

Personal information

Place and date of Birth: Szombathely, Hungary, 1993. 10.17.
E-mail: novak.martin9319@gmail.com
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Studies

- **Doctoral studies:**
Eötvös Loránd University
Physics Sciences – Material Science and Solid-State Physics programme
2018-
Budapest
- **Master's studies:**
Eötvös Loránd University
Physicist – Computational Physics and Statistical Physics specialisation
2016-2018
Budapest
- **Bachelor studies:**
Eötvös Loránd University
Physics – Biophysicist specialization
2012-2016
Budapest
- **High school:**
Gépipari Informatikai Műszaki Szakközépiskola és Kollégium
Computer Science Class
2008-2012
Szombathely

Language

- Hungarian (native)
- English (TELC complex B2)

Work Experience

Hungarian Academy of Sciences, Centre for Economic and Regional Studies
(2019 May -)

- Studying the diffusion of innovation on geosocial networks

Hungarian Academy of Sciences, Wigner Research Centre for Physics
(2017 August -)

- Finite element simulation of particle accelerator magnets (electromagnetic, mechanical, two-way coupled electrothermal)
- CAD modelling
- Infrastructure design and assembly
- Testing of superconducting materials (CERN SM18)

*Hungarian Academy of Sciences, Institute of Technical Physics and Material Science
(2015 November – 2018 March)*

- Study the adhesion properties of cervical cancer cells with optical biosensors and atomic force microscopy
- Design of experiments and microfluidic devices
- CFD simulation of microfluidic devices

IT knowledge

- Programming languages, frameworks:
 - C++
 - Java
 - Python
 - TensorFlow
 - Keras
- CAD software:
 - Autodesk Inventor
 - ANSYS Design Modeler
- FEM software:
 - COMSOL Multiphysics
 - ANSYS Workbench
 - ANSYS CFX
 - ANSYS Fluent
 - OpenFOAM
- Basic computer user knowledge:
 - Linux system knowledge
 - LaTeX
 - Microsoft Office

Professional interests

- Solid-state physics, Fluid dynamics, Numerical methods, Machine Learning, Deep Learning, Complex systems, Network science, Finance

Publications

- D. Barna, M. Novák, K. Brunner, G. Kirby, B. Goddard, J. Borburgh, M. Atanasov, A. Sanz Ull, E. Renner, W. Bartmann, M. Szakaly: Conceptual design of a high-field septum magnet using a superconducting shield and a canted-cosine-theta magnet. *Review of Scientific Instruments*, 90 (2019) 053302, doi: 10.1063/1.5096020
- D. Barna, G. Giunchi, M. Novák, K. Brunner, A. Német, C. Petrone, M. Atanasov, H. Bajas, J. Fevrier: An MgB₂ superconducting shield prototype for the Future Circular Collider septum magnet. *IEEE Transactions in Applied Superconductivity*, doi: 10.1109/TASC.2019.2920359
- D. Barna, M. Novak, K. Brunner, C. Petrone, M. Atanasov, J. Fevrier, M. Pascal: NbTi/Nb/Cu multilayer shield for the superconducting shield (SuShi) septum. *IEEE Transactions in Applied Superconductivity* 29 (2019)

Conferences, schools

- **FCC Week 2019**
Brussels, Belgium, 2019.06.24. - 2019.06.28.
Presentation: Status of the SuShi septum project

- **1st STEAM Workshop at CERN**
Meyrin, Switzerland, 2019.06.13. – 2019.06.14.
- **2nd International School on Numerical Modelling for Applied Superconductivity, 2018,**
Caparica, Portugal, 2018.07.02. – 2018.07.06.
- **FCC Week 2018,**
Amsterdam, Netherlands, 2018.04.09. – 2018.04.13.
Poster: Numerical and experimental studies of magnetic shielding performance of an MgB₂ tube for the superconducting shield septum project