

Hakan Ulaş Özdemir

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EDUCATION

Ph.D. in Physics

Simon Fraser University

2016 – Sep 2022

Burnaby, BC

- Thesis Title: Phenomenology of unconventional superconductors

Master of Science in Physics

Izmir Institute of Technology

2014 – 2016

Urla, İzmir

- Thesis Title: Electronic, magnetic and optical properties of graphene nanoribbons

Bachelor of Science in Physics

Middle East Technical University

2010 – 2014

Çankaya, Ankara

- Honors Thesis Title: Theoretical investigation of structural and electronic properties of surfaces

EXPERIENCE

Research Assistant

Simon Fraser University

2016 – Aug 2022

Burnaby, BC

- Numerically studied electromagnetic properties of unconventional dirty superconductors
- Contributed to a codebase written in Apple Swift
- Designed and implemented a parallelized Python package that utilizes GPGPUs

Intern Data Scientist

Applied Quantitative Methods (AQM)

Jan 2020 – Dec 2020

Vancouver, BC

- Worked on a predictive model with a team of data scientists for one of Canada's biggest private career colleges

Teaching Assistant

Simon Fraser University

2016 – 2020

Burnaby, BC

- Supervised several lower- and upper-division undergraduate courses

Research Assistant

Izmir Institute of Technology

2014 – 2016

Urla, İzmir

- Implemented a linear algebra package to investigate transport properties of graphene nanostructures

SKILLS

Programming: Python, Apple Swift, Julia, Mathematica, Matlab, SQL

Frameworks: Scikit-learn, Pandas, Keras, NumPy, CuPy, SciPy, Cython, CoreML, SwiftUI

Visualization: Matplotlib, Seaborn, Tableau, Blender3D, Adobe Illustrator

Developer Tools: Git, Docker, Google Colab, Kubernetes

Languages: Turkish (Native), English (Full Professional Proficiency)

SELECTED PUBLICATIONS

“Effect of realistic out-of-plane dopant potentials on the superfluid density of overdoped cuprates”, Özdemir et al., [arXiv:2206.01348](https://arxiv.org/abs/2206.01348) - Accepted for publication in Phys. Rev. B

“Low energy phenomenology of the overdoped cuprates: Viability of the Landau-BCS paradigm”, N. R. Lee-Hone, H. U. Özdemir, V. Mishra, D. M. Broun, and P. J. Hirschfeld, [Phys. Rev. Research 2, 013228 \(2020\)](https://arxiv.org/abs/2008.01322)

“Magnetic phases of graphene nanoribbons under potential fluctuations”, H. U. Özdemir, A. Altıntaş, and A. D. Güçlü, [Phys. Rev. B 93, 014415 \(2016\)](https://arxiv.org/abs/1604.01441)