**ALPER ÖZOĞUL**

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**WORK EXPERIENCE**

* **Nearfield Instruments B.V.** November 2020 – Current

AFM Specialist

* **Friedrich Schiller University Jena**, Germany August 2017 – November 2020

Research Associate

* **Mercedes-Benz Türk A.Ş.**, Istanbul, Turkey June 2014

 Internship at R&D Durability Testing Department

**EDUCATION**

* **Friedrich Schiller University of Jena**, Germany -> **TU Dresden**, GermanyMay 2022 (expected)
* **Technical University of Denmark,** Copenhagen, Denmark September 2017
* **Bilkent University**,Ankara, TurkeyMay 2017

M.S. in Mechanical Engineering GPA: 3.50/4.00 (High Honors)

* **Bilkent University**,Ankara, TurkeyJune 2015

B.S. in Mechanical Engineering GPA: 3.14 /4.00 (Honors)

**AWARDS, SCHOLARSHIPS AND FELLOWSHIPS**

* CSIC i-Link+ International Researcher Grant September 2019 – December 2020
* Awarded by The Spanish National Research Council for notable collaborations with Spanish research groups working on novel semiconductors.
* TÜBİTAK Undergraduate Research Grant 2013-2015
* Awarded by The Scientific and Technological Research Council of Turkey to promising undergraduate researchers.
* Bilkent University Tuition Waiver 2011-2015
* Full tuition waiver including scholarship, awarded for excellent entry qualifications.
* Bilkent University High Honors Certificates 2013-2015
* Awarded for excellent academic performance on each semester.

**RESEARCH EXPERIENCE**

* **Institut Ciència de Materials de Barcelona**, Spain September 2019- December 2020

Guest Researcher at Physical Chemistry of Surfaces and Interfaces Group

* UHV growth of organic semiconducting thin films using MBE (molecular beam epitaxy), morphological and electrical characterization of OTFT’s (organics thin film transistors).
* **Friedrich Schiller University Jena**, Germany August 2017 – August 2020

Research Associate, Professorship for Mechanics of Functional Materials

* Skills regularly used in this position include, but not limited to, spectroscopy techniques (XPS, EDX), UHV thin film manufacturing techniques, surface characterization techniques, atomic force microscopy, and scanning electron microscopy.
* **Bilkent University**, Ankara, Turkey Fall 2012 - Spring 2017

Research Assistant at scanning probe microscopy research group, under supervision of Prof. Mehmet Z. Baykara (UC Merced)

* Skills regularly used in this position include spectroscopy techniques (XPS, Raman), data analysis, UHV thin film manufacturing techniques, surface characterization techniques, atomic force microscopy, transmission electron microscopy, scanning electron microscopy, CVD growth of 2D materials, cleanroom fabrication techniques, PVD techniques and photolithography, where all the processes were done in cleanrooms or yellow rooms.

**JOURNAL PUBLICATIONS**

* A. Özoğul, E. Gnecco, M. Z. Baykara, *Nanolithography-induced exfoliation of layered materials,* Applied Surface Science Advances 6, 100146 (2021)
* A Özoğul, B.R. Jany, F. Krok, E. Gnecco, M. Z. Baykara, *Influence of Interfacial Oxidation on Friction in Structural Superlubricity,* Tribology Letters 69 (3), 1-8 (2021)
* A. Özoğul, F. Trillitzsch, C. Neumann, A. George, A. Turchanin, E. Gnecco, *Plowing-induced nano-exfoliation of mono- and multilayer MoS2 surfaces*, Phys. Rev. Materials 4, 033603 (2020)

<https://doi.org/10.1103/PhysRevMaterials.4.033603>

* F. Trillitzsch, A. Janas, A. Özogul, C. Neumann, A. George, B. R. Jany, F. Krok, A. Turchanin, E. Gnecco, *Scanning-Probe-Induced Assembling of Gold Striations on Mono- and Bi-Layered MoS2 on SiO2*, MRS Advances, 1-7. (2020)

<https://doi.org/10.1557/adv.2020.151>

* A. Özoğul, S. Gräf, F. Müller, E. Gnecco, *Reverse Stick-Slip on a Periodic Wedge-Shaped Grating*, Tribology Letters 67:29 (2019)

DOI: 10.1007/s11249-019-1139-x

* X. Zhang, I. Firkowska-Boden, M. L. M. Arras, M. Kastantin, C. Helbing, A. Özoğul, E. Gnecco, D. K. Schwartz, K. D. Jandt, *Nanoconfinement and Sansetsukon-like Nanocrawling Govern Fibrinogen Dynamics and Self-Assembly on Nanostructured Polymeric Surfaces*, Langmuir 34 (47) (2018): 14309-14316

DOI: 10.1021/acs.langmuir.8b02917

* A. Özoğul, S. İpek, E. Durgun, M. Z. Baykara, *Structural Superlubricity of Platinum on Graphite Under Ambient Conditions: The Effects of Chemistry and Geometry*, Applied Physics Letters 111 (21) (2017): 211602

 DOI: 10.1063/1.5008529

* E. Cihan, A. Özoğul, M. Z. Baykara, *Structure and Nanotribology of Thermally Deposited Gold Nanoparticles on Graphite*, Applied Surface Science 354 (2015): 429-436

DOI: 10.1016/j.apsusc.2015.04.099

**POSTER PRESENTATIONS**

* A. Özoğul, S. Gräf, F. A. Müller, E. Gnecco. *Limits of Prandtl-Tomlinson model for sliding friction on the micrometer scale.* Beilstein Nanotechnology Symposium 2018, Potsdam, Germany.
* A. Özoğul, S. Gräf, F. A. Müller, E. Gnecco Frictional Behaviour of Colloidal Spheres Sliding on a Micron-Scale Periodic Substrate. DPG Spring Meeting 2018, Berlin, Germany.
* A. Özoğul and M. Z. Baykara. Scanning Probe Microscopy Research Group Activities. DESY Turkish Users Meeting, DESY, Hamburg, Germany
* E. Cihan, A. Özoğul and **M. Z. Baykara,** *Structural and Frictional Characterization of Thermally Deposited Gold Nanoparticles*, 20. Yoğun Madde Fiziği Ankara Toplantısı (20th Condensed Matter Physics Meeting, Ankara).
* E. Cihan, A. Özoğul and **M. Z. Baykara,** *Structural and Frictional Characterization of Thermally Deposited Gold Nanoparticles*, UNAM Nanoday 2014, Bilkent University, Ankara, Turkey.
* E. Cihan, A. Özoğul and **M. Z. Baykara,** *Structural and Frictional Characterization of Thermally Deposited Gold Nanoparticles*, ECOSS 2014.

**CONFERENCE PRESENTATIONS**

* Özoğul, A., Baykara, M. Z., Platin Nanoparçacıkların Ortam Koşullarında Yapısal Kayganlığının Araştırılması, 6. Yoğun Madde Fiziği İzmir Toplantısı, İzmir, Turkey, April 21, 2017
* Özoğul, A., Baykara, M. Z., Investigation of Structural Lubricity on Platinum Nanoislands under Ambient Conditions, 7th European Nanomanipulation Workshop, Jena, Germany, February 20-22, 2017.

**TEACHING EXPERIENCE**

* **Friedrich Schiller University Jena,** Germany Winter 2019

Teaching Assistant for Werkstoffmechanik (Mechanics of Materials)

* **Friedrich Schiller University Jena**, Germany Summer 2019

Teaching Assistant for Contact Mechanics and Friction

* **Friedrich Schiller University Jena**, Germany Winter 2018

Teaching Assistant for Werkstoffmechanik (Mechanics of Materials)

* **Bilkent University,** Ankara, Turkey Spring 2017

 Teaching Assistant for ME232 (Mechanics and Materials II)

* **Bilkent University,** Ankara, Turkey Fall 2016

 Teaching Assistant for ME231 (Mechanics and Materials I)

* **Bilkent University,** Ankara, Turkey Spring 2016

Teaching Assistant for ME232 (Mechanics and Materials II)

* **Bilkent University,** Ankara, Turkey Fall 2015

 Teaching Assistant for GE301 (Science, Technology and Society)

* **Bilkent University,** Ankara, Turkey Spring 2014

 Project Assistant for ME102 (Introduction to Systems Engineering)

* **Bilkent University Mechanical Engineering Society**, Ankara, Turkey Spring 2013

Voluntary SolidWorks Instructor

**COMPUTER SKILLS**

* MATLAB (data analysis, image analysis, computer vision)
* Origin (data analysis and representation)
* Python (digital signal processing, data analysis)

**LANGUAGES**

* Turkish (Native), English (Fluent)