TÜRKÜ ÖZLÜM ÇELİK
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FUTURE AFFILIATION

- Simon Fraser University (SFU), from October 2020
Alan Mekler Postdoctoral Fellow
Host: Nils Bruin

AFFILIATION

- Leipzig University, November 2019 – present
Research Fellow (Wissenschaftliche Mitarbeiterin)
Host: Silvia Schöneburg-Lehnert

- Max-Planck-Institute for Mathematics in the Sciences (MPI MIS), November 2019 – present
Guest Researcher
Host: Bernd Sturmfels

FORMER AFFILIATION

- Max-Planck-Institute for Mathematics in the Sciences (MPI MIS), May 2018 – October 2019
Postdoctoral Researcher
Host: Bernd Sturmfels

- Institut de recherche mathématique de Rennes (IRMAR), January 2015 – April 2018
Doctoral Researcher funded by Henri Lebesgue Centre
Host: Sylvain Duquesne, Christophe Ritzenthaler
Project: HAH - Hardware and Arithmetic for Hyperelliptic Curves Cryptography

EDUCATION

- **Ph.D. in Mathematics,** *August 2018*
University of Rennes 1, Rennes, France
Title : Propriétés géométriques et arithmétiques éxplicites des courbes
Advisors: Christophe Ritzenthaler, Sylvain Duquesne

- **M.Sc. in Mathematics,** *December 2014*
Sabancı University, İstanbul, Turkey
Title : A Drinfeld modular interpretation of an asymptotically
optimal tower of curves over finite fields
Advisors: Alp Bassa, Cem Güneri

- **B.Sc. in Mathematics,** *2012*
İstanbul Bilgi University, İstanbul, Turkey

PUBLICATIONS AND PREPRINTS

9) **The Dubrovin threefold of an algebraic curve**
with Daniele Agostini, Bernd Sturmfels;
- submitted to Nonlinearity

8) **Wasserstein Distance to Independence Models**
with Asgar Jamneshan, Guido Montúfar, Bernd Sturmfels, Lorenzo Venturello;

- submitted to Journal of Symbolic Computation

7) <u>**Theta Surfaces**</u>
   - *with Daniele Agostini, Julia Struwe, Bernd Sturmfels;*
   - to appear in Vietnam Journal of Mathematics

6) **Optimal Transport to a Variety**
   with Asgar Jamneshan, Guido Montúfar, Bernd Sturmfels, Lorenzo Venturello;
   - Mathematical Aspects of Computer and Information Sciences, MACIS 2019,
     Springer Lecture Notes in Computer Science 11989 (2020) 364-381

5) **On the Eigenpoints of Cubic Surfaces**
   - *with Francesco Galuppi, Avinash Kulkarni, Miruna S. Sorea;*
   - to appear in Le Matematiche

4) **Tritangents and Their Space Sextics**
   - *with Avinash Kulkarni, Yue Ren, Mahsa Sayyary Namin;*
   - Journal of Algebra **538** (2019), 290-311

3) **Thomae-Weber Formula: Algebraic Computations of Theta Constants**
   - International Mathematics Research Notices, rnz302, (2019)

2) **Non-Ordinary Curves with a Prym Variety of Low p-rank**
   - *with Yara Elias, Burçin Güneş, Rachel Newton, Ekin Ozman, Rachel Pries, Lara Thomas;*
   - Women in Numbers Europe II **11** (2018) 117-158

1) **Architecture Level Optimizations for Kummer based HECC on FPGAs**
   - *with Gabriel Gallin, Arnaud Tisserand;*
   - *Progress in Cryptology – INDOCRYPT 2017 (2017) 44-64*

ONGOING PROJECTS

- **On Stratification of Genus 5 Curves by Maximum Likelihood Degree** - *with Leonid Monin;*
  -a part of the collaboration project "Linear Spaces of Symmetric Matrices (<u>LSSM</u>)"

- **On Algebraic Translation Hypersurfaces** - *with Daniele Agostini, John Little;*
  - in preparation *(a current version would be provided if requested)*

- **Numerical Schottky Recovery** - *with Daniele Agostini, Demir Eken;*
  - in preparation *(a current version would be provided if requested)*

CODE

- **SageMath** - <u>*Code*</u> *for arithmetic on Kummer surfaces*

- **Magma** - <u>*Code*</u> *on computations of Thetanullwerte*
  - <u>*Code*</u> *for reconstruction of space sextics from their tritangents*

MISCELLANEOUS

- **A catalogue-book and catalogue-website project** *based on the collection of the historical mathematical models of Leipzig University (goes back to Felix Kelin, Sophus Lie)*

- **Coauthor + Editor**
- *The project aims to describe all the 240 models in the collection, led by Silvia Schöneburg-Lehnert.*
- *My focus is on the algebraic surfaces in the collection (the work would be presented if requested).*

ORGANIZATION

- **Research Experience for Undergraduates**
  - *in the organization team + leader of a project*
  - *planned for summer 2021*

- **Uluslararası Cebirsel GEometri Neşesi - weekly online seminer series**
  - *Organizer, with Alp Bassa, Özgür Esentepe, Ali Özgür Kişisel*
  - *Zoom, starting from 12 August 2020, Wednesday*

- **Meetings on the Mathematical Model Collection of Leipzig University (2 sessions)**
  - *Organizer, Zoom, 07 May 2020, 28 May 2020*

- **Mathematical Aspects of Computer and Information Sciences 2019**
  - *Program Committee Member, Istanbul/Turkey, 13-15 November 2019*

- **Mini-Symposium on Riemann Surfaces in the SIAM Conference**
  - *Organizer, with Daniele Agostini, Christian Klein & Emre Sertöz, Bern/Switzerland, 9-13 July 2019*

- **Round Table Meeting: Women in Mathematics at MPI MiS**
  - *Organizer, with Francesca Arici & Xianqing Li-Jost, Leipzig/Germany, November 2018 – March 2019*

- **Seminar Series on Nonlinear Algebra**
  - *Organizer, Leipzig/Germany, June 2018 – December 2018*

- **Géométrie Algébrique en Liberté XXIV**
  - *Local Organizer - İzmir/Turkey, June 2016*

TALKS

- **The Dubrovin threefold of an algebraic curve**
  - *Quarantined Number Theory and Algebraic Geometry Seminar, Zoom, June 2020*

- **Algebraic Surfaces of Order 3**
  - *Meetings on MaMo Leipzig, Zoom, May 2020*

- **Theta Surfaces**
  - *Antalya Algebra Days, Nesin Mathematics Village, May 2020 (postponed)*

- **Lie's Double Translation Surfaces meet Theta Surfaces**
  - *Nonlinear Algebra Seminar Online (NASO), Zoom, April 2020*

- **Theta Surfaces**
  - *Symposium for Women in Mathematics in Southern California (WiMSoCal 2020), March 2020*

- **Theta Surfaces**
  - *Algebra Seminar, UCLA, March 2020*

- **Algebraic Computations of Theta Constants**
  - *9th swiss-french workshop in Algebraic Geometry, January 2020*

- **Cayley's Ruled Surface**
  - *Vista Seminar, Leipzig University, December 2019*

- **Algebraic Computations of Theta Constants**
  - *Workshop Women in Algebra and Symbolic Computations, December 2019*

- **Algebraic Computations of Theta Constants**
  - *IMBM, Boğaziçi University, November 2019*

- **Optimal Transport to a Variety**
  - *Mathematical Aspects of Computer and Information Sciences, Gebze Technical University, November 2019*

- **A Thomae-like Formula**
  - *Oberseminar Algebra/Geometrie, University of Oldenburg, June 2019*

- **Varieties**
  - *Invitation to Nonlinear Algebra, Max Planck Institute for Mathematics in the Sciences, June 2019*

- **Algebraic Computations of Theta Constants**
  - *Charlotte's Web Research Talk, University of Southern California, April 2019*

- **On p-adic Uniformization of Elliptic Curves**
  - *preparatory event for Chow lectures, Max Planck Institute for Mathematics in the Sciences, October 2018*

- **Computations of Thetanullwerte**
  - *Seminar on Nonlinear Algebra, Max Planck Institute for Mathematics in the Sciences, May 2018*

- **Arithmetic via Hyperelliptic Curves**
  - *Graduate Student Seminar, University of Basel, November 2016*

- **Weber's Formula**
  - *Arithmetic properties of curves (Series of lectues), Barcelona Graduate School of Mathematics, April 2017*

- **An Approach towards Weber's Formula**
  - *Séminaire de géométrie et algébre effectives, University of Rennes 1 - IRMAR, May 2016*

- **Some Model Theory as a Tool: Proof of Ax-Grothendieck Theorem**
  - *Pampers" des jeunes chercheurs en géométrie, University of Rennes 1 - IRMAR, January 2016*

- **A Drinfeld modular interpretation**
  - *"Pampers" des jeunes chercheurs en géométrie, University of Rennes 1 - IRMAR, April 2015*

TEACHING

Summer Project with Demir Eken (an undergraduate student at Bilkent University)
- Mentor - Summer 2020.

Invitation to Nonlinear Algebra *- Lecturer - Nesin Mathematics Village - August 2020 (postponed)*

Seminar Course on MaMo- *Lecturer - Leipzig University-Summer Term 2020*

Calculus - *Teaching Assistant - Sabancı University*

Discrete Mathematics - *Teaching Assistant - Sabancı University*

Linear Algebra - *Teaching Assistant - Sabancı University*

Field Theory and Galois Theory - *Teaching Assistant - İstanbul Bilgi University*

Complex Analysis - *Teaching Assistant - İstanbul Bilgi University*

Group Theory - *Lecturer - Nesin Mathematics Village*[1]

Graph Theory - *Lecturer - Nesin Mathematics Village*

Number Theory - *Lecturer - Nesin Mathematics Village*

Combinatorics - *Lecturer - Nesin Mathematics Village*

Real Analysis in one variable/ several variables - *Lecturer - Nesin Mathematics Village*

Point Set Topology - *Lecturer - Nesin Mathematics Village*

Elementary Number Theory - *Lecturer - Nesin Mathematics Village*

C_i **Fields** - *Lecturer - Nesin Mathematics Village*

Introduction to Drinfeld Modules - *Lecturer - Nesin Mathematics Village*

Uniform Cell Decomposition of p-adic Numbers - *Lecturer - Nesin Mathematics Village*

Linear Algebra - *Lecturer - Nesin Mathematics Village*

Calculus - *Lecturer - Nesin Mathematics Village*

OUTREACH

- **Tête à tête talks "In the Pursuit of Mathematics"**
  - Speaker, Moderator, Organizer (collective work) - Youtube - since April 2020

TEACHING AWARD

University Courses Teaching Assistant Incentive Award - *Sabancı University*

LANGUAGE

- **Turkish** - *Native language*

- **English** - *Fluent*

- **French** - *Intermediate $\sim$ B2*

- **German** - *Basic $\sim$ A2*

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[1] The programs of all the acitivies in Nesin Mathematics village can be found at `https://nesinkoyleri.org/tum-etkinlikler/`