

Curriculum Vitae

Name: István Kézsmárki

Nationality, civil status: Hungarian, married, two children

Date of Birth: 29th March, 1976

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Qualifications

- Diploma of physics, Budapest University of Technology and Economics (BME), Hungary, 1999.
- Ph.D. in physics, BME, Hungary, 2003.

Workplaces

- 2013- Visiting professor – Department of Experimental Physics V., University of Augsburg
- 2010-2013 Senior researcher – Condensed matter research group of the Hungarian Academy of Sciences
- 2008-2013 Associate professor, Leader of the Magneto-optical Spectroscopy Group
– Department of Physics, BME
- 2004-2010 Scientific coworker – Condensed matter research group of the Hungarian Academy of Sciences
- 2004-2008. Assistant professor – Department of Physics, BME
- 2003-2004. Postdoctoral research fellow – Department of Applied Physics University of Tokyo
- 2002-2003. Assistant professor – Department of Physics, BME

Research field, current topics

- Magneto-optical spectroscopy of collective excitations in itinerant and insulating magnets,
- Optical properties of multiferroic materials, optical magnetoelectric effect, directional dichroism,
- Optical spectroscopy of correlated electron systems,
- Magneto-optical diagnosis of malaria,
- Structural studies of proteins by electronic and vibrational circular dichroism spectroscopy,
- Biomedical applications of magnetic nano- and microparticles.

Teaching activity

- Optical spectroscopy (lecture),
- New trends in optical spectroscopy I-II.(seminars),
- Magneto-optical advanced laboratory,
- Solid state physics (exercise).

Supervision

- Ph.D.: S. Bordács (degree 2011) ,
Á. Butykai, V. Kocsis, Á. Orbán, D. Szaller
- 7 MSc and 4 BSc students

Fellowships and awards

- Japan Society for the Promotion of Science Postdoctoral Fellowship, 2003-2004.
- Bolyai János Research Fellowship, Hungarian Academy of Sciences, 2005-2007.
- Bolyai Medal for Excellent Youth Researchers, Hungarian Academy of Sciences, 2008.
- Excellent Youth Scientists Award, Hungarian Academy of Sciences, 2009.
- Bolyai János Research Fellowship, Hungarian Academy of Sciences, 2009-2011.
- Supervisor of the Year Prize, Pro Progressio Foundation for Education and Research , 2010.

Visits

- 2013. Institute of Chemical Physics and Biophysics, Estonia (short < 3 months),
- 2013. Institute of Physics, Academy of Sciences of the Czech Republic (short),
- 2012. Institute of Chemical Physics and Biophysics, Estonia (short),
- 2011. High Field Magnet Laboratory of Nijmegen, Netherlands (short),
- 2010. Institute of Chemical Physics and Biophysics, Estonia (short),
- 2009-2010. University of Tokyo, Japan (mid term \geq 3 months),
- 2009. Max-Planck-Institut für Physik komplexer Systeme (short),
- 2008. University of Augsburg, Germany (short),
- 2007. Ecole Polytechnique Federale de Lausanne, Switzerland (short),
- 2007. University of Tokyo, Japan (mid term),
- 2006. University of Tokyo, Japan (mid term),
- 2005. University of Tokyo, Japan (mid term),
- 2003. National Synchrotron Light Source in Brookhaven, United States (short).

Funding ID (recent grants)

- *New optical phenomena in multiferroics and magnetic metamaterials*, **principle investigator**, Hungarian Research Fund OTKA #K108918 (2013-2017), budget: 100 k€
- *Validation and optimization of a portable magneto-optical device for malaria diagnosis*, **participant**, University of Western Australia Research Collaboration Award (2014), budget: 11 k€
- *Broadband magneto-optical spectroscopy on complex magnets*, **principle investigator**, Hungarian Research Fund OTKA #PD75615 (2010-2012), budget: 60 k€
- *Spin injection, detection and manipulation in nanoscale devices*, **participant**, Hungarian Research Fund NKTH #CNK80991 (2010-2013), budget: 510 k€
- *Spin polarization in nanostructures*, **participant**, Hungarian Research Fund OTKA NK72916 (2008-2011), 140 k€
- *Structural study of target proteins for medical and biotechnological applications*, **participant**, Baross Gábor program (2009-2011), 370 k€
- *Phase diagram of correlated electron systems: spectroscopic and transport studies*, **principle investigator**, Hungarian Research Fund OTKA #F61413 (2006-2008), 20 k€

International collaborations

- Prof. Y. Tokura, Department of Applied Physics, University of Tokyo, 2003- ,
- Prof. N. Nagaosa, Department of Applied Physics, University of Tokyo, 2003- ,
- Prof. C. A. Kuntscher, Department of Experimental Physics II, University of Augsburg, 2008- ,
- Dr. K. Ohgushi, Institute for Solid State Physics, University of Tokyo, 2009- ,
- Prof. T. Vojta, Department of Physics, Missouri University of Science and Technology, 2009- ,
- Prof. R. Shimano, Department of Physics, University of Tokyo, 2010- ,
- Dr. T. Rõõm, Dr. U. Nagel, Nat. Inst. of Chemical Physics and Biophysics, Tallinn, 2010- ,
- Prof. T. Hanscheid, Instituto de Medicina Molecular, Lisbon, 2013-
- Prof. R. S. Fishman, Oak Ridge National Laboratory, Tennessee, 2013-,
- Prof. R. Ramesh, Berkeley National Laboratory, 2013-,
- Dr. J. Hlinka, Institute of Physics, Academy of Sciences of the Czech Rep., Prague, 2013-,
- Prof. I. Mueller, Walter and Eliza Hall Institute of Medical Research, Melbourne, 2013-.

Referee

for Nature Physics, Nature Communications, Physical Review Letters, Physical Review B, New Journal of Physics, Journal of Magnetism and Magnetic Materials, European Physical Journal B, PloS ONE, Sensors & Actuators B: Chemical, IOP Book Publishing.

Research Record (<http://mycite.omikk.bme.hu/search/slist.php?lang=1&AuthorID=10002762#>)

- Papers: **56**
 - /Peer Reviewed Journal Papers: **46**
 - /Peer Reviewed Conference Proceedings: **5**
- Book: **1**
- Total Number of Citations: **624**
- Accumulated Impact Factors: **213**
- Hirsch Index: **15**
- Invited conference lectures and seminar talks: **26**

Out of his 56 publications, 1 appeared in Nature Physics (main and corresponding author), 1 in Nature Communications (main and corresponding author), 1 in Nature Scientific Reports (main and corresponding author), 15 in Physical Review Letters, and 20 in Physical Review B, New Journal of Physics, Applied Physics Letters, Applied Physics Express and Journal of Materials Science. He is the first or main author of 22 publications. He has participated in 16 conferences and held 18 invited seminars. He is also the main author of an exercise book for solid state physics.

Appearance in scientific media

» **Chirality of matter probed via spin excitations** «

- [Featured on the cover of Nature Physics](#)
- [Highlighted by the Hungarian Academy of Sciences](#)
- [Hungarian press: Discovery of a new optical effect](#)
- [Tokyo press: Control of terahertz light by spin](#)

» **Exotic spin waves in multiferroic materials** «

- [European Magnetic Field Lab](#)

» **Magneto-optical diagnosis of malaria** «

- [Featured article in Physics World](#)
- [News in Physics Today](#)
- [MIT Technology Review](#)
- [Medical news](#)
- [Elsevier's Global Malaria Resource](#)

» **One-way Transparency of Four-coloured Spin Excitations in Multiferroics** «

- [European Magnetic Field Lab](#)