Jakub Löwit – CV

Address	Treustrasse 42, 1200, Wien, Austria
Date of Birth	23rd January 1997
Place of Birth	Prague, Czech Republic
Nationality	Czech
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Education

09/2021–now PhD studies
Institute of Science and Technology Austria (ISTA)

Advisor: Tamás Hausel, ISTA
Thesis committee: Tamás Hausel, ISTA
Xinwen Zhu, Stanford
Timothy Browning, ISTA

10/2019 – 08/2021 Master's studies
Rheinische Friedrich-Wilhelms-Universität Bonn
Mathematics

Master's thesis: *On modulo ℓ cohomology of p-adic Deligne–Lusztig varieties for GL_n*
First advisor: Alexander Ivanov, Mathematical Institute
Second advisor: Peter Scholze, Mathematical Institute

Graduated with very good grades

09/2016 – 06/2019 Bachelor's studies
Charles University Prague, Faculty of Mathematics and Physics
General mathematics

Bachelor's thesis: *Modules over string algebras*
Advisor: Jan Šťovíček, Department of Algebra

Graduated with honors

Additional research experience

10/2021 – 12/2021 Rotation
Institute of Science and Technology Austria (ISTA)

Project: *Homological methods for morphism counts over finite fields*
Advisor: Timothy Browning, ISTA

Longer stays

Nov 2024 Laboratoire de Mathematiques d'Orsay
12/10/2024 – 29/10/2024, (three weeks)
working group of Matthew Morrow
funded by Erasmus+ staff mobility training

Scholarships and grants

2024–2026 DOC Fellowship of the Austrian Academy of Sciences
funding for doctoral candidates in all areas of research
(24 months)

2019–2021 DAAD Study scholarship for graduates of all disciplines
complete funding of master's studies
(24 months)

2016–2019 Scholarship for excellent academic results
Charles University Prague

2017 Student faculty grant
Charles University Prague
co-authored expository notes on *group theory* for high school students

Publications and preprints

[3] *Equivariant K-theory, affine Grassmannian and perfection*
Jakub Löwit, preprint, 2024
[arXiv], [pdf]

[2] *On modulo ℓ cohomology of p-adic Deligne–Lusztig varieties for GL_n*
Jakub Löwit, Journal of Algebra, 663, 2025, 81-118
[journal], [arXiv], [pdf]

[1] *Modules over string algebras*
Jakub Löwit, bachelor's thesis, Charles University Prague, 2019
[available online] [pdf]

Talks

Invited seminar talks

06/01/2025 Algebra Seminar, Charles University Prague
Equivariant algebraic K-theory and perfection

28/06/2024 Oberseminar Darstellungstheorie, Universität Bonn
On equivariant K-theory, affine Grassmannians and perfection

03/06/2024 Oberseminar Lie Theorie, Ruhr-Universität Bochum
On modular p-adic Deligne–Lusztig theory for GL_n

Seminar talks

10/2024 Hausel group working seminar, ISTA
Equivariant algebraic K-theory, fixed-point schemes and Dennis trace

2022–2023 Hausel group working seminar, ISTA
4 talks in learning seminar on geometric Langlands:
Introduction to geometric Langlands
Affine Grassmannians and geometric Satake equivalence

12/01/2022 Browning group working seminar, ISTA
Homological methods for morphisms counts over finite fields

Expository talks

07/11/2022 MIX colloquium, ISTA
Finite and infinite fields in algebraic geometry

09/11/2017 Fall school of the Department of Algebra of Charles University Prague
Cards, permutations and quadratic reciprocity

Organization

02/2025 Bonn-Vienna block seminar
Equivariant cohomology, stable envelopes and big algebras
(4 days)
co-organizer (with Alexandre Minets)

Teaching

2023–2024 Reading seminar: *Introduction to infinity categories*, ISTA
co-organizer (with Kamil Rychlewicz)

Summer schools, workshops, conferences

01/2025 Algebraic geometry: a motivic view, Conference in honour of Marc Levine
ETH Zürich, Switzerland

10/2024 Reduction of arithmetic varieties, Seminar
Oberwolfach, Germany

10/2024 Clay research conference
Oxford, United Kingdom

09/2024 Alpine algebraic geometry, Conference
Universitätszentrum Obergurgl, Austria

07/2024 Arithmetic geometry in honour of Gerd Faltings' 70th birthday, Conference
Max Planck Institute for Mathematics, Bonn, Germany

07/2024 Moduli of Higgs bundles and the Langlands program, Workshop
Simons Center for Geometry and Physic, Stony Brook, USA

06/2024 Continuous K-theory, dualizable and rigid categories, Masterclass
University of Copenhagen, Denmark

10/2023 Geometric and categorical representation theory, Conference
Besse-et-Saint-Anastaise, France

09/2023 Algebraic K-theory and redshift, Fall school
Johannes Gutenberg Universität Mainz, Germany

07/2023 Motives in moduli and representation theory, Workshop
Radboud University Nijmegen, Netherlands

07/2023 Homotopy theory, K-theory, and trace methods, Conference
Motivic and non-commutative aspects of enumerative geometry, Workshop
Radboud University Nijmegen, Netherlands

04/2023 The Hitchin system, Langlands duality and mirror symmetry, Workshop
ICMAT, Madrid, Spain

09/2022 Recent perspectives on Hodge theory, Summer school
Centro De Giorgi, Pisa, Italy

07/2022 Number theory and algebraic geometry, ICM sectional meeting
ETH Zürich, Switzerland

06/2022 Non-abelian Hodge theory, Summer school
Saint-Jacut-de-la-Mer, France

07/2021 Motivic homotopy, Summer school
Park City Mathematical Institute
(virtual)

09/2021 8$^{\text{th}}$ Heidelberg laureate forum
(virtual)

08/2018 ICRA, International conference on representations of algebras, Workshop
Charles University, Prague

07/2017 Modern mathematics, Summer school
Jacobs University, Bremen

International competitions

07/2019 IMC, International mathematical competition, Bulgaria – Gold medal

07/2018 IMC, International mathematical competition, Bulgaria – Gold medal

07/2017 IMC, International mathematical competition, Bulgaria – Silver medal

07/2016 IMO, International mathematical olympiad, Hong-Kong – Honorable mention

Extracurricular activities

2018-now Czech mathematical olympiad

Co-organizer:
- member of the problem selection committee
- co-organized Czech-Austrian-Polish-Slovak-Austrian match CAPS ($3\times$)
- co-organized MEMO 2019
- graded problems
- gave lectures

2016–2021 *PraSe* – correspondence seminar for talented high school students

Co-organizer:
- selected problems
- co-organized math camps ($6\times$)
- gave lectures
- wrote lecture notes

2016–2021 *iKS* – correspondence seminar for talented high school students

Co-organizer:
- selected problems
- co-organized math camps ($5\times$)
- gave lectures
- wrote lecture notes

Languages

English	fluent
German	satisfactory
Czech	native