

**TÜRKÜ ÖZLÜM ÇELİK**  
Max-Planck - Institut für  
Mathematik in den Naturwissenschaften  
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## AFFILIATION

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- Leipzig University, November 2019 – present  
*Research Fellow (Wissenschaftliche Mitarbeiterin)*  
*Host: Silvia Schöneburg*
- Max-Planck-Institute for Mathematics in the Sciences (MPI MIS), November 2019 – present  
*Guest Researcher*  
*Host: Bernd Sturmfels*

## FORMER AFFILIATION

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- 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

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- **Ph.D. in Mathematics**, August 2018  
*University of Rennes 1, Rennes, France*  
*Title: Propriétés géométriques et arithmétiques explicites 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

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- 7) **Theta Surfaces** with Daniele Agostini, Julia Struwe, Bernd Sturmfels;  
- submitted to Vietnam Journal of Mathematics
- 6) **Optimal Transport to a Variety**  
with Asgar Jamneshan, Guido Montúfar, Bernd Sturmfels, Lorenzo Venturello;  
- to appear Mathematical Aspects of Computer and Information Sciences, MACIS 2019
- 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, (2019)
- 2) **A 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

## CODE

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- **SageMath** - *Code for arithmetic on Kummer surfaces*
- **Magma** - *Code on computations of Thetanullwerte*  
- *Code for reconstruction of space sextics from their tritangents*
- **Macaluy2** - *Code on eigenpoints of cubic surfaces*

## POPULARIZATION OF MATHEMATICS

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- *A book project based on the mathematical model collection of Leipzig University*  
- **Coauthor, Editor**  
- *The project is led by Silvia Schöneburg.*

## ORGANIZATION

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- **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 on Nonlinear Algebra**  
- *Organizer, Leipzig/Germany, June 2018 – December 2018*
- **Géométrie Algébrique en Liberté XXIV**  
- *Local Organizer - İzmir/Turkey, June 2016*

## TALKS

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- **Theta Surfaces**  
- *Antalya Algebra Days, Nesin Mathematics Village, May 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 lectures), Barcelona Graduate School of Mathematics, April 2017
- **An Approach towards Weber's Formula**  
- Séminaire de géométrie et algèbre 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 EXPERIENCE

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**Course on Historical Mathematical Models** - 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<sup>1</sup>*

**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*

## TEACHING AWARD

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**University Courses Teaching Assistant Incentive Award** - *Sabancı University*

## LANGUAGE

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- **Turkish** - *Native language*
- **English** - *Fluent*
- **French** - *Intermediate  $\sim B2$*
- **German** - *Basic  $\sim A2$*

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<sup>1</sup>The programs of all the activities in Nesin Mathematics village can be found at <https://nesinkoyleri.org/tum-etkinlikler/>