Curriculum vitae

PERSONAL INFORMATION

Bálint Szentpéteri

9. Csákány utca, Kazincbarcika, Hungary

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Date of birth 9 May 1994 | Nationality Hungarian

WORK EXPERIENCE

July 2016 – Present

Research fellow

Budapest University of Technology and Economics
3 Műegyetem rkp. Budapest, Hungary

EDUCATION AND TRAINING

2019–present

PhD in Physics

Budapest University of Technology and Economics, Hungary

- Title of thesis: Graphene-based heterostructures under pressure
- Supervisor: Dr. Péter Makk

2017–2019

MSc in Physics

Budapest University of Technology and Economics, Hungary

- Title of thesis: Spin physisc in two-dimensional heterostructures
- Supervisor: Dr. Péter Makk

2014–2017

BSc in Physics

Budapest University of Technology and Economics, Hungary

- Title of thesis: Building and investigating BiTeI/Graphene bassed hybrid nanocircuits
- Supervisor: Dr. Szabolcs Csonka

INTERNSHIP

2023

University of Basel, Department of Physics

Klingelbergstrasse 82, CH-4056 Basel (Switzerland)

- Group of Prof. Christian Schönenberger
- Duration: 2 months
- fabrication of hBN/graphene/hBN heterostructures
- strain-dependent transport measurements in cryogenic environment

2018

Chalmers University of Technology, Department of Physics

Chalmersgatan 4, 412 96 Gothenburg (Sweden)

- Group of Prof. Saroj Dash
- Duration: 1.5 months
- fabrication of BiTeBr/graphene heterostructures
- spin transport measurements in spinvalve geometries

CONFERENCES

2025

IWEPNM 2025

Kirchberg in Tirol (Austria)

- poster presentation entitled "Tuning the proximity induced spin – orbit coupling in bilayer graphene/WSe_2 heterostructures with pressure"

2024

8th Graphene and 2D Materials Worksho

Budapest (Hungary)

– oral presentation entitled "Boosting SOC in BLG with pressure"

2024 Taiwanese-German WE-Heraeus-Seminar

Tutzing (Germany)

– poster presentation entitled "Tuning the proximity induced spin-orbit coupling in bilayer graphene based heterostructures"

2024 Workshop on Twistronics and Moiré Materials: Bridging Theory and Experiments

Triest (Italy)

– poster presentation entitled "Stabilizing the inverted phase of a WSe_2/BLG/WSe_2 heterostructure via hydrostatic pressure"

2023 CMD30 FisMat 2023

Milan (Italy)

– oral presentation entitled "Tuning the proximity induced spin-orbit coupling in graphene based heterostructures"

2023 7th Graphene workshop

Basel (Switzerland)

– oral presentation entitled "Induced spin-orbit coupling in bilayer grapene"

2022 16th Capri Spring School

Capri (Italy)

– oral presentation entitled "Tailoring the band structure of twisted double bilayer graphene with pressure"

2022 Graphene 2022

Aachen (Germany)

– poster presentation entitled "Probing the change of the spin orbit coupling by pressure in graphene WSe_2 based heterostructures with the help of quantum Hall effect"

2021 EPFL - ETH Summer School 2021

online

– poster presentation entitled "Tailoring the Band Structure of Twisted Double Bilayer Graphene with Pressure, Spintronics and magnetism on 2D materials"

2021 5th-graphene-workshop

Basel (Switzerland)

– oral presentation entitled "Tailoring the band structure of twisted double bilayer graphene with pressure"

2020 SPICE WORKSHOP 2D van der Waals Spin Systems

online

– poster presentation entitled "Measurement of SOC strength in bilayer graphene/TMD heterostructures"

2020 IWEPNM 2020

Basel (Switzerland)

– poster presentation entitled "Measurement of SOC strength in bilayer graphene/TMD heterostructures"

COMPETITIONS AND AWARDS

2019 **OTDK – National research competition for students**

Eger (Hungary)

– 3rd place award of the solid state physics section

2019 **OTDK – National research competition for students**

Eger (Hungary)

– Special award of the solid state physics section

2018 **TDK - University research competition for students**

Budapest (Hungary)

– 2nd place award of the experimental and nanophysics section

TEACHING ACTIVITY

Practice course of solid state physics

– for Physics BSc students

Physics lab course

– for Physics BSc and MSc students

SUPERVISION

BSc students

– Roland Tóth, theis tittle: "Mechanical tuning of van der Waals heterostructures"

PERSONAL SKILLS

Mother tongue: Hungarian

Other languages	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	C1	C1	C1

Levels: A1 and A2: Basic user – B1 and B2: Independent user – C1 and C2: Proficient user
Common European Framework of Reference for Languages