

Runhong Zong

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Date of Birth: Jan 2nd, 1989

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Other Name Used: Runpu Zong

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Gender: Male

Citizen: China

Research interests

Algebraic Geometry, Arithmetic Geometry, Mathematical Physics, Application of Mathematics to Philosophy and Economics

Employment

Nanjing Univeristy

Professor, Department of Mathematics

Nanjing, China

July 2019 – present

Johannes Gutenberg University Mainz

Postdoc, Department of Mathematics

Mentor: Professor Kang Zuo

Mainz, Germany

May 2017 – June 2019

University California, Los Angeles

Assistant Adjunct Professor, Dept. of Mathematics

Los Angeles, USA

August 2015 – May 2017

Institute for Advanced Study

Member, School of Mathematics

Princeton, USA

September 2014 – August 2015

Education

Univeristy of Pennsylvania

M.A. in Economics

Pennsylvania, USA

September 2015 – August 2018

Princeton University

Ph.D. in Mathematics

Mentor: Professor János Kollár

Princeton, USA

September 2010 – November 2014

University of Science and Technology of China

B.S. in Mathematics and Applied Mathemtaics

Summa Cum Laude. Overall GPA: 4.19/4.30, Major GPA: 4.30/4.30

Hefei, China

September 2006 – June 2010

Publications

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

Zhi Hu, Runhong Zong

to appear in *Annales Henri Poincaré*

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)

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

Zhi Hu, Yu Yang, Runhong Zong

arXiv:2301.04864 (2023)

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

Zhi Hu, Pengfei Huang, Runhong Zong

arXiv:2108.08994 (2021)

Research
Monographs

Generalized Deligne-Hitchin Twistor Spaces: Construction and Properties

Zhi Hu, Pengfei Huang, Runhong Zong

arXiv:2010.06893 (2020)

On Base Changes of Local Stability in Positive Characteristics

Zhi Hu, Runhong Zong

arXiv:2001.04083 (2020)

Socialist Political Economy with Chinese Characteristics: the Grand Unified Theory of Philosophy and Social Science

Runhong Zong

In Submission (This is a Chinese monograph on philosophy and political economy of roughly 1,000,000 Chinese words, in which strong mathematical methods are applied)

The Philosophical Foundation of New Economic System: An Ontology Characterising the Operation of the Universe in Materialistic Dialectics

Runhong Zong

Submitted for Publication (This is a Chinese monograph on philosophy of roughly 400,000 Chinese words, in which strong mathematical methods are applied)

Towards Socialist Political Economy with Chinese Characteristics

Runhong Zong

To be Published by Synergy Publishing Pte. Ltd. (This is a Chinese monograph on philosophy and political economy of roughly 320,000 Chinese words, in which strong mathematical methods are applied)

Introduction to New Economics System

Runhong Zong

To be Published by Xinhua Publishing House (This is a Chinese monograph on economics of roughly 330,000 Chinese words, in which strong mathematical methods are applied)

A Study of New Economics System: Integration and Unification of Sharing Economy and Competitive Economy

Runhong Zong

To be Published by Xinhua Publishing House (This is a Chinese monograph on economics of roughly 590,000 Chinese words, in which strong mathematical methods are applied)

Invited Talks

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

45 minutes talk at the International Congress of Chinese Mathematicians (ICCM 2023), 1/4/2024)

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.