

Carlo Scarpa

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Personal Information

Birth December 1, 1992, Mirano, Italy.
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Current Position

Oct. 1, 2020 - **Postdoctoral researcher**, S.I.S.S.A. - I.S.A.S. International School for Advanced Studies, Via Bonomea 265, 34136 Trieste, Italy,
Project funding: POR FSE 2014-2020 - PPO, Programma specifico 89/19, Annualità 2019 cod. reg. FP1956730001 - Programma operativo del Fondo sociale europeo 2014/2020 della Regione autonoma Friuli Venezia Giulia.

Scientific Interests

Complex Differential Geometry, Algebraic Geometry and Geometric Analysis, in particular Kähler Geometry of projective varieties and existence of Kähler metrics with special curvature properties.

Education

- Sept. 2020 **Ph.D. in Geometry and Mathematical Physics**, S.I.S.S.A. - I.S.A.S. International School for Advanced Studies, Via Bonomea 265, 34136 Trieste, Italy,
Thesis title: *The Hitchin-cscK system: an infinite-dimensional hyperkähler reduction*,
Advisor: **Prof. Jacopo Stoppa**
graduated *cum Laude*.
- Sept. 2011 - Oct. 2016 **Student of the Scuola Superiore of the University of Udine**, an institute for advanced studies promoting excellent students of the University of Udine, graduated *cum Laude*.
- Oct. 2016 **Master of Science, Mathematics, 110/110 cum Laude**, Università degli Studi di Udine, Via Palladio 8, 33100 Udine, Italy,
Thesis title: *Existence of Kähler-Einstein metrics on compact complex manifolds*.
Supervisor: **Prof. Fabio Zuddas**.
- Oct. 2014 **Bachelor, Mathematics, 110/110 cum Laude**, Università degli Studi di Udine, Via Palladio 8, 33100 Udine, Italy,
Thesis title: *On the uniqueness of sporadic simple groups – the method of Aschbacher and Segev*. Supervisor: **Prof. Mario Mainardis**.

Publications and Preprints

- preprint **The HcscK system in symplectic coordinates**, [Carlo Scarpa and Jacopo Stoppa](#), arXiv:2006.06250[math.DG].
- article **Solutions to Donaldson’s hyperkähler reduction on a curve**, [Carlo Scarpa and Jacopo Stoppa](#), Journal of Geometric Analysis (2020), 1-19,
<https://doi.org/10.1007/s12220-020-00377-3>.

preprint **Scalar curvature and an infinite-dimensional hyperkähler reduction**,
Carlo Scarpa and Jacopo Stoppa, arXiv:1811.01694[math.DG].
accepted for publication in the *Asian Journal of Mathematics*

Teaching Experience

- Fall semester 2019-2020 **Exercise sessions** for prof. Stoppa's Riemannian Geometry course at SISSA, aimed at Master and first year PhD students.
SISSA, Trieste
- Fall semester 2018-2019 **Exercise sessions** for prof. Stoppa's Riemannian Geometry course at SISSA, aimed at Master and first year PhD students.
SISSA, Trieste
- Fall semester 2017-2018 **Exercise sessions** for prof. Stoppa's Riemannian Geometry course at SISSA, aimed at Master and first year PhD students.
SISSA, Trieste
- Nov. 2015 - May 2016 **Exercise sessions** for prof. Dikranjan's Algebra course at the University of Udine, aimed at undergraduate students.
Università degli studi di Udine
- Nov. 2015 - May 2016 **Academic Tutor** for junior students of the department of Mathematics.
Università degli studi di Udine

Organization of schools and seminars

- Oct. 2020 - present Co-organizer of the joint SISSA-ICTP Kähler Geometry seminar
SISSA, Trieste
- Oct. 2018 - Sept. 2019 Co-organizer of SISSA's "What is...?" seminar
SISSA, Trieste

Conferences, Schools and Workshops

- Feb.- March 2020 Visiting prof. Julius Ross at the University of Illinois at Chicago
Supported by SISSA and the Department of Mathematics of UIC through the NSF grant RTG1246844

Contributed talks

- September 2020 *Simons conference on K-stability*.
Talk title: **The Hitchin-cscK system**
- January 2018 *Informal Geometry Workshop in "Paradiso"*.
Talk title: **Hitchin equations for constant scalar curvature Kähler metrics**.
Cogne, Italy

Seminar Talks

- November 2020 BICMR online seminar in Geometric Analysis.
Talk title:
An analogue of Hitchin's Higgs bundle equations in the category of polarized varieties
- October 2020 B.O.W.L. on-line seminar.
Talk title: *The Hitchin-cscK system*
- September 2020 Geometry and Topology Seminar, UQAM.
Talk title: *The Hitchin-cscK system*
- March 2020 Geometry, Topology and Dynamics Seminar, UIC.
Talk title: *Hitchin's equations in the category of polarized varieties*

Outreach activities

- Oct. 2017 - present **Voluntary teaching of Arithmetic and Geometry** in a second opportunity middle school for disadvantaged children, project *Non uno di meno*.
Scuola SMAC, via Molino a Vento 83, 34137 Trieste
- May 16-18 2019 **Mini workshop on Mathematical puzzles** as part of the science festival *Scienza Under 18 Isontina*.
Monfalcone
- June 27 2018 **Mini workshop on Mathematical puzzles** in the science festival *FEST@T*.
Trieste

Other activities

- Feb. 2018-present **Student representative in the Library Committee** of SISSA.
S.I.S.S.A. - I.S.A.S. International School for Advanced Studies, Via Bonomea 265,
34136 Trieste, Italy
- Nov. 2017-present **Student representative in the Evaluation Unit** of SISSA.
S.I.S.S.A. - I.S.A.S. International School for Advanced Studies, Via Bonomea 265,
34136 Trieste, Italy
- 2012-2016 **Student representative** in the mathematics department of the University of Udine.
Università degli Studi di Udine, Dipartimento di Scienze Matematiche, Informatiche e
Fisiche, via delle Scienze 206, Udine, Italy

Trieste, February 15, 2021