

# Curriculum Vitæ- Lóránt Szegedy

## Contact Details

Department of Mathematics  
Section Algebra and Number Theory  
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<http://www.math.uni-hamburg.de/home/szegedy/>

## Education

- 2015 – 2018 PhD in Mathematics, University of Hamburg  
*topic:* State-sum Construction of Two-dimensional Functorial Field Theories  
*supervisor:* [Ingo Runkel](#)  
*thesis available at:* <http://ediss.sub.uni-hamburg.de/volltexte/2018/9321>
- 2013 – 2015 MSc in Mathematical Physics, University of Hamburg  
*topic:* Area-dependent Quantum Field Theories  
*supervisor:* [Ingo Runkel](#)  
*thesis available at:* <http://www.math.uni-hamburg.de/home/szegedy>
- 2009 – 2013 BSc in Physics, Budapest University of Technology and Economics
- 2005 – 2009 High School, ELTE Apáczai Csere János Gyakorlógimnázium, Budapest
- 1997 – 2005 Primary School, Hild József Általános Iskola, Budapest

## Publications

- 2019 On invertible 2-dimensional framed and r-spin topological field theories,  
*available at:* <https://arxiv.org/abs/1907.09428>
- 2019 Symmetry defects and orbifolds of two-dimensional Yang-Mills theory  
(with L. Müller and R.J. Szabo),  
*available at:* <https://arxiv.org/abs/1907.04734>
- 2018 Area-dependent quantum field theory with defects  
(with I. Runkel), *available at:* <https://arxiv.org/abs/1807.08196>
- 2018 Topological field theory on  $r$ -spin surfaces and the Arf invariant  
(with I. Runkel), *available at:* <https://arxiv.org/abs/1802.09978>
- 2013 An efficient linear-scaling CCSD(T) method based on local natural orbitals  
(with M. Kállay, I. Ladjánszki, B. Ladóczki, Z. Rolik) *J. Chem. Phys.* **139**.  
[094105 \(2013\)](#)

## Work Experience

- 4/2019 – Postdoctoral Fellow, University of Hamburg, Hamburg
- 10/2018 – 3/2019 Postdoctoral Fellow, Max Planck Institute for Mathematics, Bonn
- 2015 – 2017 Spokesperson of the PhD Students of the [RTG 1670](#), University of Hamburg

- 2013 – 2015 AIS Network Administrator, [vesseltracker.com GmbH](http://vesseltracker.com), Hamburg  
 2010 – 2013 Programmer, Budapest University of Technology and Economics,

### Teaching Experience

- Fall 2019 Tutor in Mathematics 1, University of Hamburg  
 Summer 2019 Tutor in Mathematics 2, University of Hamburg  
 Fall 2012 Tutor in Introductory Physics, Budapest University of Technology and Economics

### Organized Events and Seminars

- Fall 2017 [PhD Student Seminar](#) (*with Sebastian Heller*), Hamburg  
 17/3/2017 [RTG 1670 Alumni Event](#), Hamburg  
 Fall 2016 [PhD Student Seminar](#), Hamburg  
 18–20/7/2016 RTG Retreat (*with Jan Hesse*), Ratzeburg

### Talks at Conferences

- 11/10/2019 “Two-dimensional Yang-Mills theory”  
[Deformations and Rigidity in Algebra, Geometry and Analysis](#), Würzburg  
 22/1/2018 “TFTs on  $r$ -spin surfaces and the Arf invariant”  
[Workshop: Tensor Categories, Hopf Algebras and Quantum Groups](#), Marburg  
 26/8/2013 “An efficient linear-scaling CCSD(T) method based on local natural orbitals”  
 Poster Award, [ISTCP VIII Conference](#), Budapest

### Talks at Seminars

- 10/5/2019 “Invertible 2-dimensional framed and  $r$ -spin TFTs”  
[QGM seminar](#), Aarhus University  
 2/5/2019 “From Segal-Wilson tau function to free fermions”  
[ZMP Seminar](#), Hamburg,  
 8/4/2019 “Invertible 2-dimensional framed and  $r$ -spin TFTs”  
 University of Copenhagen  
 19/3/2019 “TFTs on  $r$ -spin surfaces and the Arf invariant”  
 University of Zurich  
 12/3/2019 “TFTs on  $r$ -spin surfaces and the Arf invariant”  
[Utrecht Geometry Center Seminar](#), Utrecht University  
 29/1/2019 “Combinatorial models of  $r$ -spin surfaces”  
 Physical Mathematics Seminar, University of Heidelberg  
 6/12/2018 “Area-dependent quantum field theory with defects”  
[MPI Oberseminar](#), Max Planck Institute for Mathematics, Bonn  
 1/11/2018 “TFTs on  $r$ -spin surfaces and the Arf invariant”  
[Topology and Geometry Seminar](#), University of Geneva

- 30/5/2018 “TFTs on  $r$ -spin surfaces and the Arf invariant”  
[Mathematical Physics Seminar](#), University of Nottingham
- 28/5/2018 “TFTs on  $r$ -spin surfaces and the Arf invariant”  
[Topology Seminar](#), University of Oxford
- 9/5/2018 “TFTs on  $r$ -spin surfaces and the Arf invariant”  
[EMPG Seminar](#), University of Edinburgh
- 7/5/2018 “TFTs on  $r$ -spin surfaces and the Arf invariant”  
[Oberseminar Differentialgeometrie](#), University of Freiburg
- 29/1/2018 “TFTs on  $r$ -spin surfaces and the Arf invariant”  
[MPIM Topology Seminar](#), Max Planck Institute for Mathematics, Bonn
- 21/11/2017 “TFTs on  $r$ -spin surfaces and the Arf invariant”  
 University of Vienna
- 19/10/2017 “Two algebras defined by Zhu”  
[ZMP Seminar](#), Hamburg, [slides available online](#)
- 1/12/2016 “Modules over vertex operator algebras”  
[ZMP Seminar](#), Hamburg, [slides available online](#)

### Attended Schools and Conferences

- 7-18/1/2019 [Categorification in quantum topology and beyond](#), Vienna
- 13-17/8/2018 [Higher algebra and mathematical physics](#), Bonn
- 24-28/7/2017 [String Math Conference](#), Hamburg
- 17-21/7/2017 [Pre-StringMath Summer School](#), Hamburg
- 11–15/10/2016 [School of Analytic Computing in Theoretical High-Energy Physics](#), Atrani
- 7–9/12/2015 [Advanced School on Topological Quantum Field Theory](#), Warsaw,
- 20–31/7/2015 [String Steilkurs - Part II](#), DESY, Hamburg
- 17–21/3/2014 [String Steilkurs - Part I](#), DESY, Hamburg

### Language Skills

English (fluent in speech and writing)  
 German (fluent in speech and writing)  
 Hungarian (mother tongue)

### Reference letters can be requested from:

Nils Carqueville ([nils.carqueville@univie.ac.at](mailto:nils.carqueville@univie.ac.at)),  
 Ingo Runkel ([ingo.runkel@uni-hamburg.de](mailto:ingo.runkel@uni-hamburg.de)),  
 Christoph Schweigert ([christoph.schweigert@uni-hamburg.de](mailto:christoph.schweigert@uni-hamburg.de)).

Hamburg, October 30, 2019