MARIUS NIELSEN

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EDUCATION

Norwegian University of Science and Technology, Norway *August 2022 - Present*
PhD program in Mathematics
Topology group - Department of Mathematical Sciences
Supervisor: Drew Heard

University of Copenhagen, Denmark *June 2022*
Master's program in Mathematics *Grade point average 11.2*
Department of Mathematical Sciences
Master's thesis: *The Q-shaped derived category.* - Supervisor: Henrik Holm

University of Copenhagen, Denmark *June 2020*
Bachelor of Science *Grade point average 10.0*
Department of Mathematical Sciences
Bachelor's thesis: *On homotopy colimits.* - Supervisor: Piotr Pstragowski

RESEARCH

I am broadly interested in stable homotopy theory, tensor-triangulated geometry and their interactions with geometry.

A stacky approach to synthetic homotopy theory. *In preparation*
$K(n)$-local homotopy in synthetic spectra. *Joint work with Torgeir Aambø* *In preparation*
The picard group of $\mathrm{Exc}(\mathcal{S}p^{\omega}, \mathcal{S}p)$**.** *In preparation*

ORGANIZATION

Reading group on Algebraic K-theory *Spring 2024*
Reading group on Higher Algebra *Fall 2020*
Reading group on simplicial homotopy theory *Summer 2020*
Breakfast lectures at MATH *Fall 2019 - Summer 2022*
Student colloquiums MATH *Fall 2019 - Summer 2022*
Mentor at MATH *2018 - Summer 2022*

TALKS GIVEN

K(n)-local homotopy in synthetic spectra. - *Summer School Interactions between Algebra, Equivariance, and Homotopy Theory - June 2024.* (I have only been invited to give this talk, I have not yet given it.)
Trace methods in Algebraic K-theory. - *Reading seminar on Algebraic K-theory. Spring 2024 - NTNU.*
The universal property of K-theory. - *Reading seminar on Algebraic K-theory. Spring 2024 - NTNU.*
Nilpotence and descent in equivariant homotopy theory. - *Topics course in equivariant homotopy theory. Fall 2023 - NTNU.*
Chromatic homotopy theory, from the perspective of formal groups. - *Independent reading seminar. Spring 2023 - NTNU.*

Stable recollement and idempotent algebras. - *Topics in Algebraic Topology blok 2 - 2021 at UCPH.*
Combinatorial Species and Joyal's proof for Cayley's formula for counting trees. - *Invitation to Combinatorics Blok 2 - 2021 at UCPH.*
Symmetric monoidal categories & Group completion theorem using methods of T. Nikolaus. - *Reading group on Algebraic K-theory.*
Monadicity of the Bousfield-Kuhn functor. -*Topics in Algebraic Topology 2020/2021 at UCPH.*
Introduction to stable ∞-categories and prestable ∞-categories. - *Topics in Algebraic Topology 2020/2021 at UCPH.*
Stable ∞-categories and the derived ∞-category of a ring. - *Reading group on Higher Algebra 2020*
Adjunctions, (co)limits, Yoneda and Kan extensions. - *Reading group in simplicial homotopy theory Summer 2020*
String diagram formalism and symmetric fusion categories. - *Student colloquium at MATH 2019*

CONFERENCES ATTENDED

Parametrized homotopy theory - *UCPH September 2023.*
Young Topologist Meeting - *EPFL July 2023.*
Masterclass on Higher Representation Theory - *UCPH March 2023.*
Topological Hochschild Homology and Zeta Values - *UCPH February 2023.*
Spectra Triangles and Higher Structures - *Bonn December 2022.*
Young Topologist Meeting - *UCPH July 2022.*
Masterclass on "High dimensional Cohomology of Moduli spaces

- *UCPH June 2021*
Masterclass on Condensed Mathematics -*9th to 13th of November 2020 at UCPH.*
SYM 10 Years Old - *24th to 28th of June 2019 at UCPH.*