Sophie Emma Zegers - CV

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Place and date of birth:	18 September 1994, Denmark
Work address:	Delft University of Technology, Faculty of Electrical Engineering, Mathematics and Computer Science. Mekelweg 4, 2628 CD, Delft, Netherlands
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Employment

- *Sept. 2024 -*
  Assistant Professor at Delft University of Technology
  (Academic Career Track)

- *Aug. 2023 - Aug. 2024*
  Postdoc at Delft University of Technology
  -Funded by Carlsberg Foundation Internationalisation Fellowship.

- *Sept. 2022 - July 2023*
  Postdoc at Charles University, Prague with Réamonn Ó Buachalla as my host.
  -Funded by Carlsberg Foundation Internationalisation Fellowship.

- *Sept. 2021- Aug. 2022*
  Research Assistant at the University of Southern Denmark.
  -Employed to conduct research and outreach activities.

Education

- *Sept. 2017 - Aug. 2021*
  PhD student at the 4+4 program in Operator Algebra, University of Southern Denmark Odense.
  PhD project: "Structure and symmetry in C*-algebras"
  Supervisor: Wojciech Szymanski, Co-supervisor: David Kyed

- *Sept. 2016 - Aug. 2019*
  M.Sc. in mathematics, University of Southern Denmark.

- *Sept. 2013 - Aug. 2016*
  B.Sc. in mathematics with physics as minor, University of Southern Denmark.
  Supervisor: David Kyed

Publications and preprints

- Francesca Arici and Sophie Emma Zegers, *Split extensions and KK-equivalences for quantum projective spaces*, arXiv:2108.11360, (2021). Münster Journal of Mathematics.

- Søren Eilers and Sophie Emma Zegers, *Equivariant isomorphism of Quantum Lens Spaces of low dimension*, arXiv:2408.17386, (2024).

- Thomas Gotfredsen and Sophie Emma Zegers, *On the classification and description of quantum lens spaces as graph algebras*, arXiv:2104.06137, (2022), Canadian Journal of Mathematics.

- Tomohiro Hayashi, Jeong Hee Hong, Sophie Emma Mikkelsen and Wojciech Szymański, *On Conjugacy of Subalgebras of Graph C*-Algebras*, Geometric Methods in Physics XXXVII, p. 163-173, (2018).

- Sophie Emma Zegers, *A quantum twistor bundle*, arXiv:2209.08870, (2022).

- Sophie Emma Zegers, *A vector space basis of the quantum symplectic sphere*, arXiv:2107.01406 (2021), to appear in the Journal of Algebra and Its Applications.

Research Funding

- Carlsberg Foundation Internationalisation Fellowship (2022-2024), 700.000 DKK.

Talks and invitations

- Noncommutative Geometry Along the North Sea, August 19-23, 2024, Odense.

- Harmonic Analysis on Quantum Groups and Hecke Algebras Seminar, May 16, 2024, Delft.

- Noncommutative Geometry Research Seminar, February 21, 2024, Leiden.

- Geometry and analysis of quantum groups 2023, Nov. 6-10, 2023, Oslo.

- Operator Algebras in the South of the UK, 24 November 2023, Bath.

- Seminars in Analysis and Applications, October 2023, Institute of Applied Mathematics, TU Delft.

- IWOTA 2023 in the special session Noncommutative Geometry, July 31- August 4, 2023, Helsinki.

- Quantum groups and interactions, May 22-26, 2023, Glasgow.

- Women Mathematicians in Sciences 2023, May 11-12, 2023, Odense.

- NSeaG2023 Workshop: Noncommutative Geometry and Operator Algebras May 8-12, 2023, Bonn.

- SDU Operator Algebras Seminar, Odense, February 2023.

- Noncommutative Geometry and Topology Seminar, Prague, February 2023.

- Noncommutative Geometry Along the North Sea 2022, The Lorentz center, Leiden.

- Glasgow Analysis Seminar, April 2022.

- Noncommutative Geometry and Topology Seminar, Prague, April 2022.

- North Atlantic Noncommutative Geometry Seminar, January 2022.

- Quantum Groups Seminar, December 2021.

- Danish-Norwegian Operator Algebras meeting, Trondheim, November 2021.

- Global Noncommutative Geometry Seminar, November 2021.

- Conference *Automorphisms and Invariants of Operator Algebras*, University of Copenhagen, October 2021.

- UCPH/SDU Operator Algebra Seminar, Denmark, June 2021.

- Noncommutative Geometry and Topology Seminar, Prague, March 2021.

- Groups, Operators and Banach Algebras Webinar, February 2021.

ORGANISATORIAL EXPERIENCE

- Noncommutative geometry session at IWOTA 2025, July 14 - 18, 2025, the University of Twente.

- EdinSeaG: Noncommutativity along the North Sea, International Centre for Mathematical Sciences, May 26-30, 2025, Edinburgh.

- Workshop "Noncommutativity behind the dunes", October 28-November 1, 2024, Delft.

- Quantum Groups and Noncommutative Geometry in Prague, September 11-15 2023, Prague.

- Young Mathematicians in C*-Algebras, Copenhagen, 5-10th of August, 2019

ATTENDED CONFERENCES

- Young Mathematicians in C*-Algebras, Copenhagen, 5-10th of August, 2019 (Organiser).

- Bivariant K-theory in Geometry and Physics, Erwin Schrödinger International Institute, 19-23rd of November, 2018.

- Young Mathematicians in C*-Algebras, KU Leuven, 13-17th of August, 2018.

- Cuntz-Pimsner Cross-Pollination, Lorentz Center@Snellius, 25-29th of June, 2018.

- NCGOA 2018: C*-algebras and Dynamics, WWU Münster, 14–19th of May, 2018.

- Mini-Workshop: MASAs and Automorphism of C*-Algebras, Mathematisches Forschungsinstitut Oberwolfach, 17-23rd of September, 2017.

- Young Mathematicians in C*-Algebras, University of Copenhagen, 7-11th August, 2017.

Masterclass

- Quantum groups and their analysis, University of Oslo, 29th of July–9th of August, 2019

- Subbfactors and Quantum Groups, University of Copenhagen, 29th of April - 3rd of May, 2019.

- Noncommutative geometry: spaces, bundles and connections, Centre for Quantum Geometry of Moduli Spaces, Aarhus University, 17-21st of September, 2018.

- Thematic program "L2-invariant and their analogues in positive characteristic" - Introductory School, Instituto de Ciencias Mathemáticas (Madrid, Spain), 26th of February- 2nd of March, 2018.

- Rigidity of C*-algebras associated to dynamics, University of Copenhagen, 16-20th of October, 2017.

Teaching experience

- *Autumn 2024*
  Lecturer of the course Topology at TU Delft,
  Lecturer a Calculus course for computer science students at TU Delft.

- *Spring 2024*
  Lecturer of the course Advanced topics in Analysis on Graph C^*-algebras at TU Delft.

- *Spring 2020*
  Lecturing a repetition of Analysis and Linear algebra for Mathematics-Economics students as a preparation for a course in Measure, Integration and Banach spaces at the Univeristy of Southern Denmark, Odense.

- *Autumn 2019*
  Lecturing the first year course Algebra 1 (Number- and Ring theory) for approximately 70 students at the Univeristy of Southern Denmark, Odense.

- *Sept. 2014-2021*
  Teaching assistant in various mathematical courses at the University of Southern Denmark, Odense: Calculus, Topology, Complex analysis, Algebra and Functional analysis.

Outreach

From 2016 to 2021 I have been involved in various outreach activities for High School students at the University of Southern Denmark. I have produced, organised and conducted different workshops both as a supplement to their own curriculum, and in order to give the students an insight in the more abstract aspect of studying mathematics at university level.

Languages

Danish: Native

English: Fluent

German: Basic