

CV of Dr. Miklós CSONTOS

Personal data

Name	Dr. Miklós CSONTOS
Position	Research associate professor
Current institution	Department of Physics, Budapest University of Technology and Economics (BME), H-1111 Budapest, Budafoki út 8, Hungary
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Education

2007	PhD in Physics (“High pressure magnetotransport study of (III,Mn)V dilute magnetic semiconductors”) BME
2002	MSc in Engineering-physics (“Spin-dependent electron scattering in Fe-Ag multilayers”) BME

Employment

2015-	Research associate professor	Department of Physics, BME
2011-2014	Scientific coworker	Department of Physics, BME
2007-2010	Postdoctoral researcher	ETHZ, Switzerland
2005-2007	Scientific coworker	Department of Physics, BME

Awards and prizes

2011-2015	Marie Curie Career Integration Grant (EU FP7)
2011-2014	Bolyai János Research Fellowship (Hungarian Academy of Sciences)
2012	Supervisor Award (BME Scientific Competition for Physics Students)
2008-2010	Marie Curie Intra-European Fellowship (EU FP7)
2004	Best Graduate Student Award (Hungarian Telecom Foundation)
2002	Best Master Thesis Award (Pro Progressio Foundation, BME)
2001	Excellence Award (National Competition for Physics Students)
2000	2 nd Prize (Scientific Competition for Physics Students, BME)
2000-2002	BME Scholarship

Research interest

- Electron transport in nanostructures

- Point contact spectroscopy in atomic & molecular junctions
- Resistance change memory systems
- Scanning probe microscopy
- Two-dimensional systems in semiconductor heterostructures & graphene
- Magnetic and magnetotransport properties of metallic and semiconductor thin films

Teaching experience

- Semiconductors, lecture, BME
- Transport in complex nanostructures, lecture, BME
- General physics laboratory courses, BME
- Condensed matter physics laboratory courses, BME
- Solid state physics exercise class, BME
- Advanced physics laboratory course, ETHZ
- Semiconductor nanostructures exercise class, ETHZ

Students supervised

- PhD students: Bálint Fülöp
- BSc students: Tímea Török, Dániel Molnár, Tamás Kriváchy (2014), Gergely Rosta (2011)

Memberships and professional service

2008-	European Science Foundation, Pool of Reviewers, reviewer
2005-	PRB, PRL, APL, JAP, EPL, J. Phys.: Cond. Mat., Adv. Mat., Phys. Stat. Sol., reviewer
2007-2010	Quantum Information and Technology, Initiative of ETHZ, member
2006-2007	American Physical Society, member
2002-2010	European Graduate Collage, member
1997-2000	European Physical Society, member

Grants, fellowships, projects

2015-2017	OTKA K112918 Fellow
2015-2018	OTKA K112811 Fellow
2011-2015	Marie Curie CIG EU FP7 No. 293797 Principal investigator
2008-2010	Marie Curie Intra-European Fellowship EU FP7 No. 219632 Fellow
2010-2013	OTKA CNK80991 Fellow
2006-2010	OTKA K62441 Fellow
2005-2007	OTKA NI49881 Fellow

Languages

English, German

Scientific impact (as of 1/9/2016)

22 papers in refereed journals

Total number of citations: 208

H-index: 8

Complete list of publications: <https://vm.mtmt.hu//search/slist.php?AuthorID=10003545>

Five selected publications

1. A. Gubicza, D. Zs. Manrique, L. Pósa, C. J. Lambert, G. Mihály, M. Csontos and A. Halbritter, *Asymmetry-induced resistive switching in Ag-Ag₂S-Ag memristors enabling a simplified atomic-scale memory design*, Scientific Reports **6**, 30775 (2016).
2. A. Gubicza, M. Csontos, A. Halbritter and G. Mihály, *Resistive switching in metallic Ag₂S memristors due to a local overheating induced phase transition*, Nanoscale **7**, 11248 (2015).
3. A. Gubicza, M. Csontos, A. Halbritter and G. Mihály, *Non-exponential resistive switching in Ag₂S memristors: a key to nanometer-scale non-volatile memory devices*, Nanoscale **7**, 4394 (2015).
4. A. Geresdi, M. Csontos, A. Gubicza, A. Halbritter and G. Mihály, *Fast operation of nanometer-scale metallic memristors: highly transparent conductance channels in Ag₂S devices*, Nanoscale **6**, 2613 (2014).
5. Y. Komijani, M. Csontos, I. Shorubalko, T. Ihn, K. Ensslin, Y. Meir, D. Reuter and A. D. Wieck, *Evidence for localization and 0.7 anomaly in hole quantum point contacts*, EPL **91**, 67010 (2010).