CURRICULUM VITÆ

Contact details

Syddansk Universitet
Centre for Quantum Mathematics, IMADA, Office Ø11-404a-2
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Citizenship	Canada

Research area

Algebraic topology (homotopical algebra, operads), Discrete geometry (polytopes).

Employment

2024-2026	**Syddansk Universitet**, Odense, Denmark, *Postdoc*
	Mentor : Vivek Shende
2022-2024	**The University of Melbourne**, Melbourne, Australia, *Research Fellow*
	Mentor : Marcy Robertson

Studies

2019-2022	**Université Sorbonne Paris Nord**, Villetaneuse, France, *PhD in Mathematics*
	Advisors : Eric Hoffbeck et Bruno Vallette
2018-2019	**Université Sorbonne Paris Nord**, Villetaneuse, France, *M.Sc. Fundamental Mathematics*
2015-2018	**Université de Montréal**, Québec, Canada, *B.Sc. Mathematics and Physics*

Research stays

November 2023	**Centre for Quantum Mathematics**, Odense, Denmark.
February 2023	**Max Planck Institute for Mathematics**, Bonn, Germany.
Sept.-Oct. 2022	**University of Copenhagen**, Copenhagen, Denmark.
Spring 2022	**Mittag-Leffler Institute**, Stockholm, Sweden.
December 2021	**Centre de Recerca Matemàtica**, Barcelona, Spain, with Vincent Pilaud.
Summer 2021	**LaCIM**, Université du Québec à Montréal, Canada, with Hugh Thomas.

Prizes and Awards

2024	**Andrew Sisson Early-Career Researcher Award (9170$ AUD)**
2023	**Prix solennel de thèse - Chancellerie des universités de Paris (10000€ EUR)**
2023	**Prix de thèse Galilée - Université Sorbonne Paris Nord (500€ EUR)**
2022	**Andrew Sisson Early-Career Researcher Award (7500$ AUD)**
2019-2022	**Europe Horizon 2020 Marie Sklodowska-Curie Cofund PhD Fellowship**
2021-2022	**Natural Sciences & Engineering Research Council of Canada PhD Scholarship**

Languages

French	*Mother tongue*
English	*Fluent*
Danish	*B2*
German	*A2*

Publications

— *The diagonal of the operahedra*, Advances in Mathematics, 2022, 108494, `https://doi.org/10.1016/j.aim.2022.108494`.

— *The diagonal of the multiplihedra and the tensor product of A_∞-morphisms*, with Thibaut Mazuir, Journal de l'École polytechnique - Mathématiques, vol. 10, 2023, 405-446, `https://doi.org/10.5802/jep.221`.

— *Topological proofs of categorical coherence*, with Pierre-Louis Curien, Cahiers de topologie et géométrie différentielle catégoriques, vol. LXV (4), 2024, 357-389, `https://cahierstgdc.com/index.php/volume-lxv-2024/`.

— *Steenrod operations via higher Bruhat orders*, with Nicholas J. Williams, Proceedings of the London Mathematical Society, vol. 130 (2), 2025, e70024, `https://doi.org/10.1112/plms.70024`. Poster at FPSAC 2024.

— *Kashiwara–Vergne solutions degree by degree*, with Zsuzsanna Dancso, Iva Halacheva and Marcy Robertson, to appear in Comptes Rendus. Mathématique, `https://arxiv.org/abs/2310.20420`.

— *Term rewriting on nestohedra*, with Pierre-Louis Curien, to appear in Proceedings of the CATMI 2023 conference, `https://arxiv.org/abs/2403.15987`.

— *Framed polytopes and higher categories*, with Anibal M. Medina-Mardones and Arnau Padrol. Poster at FPSAC 2024.

Preprints

— *Cellular diagonals of permutahedra*, with Bérénice Delcroix-Oger, Vincent Pilaud and Kurt Stoeckl, submitted, `https://arxiv.org/abs/2308.12119`. Poster at FPSAC 2025.

— *A universal characterization of uncurving*, with Adrian Petr and Vivek Shende, submitted, `https://arxiv.org/abs/2412.14851`.

Other publications

Mathematics and architecture.

— *Closing the Open System : Review of Nicholas Schöffer's 'La Tour Lumière Cybernétique' (1973)*, with Nina Stener Jørgensen, Footprint, vol. 16, no. 2, 2022, 135-144, `https://doi.org/10.7480/footprint.16.2.6069`.

<center>RESEARCH ACTIVITIES</center>

Invited conference speaker

August 2024	**Kashiwara–Vergne workshop**, Geneva, Switzerland.
March 2023	**56th Spring Topology and Dynamics Conference**, Memphis, United States.
February 2023	**Higher Geometric Structures along the Lower Rhine**, Utrecht, Netherlands.
January 2023	**Homotopy Theory meets Polyhedral Combinatorics**, Barcelona, Spain.
September 2022	**Higher Structures in Prague**, Prague, Czech Republic.

Invited seminar talks (recent)

December 12, 2024	**Geometry & Topology Seminar**, Uppsala, Sweden.
December 10, 2024	**Topology Seminar**, Stockholm, Sweden.
November 25, 2024	**Quantum Mathematics Research Seminar**, Odense, Denmark.
July 30, 2024	**Mathematical Physics Seminar**, Melbourne, Australia.
June 20, 2024	**TallCat Seminar**, Tallinn, Estonia.
May 20, 2024	**Topology Seminar**, Melbourne, Australia.
January 30, 2024	**Séminaire Quantique**, Strasbourg, France.
January 25, 2024	**Algebra & Topology Seminar**, Copenhagen, Denmark.
January 10, 2024	**Algebra & Geometry Seminar**, Stockholm, Sweden.
December 12, 2023	**Categorical Symplectic Geometry Seminar**, Berlin, Germany.
December 1, 2023	**NMSU Geometry & Topology Seminar**, Las Cruces, United States.

Organized seminars

Fall 2024	**Topology Seminar**, Melbourne, Australia.
Fall 2024	**Graduate Topology Seminar**, Melbourne, Australia.

Organized working groups

Winter 2025	**Deformation quantization**, Odense, Denmark.
Fall 2023	**Model categories**, Melbourne, Australia.

TEACHING & OUTREACH

Courses

- The University of Melbourne, 2024, 64h.
    - Linear algebra (first year)
- ESIEE Paris, 2018-2019, 32h.
    - Introduction to Chaos Theory (third year)

Tutorials

- The University of Melbourne, 2023, 64h.
    - Linear Algebra (first year)
- Université Sorbonne Paris Nord, 2021-2022, 64h.
    - Complex analysis (third year)
    - Mathematics for physicists (second year)
- Université Sorbonne Paris Nord, 2020-2021, 64h.
    - Complex analysis (third year)
    - Mathematics for physicists (first year)
    - Real analysis (first year)
- Université Sorbonne Paris Nord, Année 2019-2020, 64h.
    - Complex analysis (third year)
    - Algebra II (second year)
    - Introduction to mathematical structures (first year)
    - Real analysis (first year)
- ESIEE Paris, 2018-2019, 32h.
    - Fourier analysis (third year)
    - Linear algebra (first year)
    - Set Theory (first year)

Outreach

- *Pure Math Open Day*, Melbourne, Australia, August 20, 2023.
- *My Thesis in 7 minutes*, Galileo Prize Ceremony, Villetaneuse, France, May 26, 2023.
- *Synthetic differential geometry*, IRCAM, Centre Pompidou, Paris, February 4, 2023.