

# Kandidat- och masterarbeten i matematik presenterade under 2021

## Kandidatarbeten

2021:K1 Ela Palynskaya: Sturms oscillationssats och spektrum.Handledare: Pavel Kurasov

2021:K2 Reza Karimian: Kägelsnitt och deras historia. Handledare: Torbjörn Tambour

2021:K3 Fredrik Sköld: Kortblandningar, Markovkedjor och Simulering av Doyle's patiensia. Handledare: Daniel Ahlberg

2021:K4 Filip Lindhfors: En resa bland de reella talen. Handledare: Torbjörn Tambour

2021:K5 Leena Thuy Dung: Inversive Geometry. Handledare: Gregory Arone

2021:K6 Nils Toresson: En introduktion till Catalantalen. Handledare: Håkan Granath

2021:K7 Can Izgi: Den linjära programmeringens fader. Handledare: Per Alexandersson

2021:K8 Björn Carlsten: Cycles of certain maps between polynomials over finite fields. Handledare: Samuel Lundqvist

2021:K9 Walter Berge: Constructing a Groebner basis for a bent function without Buchbergers algorithm. Handledare: Samuel Lundqvist

2021:K10 Ashkan Ek: Unintuitive Infinity. Handledare: Salvador Rodriguez-Lopez

2021:K11 Markus Hedegaard-Friis: En introduktion till vågekvationen. Handledare: Salvador Rodriguez-Lopez

2021:K12 Airin Ahmad: Slumpvandring och slantsingling. Handledare: Alan Sola

2021:K13 Sebastian Alevad: Algebraiska strukturer – Halvgrupper, Grupper, Ringar, Kroppar. Handledare: Paul Vaderlind

2021:K14 Tove Gertonsson: An Introduction to Cayley Hash Functions. Handledare: Rikard Bögvad

2021:K15 Oskar Vrethammar: En analys av Arthur Cayleys arbete "A memoir on the theory of matrices". Handledare: Rikard Bögvad

2021:K16 Sofia Edstrand: Johannes Kepler and his Planetary Model. Handledare: Rikard Bögvad

- 2021:K17 Erik Adolfsson: The axiom of choice.Handledare: Gregory Arone
- 2021:K18 Eddy Nahor Berhe: Quivers, Path Algebras and Gabriel's Theorem. Handledare: Sven Raum
- 2021:K19 Cordelia Jansson: The Logic behind König's Lemma. Handledare: Sven Raum
- 2021:K20 Nils Lager: Which schools would take me? Truth-telling in School Choice with Admission Probability Uncertainty. Handledare: Sven Raum
- 2021:K21 Pontus Klarson: Curves & Cash: Finding the Optimal Path Using Control Theory. Handledare: Yishao Zhou
- 2021:K22 Albin Berg: Matematisk biljard. Handledare: Sven Raum
- 2021:K23 Markus Gustafsson: On holomorphic functions; analytic continuation, boundary values on the disk of convergence and the Hardy spaces. Handledare: Annemarie Luger
- 2021:K24 Nell Paiz Jacobsson: On the convergence and divergence of Fourier series. Handledare: Alan Sola
- 2021:K25 Ulrika Nyström Aanstad: Kvadratiska talkroppar och entydig faktorisering. Handledare: Håkan Granath
- 2021:K26 Andrea Di Paola: The Development of Mathematics in Italy during the Renaissance. Handledare: Boris Shapiro
- 2021:K27 Jacob Gröning: Cantormängders dimensioner. Handledare: Alan Sola
- 2021:K28 Sebastian Strandh: Stability analysis of the SEIR model. Handledare: Yishao Zhou
- 2021:K29 Amie Fall: Decomposition theory for zero-sum games. Handledare: Sven Raum
- 2021:K30 Emil Pagrot: Enhetsgrupper modulo  $m$ . Handledare: Håkan Granath
- 2021:K31 Jacob Kärrlander: Classification of finitely generated modules over principal ideal domains. Handledare: Gregory Arone
- 2021:K32 Panagiotis Kostas: The derived category of coherent sheaves and Rouquier dimension of triangulated categories. Handledare: Dan Petersen
- 2021:K33 Claudia Kiana Kalhori: Examples of Quasi-Exactly Solvability in Quantum Mechanics. Handledare: Boris Shapiro

2021:K34 Jakob Ekstedt: The angle sum of a triangle: From Euclid to Einstein.Handledare: Martin Tamm

2021:K35 Lydia Wegerman Gemzöe: Introduction to Hyperbolic Geometry and Fuchsian Groups. Handledare: Gregory Arone

2021:K36 Julian Kiik: A Study on Linear Systems with Uncertainty. Handledare: Yishao Zhou

2021:K37 Stefan Miletic: Quasi-Newton Methods for Neural Network Training in Machine Learning. Handledare: Yishao Zhou

2021:K38 Andreas Gidstedt: Primalitetstest. Handledare: Jonas Bergström

2021:K39 Ivar Blohm: Algebraiska ekvationer av lägre grad och introduktion till Galoisteorin. Handledare: Boris Shapiro

2021:K40 Tim Seo: An Introduction to Abstract Harmonic Analysis. Handledare: Salvador Rodriguez-Lopez

2021:K41 Emma Holmen: A Study of Cryptographic Hash Functions. Handledare: Rikard Bögvad

2021:K42 Sinthujah Dayaney: A Study on Domination in Graphs. Handledare: Gregory Arone

2021:K43 Michael Lindgren: Dependent products as relative adjoints. Handledare: Peter LeFanu Lumsdaine

2021:K44 Simru Yildirim: Hilbert's Axiom System. Handledare: Rikard Bögvad och Torbjörn Tambour

2021:K45 Jasper Lindblom: Measure-theoretic Probability. Handledare: Sven Raum

2021:K46 Christian Håkansson: Enkla kedjebråk och Pells ekvation. Handledare: Håkan Granath

2021:K47 Teo Johannesson: Integer Partitions. Handledare: Paul Vaderlind

2021:K48 Samuel Karlhager: Självvärtande Koder. Handledare: Rikard Bögvad

2021:K49 Alice Brolin: Extracting Computational Content From Proofs. Handledare: Peter LeFanu Lumsdaine

2021:K50 Nicole Saeed: The search for orthogonal Latin squares. Handledare: Sven Raum

### **Masterarbeten**

2021:M1 María de la Paz Quirós Artacho: Coxeter groups, Hecke algebras and Kazhdan-Lusztig cells. Handledare: Wushi Goldring

2021:M2 Panagiotis Kostas: Adic spaces and etale cohomology. Handledare: Dan Petersen

2021:M3 Martin Nilsson: Faber-Krahn inequalities for point-interaction Hamiltonians in bounded domains. Handledare: Jonathan Rohleder

2021:M4 Joel Fredin: Interactions Between Covering Spaces and Fundamental Groupoids. Handledare: Dan Petersen

2021:M5 Daniel Collin: Brains and Bugs: Two Applications of Persistent Homology in the Life Sciences. Handledare: Yishao Zhou

2021:M6 Isak Ohlsson Ågnell: Local Model Structures on Presheaves. Handledare: Dan Petersen

2021:M7 Federico Mangano: Del Pezzo Surfaces And Points In The Plane. Handledare: Jonas Bergström, Olof Bergvall och Orsola Tommasi

2021:M8 Jonas Conneryd: Geometric Bounds for Steklov Eigenvalues on Graphs. Handledare: Jonathan Rohleder

2021:M9 Stefan Lilja: Quadratic differential forms applied to stability and dissipativeness in the behavioural framework. Handledare: Yishao Zhou

2021:M10 Aaron Sümnick: Accumulation of Complex Eigenvalues of Schrödinger-Operators with Non-Real Potentials. Handledare: Jonathan Rohleder

2021:M11 Errol Yuksel: Classical sets for simplicial type theorists. Handledare: Peter LeFanu Lumsdaine

2021:M12 Ludvig Modin: G-Zips and Global Section Cones. Handledare: Wushi Goldring