>University California, Los Angeles</b>	Los Angeles, USA
Assistant Adjunct Professor, Dept. of Mathematics	August 2015 – May 2017

<b>Institute for Advanced Study</b>	Princeton, USA
Member, School of Mathematics	September 2014 – August 2015

**Education**

<b>Princeton University</b>	Princeton, USA
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Ph.D. in Mathematics	September 2010 – November 2014
Mentor: Professor János Kollár	

<b>University of Science and Technology of China</b>	Hefei, China
B.S. in Mathematics and Applied Mathematics	September 2006 – June 2010
Summa Cum Laude. Overall GPA: 4.19/4.30, Major GPA: 4.30/4.30	

**Publications**

**$U(1)$ -Gauge Theories on  $G_2$ -Manifolds**

Zhi Hu, Runhong Zong  
to appear in *Annales Henri Poincaré*

**Generalized Deligne-Hitchin Twistor Spaces: Construction and Properties**

Zhi Hu, Pengfei Huang, Runhong Zong  
*Bulletin des Sciences Mathématiques, Vol.191, 103396 (2024)*

**Topological Structures of Moduli Spaces of Curves and Anabelian Geometry in Positive Characteristic**

Zhi Hu, Yu Yang, Runhong Zong  
*Forum of Mathematics Sigma*, Vol. 0, pp. 1-36 (2024)

**Weak Approximation for Fano Complete Intersections in Positive Characteristic**

Jason Starr, Zhiyu Tian, Runhong Zong  
*Annales de l'Institut Fourier*, Vol. 72, No. 4, pp. 1503-1534 (2022)

**Hyperbolic Superspaces and Super-Riemann Surfaces**

Zhi Hu, Runhong Zong  
*Communications in Mathematical Physics*, Vol. 378, pp. 891-915 (2020)

**Weak Approximation for Iso-trivial Families**

Zhiyu Tian, Runhong Zong  
*Journal für die Reine und Angewandte Mathematik*, Vol. 752, pp. 1-23 (2019)

**A Geometric Characterisation of Toric Varieties**

James McKernan, Roberto Svaldi, Morgan Brown, Runhong Zong  
*Duke Mathematical Journal*, Vol. 167, Issue 5, pp. 923-968 (2018)

**Curve Classes on Rationally Connected Varieties**

Runhong Zong  
"Rational Points, Rational Curves, and Entire Holomorphic Curves on Projective Varieties"—*Contemporary Mathematics Series by American Mathematical Society*, Vol. 654 (2015)

**On Rational Connectedness of Globally F-Regular Threefolds**

Yoshinori Gongyo, Zhiyuan Li, Hiromu Tanaka, Karl Schwede, Zsolt Patakfalvi, Runhong Zong  
*Advances in Mathematics*, Vol. 280, pp. 47-78 (2015)

**On the Space of Conics on Complete Intersections**

Runhong Zong  
*Communications in Mathematics and Statistics*, Vol. 2, pp. 33-45 (2014)

**One Cycles on Rationally Connected Varieties**

Zhiyu Tian, Runhong Zong  
*Compositio Mathematica*, Vol. 150, Issue 03, pp. 396-408 (2012)

Preprints

**Universal Constants, Law of Inertia and Emergent Geometry**

Zhi Hu, Mulin Yan, Runhong Zong  
*arXiv:2303.02556* (2023)

**Moduli Spaces of Parabolic Bundles over  $P^1$  with Five Marked Points**

Zhi Hu, Pengfei Huang, Runhong Zong

*arXiv:2108.08994 (2021)*

**On Base Changes of Local Stability in Positive Characteristics**

Zhi Hu, Runhong Zong

*arXiv:2001.04083 (2020)*

**Invited Talks**

**New Anabelian Phenomena for Curves in Positive Characteristics**

*Shenzhen Workshop in  $p$ -adic Arithmetic and Geometry, 1/13/2024*

**New Anabelian Phenomena for Curves in Positive Characteristics**

*45 Minutes Talk at ICCM 2023, 1/5/2024*

**New Anabelian Phenomena for Curves in Positive Characteristics**

*Tongji University Algebraic and Arithmetic Geometry Conference, 12/10/2023*

**On Base Change of Local Stability in Positive Characteristics**

*Algebraic Geometry and Arithmetic Geometry Conference, University of Science and Technology of China, 9/28/2019*

**Finding Rational Curves by Forgetful Maps**

*Chern Institute of Mathematics, Nankai University, 8/5/2018*

**Finding Rational Curves by Forgetful Maps**

*Department of Mathematics, Nanjing University, 7/15/2018*

**Finding Rational Curves by Forgetful Maps**

*School of Mathematical Science, Wuhan University, 6/5/2018*

**Finding Rational Curves by Forgetful Maps**

*School of Mathematical Science, Tongji University, 2/5/2018*

**Finding Rational Curves by Forgetful Maps**

*Postdoctoral Member Talk, Institute for Advanced Study, 10/01/2014*

**A New Look at the Graber-Harris-Starr Theorem**

*Conference—"Algebraic-Geometry-Seattle-2014", University of Washington Seattle, 08/04/2014*

**On Density of Rational Points in the Adèles of Function Field of Curves**

*Number Theory Seminar, University of Berkeley, 10/30/2013*

**Weak Approximation for Isotrivial Families**

*Algebraic Geometry Seminar, University of Utah, 10/29/2013*

**Some New Results in the Topic of Rationally Connected Varieties**

*The Algebraic and Arithmetic Geometry Conference to “AGAG Summer School 2013”, University of Science and Technology of China, 8/27/2013*

**Weak Approximation for Isotrivial Families**

*Algebraic Geometry Seminar, Stanford University, 2/28/2013*

**One Cycles on Rationally Connected Varieties**

*Algebraic Geometry Seminar, California Institute of Technology, 11/19/2012*

**One Cycles on Rationally Connected Varieties**

*Algebraic Geometry Preprint Seminar, University of Utah, 10/26/2012*