

Péter Ivanics

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Education

BSc in physics, Budapest University of Technology and Economics, 2008–2010 (unfinished)

Advisor: Ferenc Márkus.

BSc in mathematics, Budapest University of Technology and Economics, 2009–2012

Advisor: Szilárd Szabó.

MSc in mathematics, Budapest University of Technology and Economics, 2012–2014

Advisor: Szilárd Szabó.

PhD in mathematics, Budapest University of Technology and Economics, 2015–2018

Advisor: András Stipsicz and Szilárd Szabó.

Professional activities

BSc thesis in physics: *Using the finite element method in the simulation of transport processes* (in Hungarian)

National Scientific Students' Associations Conference (OTDK): *Examination of the dimension of Fuchsian third-order equation* (special award) (in Hungarian)

BSc thesis in mathematics, continuation of OTDK with the same title (in Hungarian)

Examination of the extended heat conduction equation

MSc thesis in mathematics: *The locus of the production of logarithmic connections with Fuchs equation* (in Hungarian)

Summer school participation: „Mapping class groups, 3- and 4-manifolds” (Cluj, Romania, 27 July – 1 August 2015)

Conference talk: „CSM - The 4th Conference of PhD Students in Mathematics” (Szeged, Hungary, 27-29 June 2016)

Summer school participation: „Low dimensional topology” (Budapest, Hungary, 5-8 July 2016)

Workshop participation: „School and Workshop on Algebraic Geometry and Physics” (Trieste, Italy, 19-23 June 2017)

Conference and summer school participation: „Geometry and Physics XVI” (Timisoara, Romania, 29 May – 2 June 2018)

Talks

Geometry Seminar at BME: The locus of the production of logarithmic connection with Fuchs equation (in Hungarian) (3 March 2015)

Alfréd Rényi Institute of Mathematics, Algebraic Geometry and Differential Topology Seminar: Two-dimensional moduli spaces of irregular Higgs bundles (13 May 2016)

CSM - The 4th Conference of PhD Students in Mathematics: Two-dimensional moduli spaces of irregular Higgs bundles (27 June 2016)

Geometry Seminar at BME: Geometry of the moduli spaces of irregular Higgs bundles (in Hungarian) (13 September 2016)

Geometry Seminar at BME: Computations on the moduli spaces of irregular Higgs bundles (in Hungarian) (14 November 2017)

Publications

P. Ivanics, A. Stipsicz, Sz. Szabó: Two-dimensional moduli spaces of rank 2 Higgs bundles over $\mathbb{C}P^1$ with one irregular singular point, *Journal of Geometry and Physics*, 130:184–212, 2018

P. Ivanics, A. Stipsicz, Sz. Szabó: Hitchin fibrations on moduli of irregular Higgs bundles and motivic wall-crossing, *Journal of Pure and Applied Algebra*, 223(9):3989–4064, 2019.

P. Ivanics, A. Stipsicz, Sz. Szabó: Hitchin fibrations on two-dimensional moduli spaces of irregular Higgs bundles with one singular fiber, *SIGMA* (submitted), [arXiv: abs/1808.10125](https://arxiv.org/abs/1808.10125), 2019.

P. Ivanics: The locus of the representation of logarithmic connections by Fuchsian equations, *Periodica Mathematica Hungarica* (in press), [arXiv: abs/1903.03555](https://arxiv.org/abs/1903.03555), 2019.

Teaching experience

Calculus lectures for industrial design engineer students in 2011

Demonstrator at Department of Algebra and Department of Differential Equation in 2013–14

Calculus lectures for engineering management, industrial design engineer and bioengineer students in 2015–2017

Work experience

Data entry operator, MTA Institute of Musicology, 2013–2015

Lecturer, Budapest University of Technology and Economics, 2011, 2015–2017

Assistant research fellow, MTA Alfréd Rényi Institute of Mathematics, 2018

Fields of interest

algebraic geometry

mathematical physics

partial differential equations

problems in the philosophy of mathematics

Péter Ivanics
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