

Kristýna Kramer (Zemková)

Curriculum Vitae

Personal

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Nationality	Czech Republic
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Employment in Academia

06/2025 – 12/2025	Charles University , Czechia Postdoc
01/2024 – 08/2024	University of Victoria , Canada PIMS Postdoctoral Fellow Mentor: Stephen Scully
01/2023 – 12/2023	University of Alberta , Canada PIMS Postdoctoral Fellow Mentor: Stefan Gille
10/2018 – 12/2022	TU Dortmund University , Germany Scientific staff (Wissenschaftliche Mitarbeiter)

Education

2018 – 2022	TU Dortmund University, Faculty of Mathematics , Germany PhD Advisor: Detlev Hoffmann Thesis: <i>Equivalence relations of quadratic forms in characteristic 2 and quasilinear p-forms</i>
2015 – 2018	Charles University, Faculty of Mathematics and Physics , Czechia Mgr. (Master's degree), Mathematical Structures Advisor: Vítězslav Kala Thesis: <i>Composition of quadratic forms over number fields</i> (Dean's prize for the best thesis; 3rd place in SVOČ research competition) Graduated with distinction
2012 – 2015	Charles University, Faculty of Mathematics and Physics , Czechia Bc. (Bachelor's degree), General Mathematics Advisor: Jan Šaroch Thesis: <i>Norm-euclidean quadratic extensions of the field of rational numbers</i>

Other Employment

01/2013 – 08/2018	Cooperation with the publishing house Didaktis Co-writing textbooks on mathematics for high schools
03/2016 – 12/2017	Cooperation on the project Techambition Creating online lectures from mathematics for high school students

Study Experience

09/2024 – 03/2025	Language school ELLCI in Milan, Italy Italian course
09/2018	Max-Planck Institute for Mathematics in Bonn, Germany Internship (with Pieter Moree)
09/2016 – 02/2017	Technical University of Darmstadt , Germany Exchange scholarship (Erasmus+)
02/2016 – 06/2016	Polytechnic University of Catalonia , Spain Exchange scholarship (Erasmus+)

Publications

- [12] *Non-universality of ternary quadratic forms over fields containing $\sqrt{2}$* ,
(with J. Krásenský), submitted
- [11] *Kitaoka's conjecture and sums of squares*,
(with V. Kala and J. Krásenský), submitted
- [10] *Vishik equivalence and similarity of quadratic forms over fields of characteristic 2*,
(with D. Hoffmann), J. Algebra, 2025
- [9] *Isotropy indices of Pfister multiples in characteristic two*,
(with N. Lorenz), J. Pure Appl. Algebra, 2024
- [8] *Vishik equivalence and similarity of p -forms and totally singular quadratic forms*,
Pacific J. Math., 2024
- [7] *Isotropy and the full splitting pattern of quasilinear p -forms*,
J. Algebra, 2024
- [6] *Isotropy of Quadratic Forms over Function Fields in Characteristic 2*
Comm. Algebra, 2024
- [5] *Composition of Bhargava's cubes over number fields*,
Expo. Math., 2023
- [4] *Composition of Binary Quadratic Forms over Number Fields*,
Math. Slovaca, 2021
- [3] *Integers represented by ternary quadratic forms*
(with B. Faye, L. Matthiesen, D. Schindler and M. Tinková),
Women in Numbers Europe III: Research Directions in Number Theory, 2020
- [2] *There are no universal ternary quadratic forms over biquadratic fields*
(with J. Krásenský and M. Tinková), Proc. Edinburgh Math. Soc., 2020
- [1] *Universal Quadratic Forms and Indecomposables over Biquadratic Fields*
(with M. Čech, D. Lachman, J. Svoboda, M. Tinková), Math. Nachr., 2018

Grants

01/2023 – 08/2024	PIMS Postdoctoral Fellowship Two-year postdoctoral funding awarded by Pacific Institute for the Mathematical Sciences
01/2018 – 06/2018	GAUK (Grant Agency for Charles University) Research grant, co-investigator

- Indecomposable elements and universal quadratic forms*
- 11/2017 – 05/2018 Charles University, Faculty of Mathematics and Physics
Faculty grant for students, principal investigator
Indecomposable elements in biquadratic number fields
- 05/2017 – 11/2017 Charles University, Faculty of Mathematics and Physics
Faculty grant for students, principal investigator
Universal quadratic forms over number fields

Conferences and Talks

- 25 – 29/08/2025 ALGAR 2025: Algebras with involution and linear algebraic groups
University of Antwerp, Belgium
- 24/10/2024 Al@Bicocca Seminar
Università degli Studi di Milano-Bicocca, Milan, Italy
Presentation: *Equivalence relations of quadratic forms in characteristic two*
- 31/05 – 03/06/2024 Canadian Mathematical Society Summer Meeting
University of Saskatchewan, Saskatoon, Canada
- 08 – 13/10/2023 Motives and Invariants: Theory and Applications to Algebraic Groups and their Torsors
BIRS, Banff, Canada
- 11 – 15/09/2023 Young Number Theorists in Bonn
Max Planck Institute for Mathematics, Bonn, Germany
- 21 – 25/08/2023 ALGAR 2023: Local-global principles for quadratic forms
University of Antwerp, Belgium
- 03/05/2023 The PIMS Postdoctoral Fellow Seminar
Presentation: *Isotropy of quadratic forms in characteristic 2*
- 23/11/2022 Number Theory Lunch Seminar
Max Planck Institute for Mathematics, Bonn, Germany
Presentation: *Equivalence relations of quadratic forms, mainly in characteristic two*
- 12 – 16/09/2022 Motives in Ratisbona
University of Regensburg, Germany
- 05 – 09/09/2022 ALGAR 2022: Constructive methods for quadratic form theory
University of Antwerp, Belgium
Presentation: *Quadratic forms in characteristic two*
- 05/07/2022 University of Antwerp, Belgium
Presentation: *Isotropy of Quadratic Forms over Function Fields*
- 25/11/2021 Oberseminar Algebra und Geometrie
TU Dortmund, Germany (online)
Presentation: *Equivalence relations of quadratic forms in characteristic two*
- 04 – 07/11/2021 Autumn School of Algebra
(organized by the Department of Algebra at the Charles University)
Presentation: *Isotropy of quadratic forms in characteristic two*
- 16 – 20/08/2021 ALGAR 2021: Systems of quadratic forms over arithmetic fields
University of Antwerp, Belgium

29/03/2021	Guest lecture on quadratic forms (online) Charles University Topic: <i>Quadratic forms in the parallel universe where $1+1=0$</i>
06 – 10/07/2020	ALGAR 2020: Valuations, quadratic forms and definability University of Antwerp, Belgium (online)
26 – 30/08/2019	Women in Numbers Europe 3, Rennes, France Project: <i>Integers represented by ternary quadratic forms</i>
01-05/07/2019	ALGAR 2019: Algebras with involution University of Antwerp, Belgium
22/11/2018	Oberseminar Algebra und Geometrie TU Dortmund, Germany Presentation: <i>Composition of quadratic forms over number fields</i>
03 – 07/09/2018	ELAZ (Elementare und Analytische Zahlentheorie) Max Planck Institute for Mathematics, Bonn, Germany
02 – 06/07/2018	ALGAR 2018: Sums of squares in fields University of Antwerp, Belgium
09 – 12/11/2017	Autumn School of Algebra (organized by the Department of Algebra at the Charles University) Presentation: <i>Universal quadratic forms over number fields</i>
17/10/2017	Number Theory Seminar Charles University, Czech Republic Presentation: <i>Composition of quadratic forms over number fields</i>
17 – 23/09/2017	20th International Workshop for Young Mathematicians "Number Theory" Kraków, Poland Presentation: <i>Composition of binary quadratic forms</i>
04 – 07/09/2017	International Conference on Class Groups of Number Fields & Related Topics Allahabad, India
03 – 07/07/2017	XXX th Journées Arithmétiques Caen, France
19 – 22/11/2015	Autumn School of Algebra (organized by the Department of Algebra at the Charles University) Presentation: <i>Integer partitions and the use of modular forms</i>
03/11/2015	Number Theory Seminar Charles University, Czech Republic Presentation: <i>The existence of the Euclidean norm in quadratic number fields</i>

Teaching

University of Victoria, Canada

- MATH 101 – Calculus II (lecturer), Spring 2024

University of Alberta, Canada

- MATH 125 – Linear Algebra (lecturer), Spring 2023

Technical University Dortmund, Germany

- Linear Algebra 1 (recitation), Winter 2022/23
- Proseminar to Linear Algebra (assistant/supervisor), Winter 2020/21 and 2021/22
- Seminar to Algebra and Number Theory (assistant/supervisor), Summer 2021 and 2022
- Quadratic Forms in Characteristic 2 – part 2 (recitation), Summer 2020
- Quadratic Forms in Characteristic 2 – part 1 (recitation), Winter 2019/20

Charles University, Czech Republic

- Linear Algebra 2 (recitation), Summer 2018

Languages

- **Czech** (Native)
- **English** (Advanced)
- **German** (Advanced)
- **Italian** (Intermediate/B1)
- **Dutch** (Elementary)

Interests

- **Cooking and baking:** I eat exclusively vegan to reduce my impact on the environment. I love to improvise and only rarely use recipes.
- **Hiking and sleeping under the sky:** Nothing gives me a bigger sense of freedom than walking through a forest alone with my backpack.
- **Riding a kickbike:** Neither running nor biking but a lot of squats. It is kind of a meditative experience, as I always count to four to change the standing leg regularly.