

Peter Domokos

Research Professor
Member of the Hungarian Academy of Sciences
WIGNER RESEARCH CENTRE FOR PHYSICS
INSTITUTE FOR SOLID STATE PHYSICS AND OPTICS
H-1525 Budapest, P.O. Box 49, Tel: +36 392 9222/1392,
domokos.peter@wigner.mta.hu



Personal data

- Birth: 1st of March 1970, Budapest
- Nationality: Hungarian
- Family status: married, 3 children (Bálint, 2000; Emma, 2003, Vilma, 2006)

Education

- 1989-1994: Eötvös Loránd University of Budapest, Diplome (M. Sc.) "*honours*"
Thesis title: Coherent states and quantum interference in optics, Supervisor: Prof. József Janszky
- 1994-1995: Université Pierre et Marie Curie (Paris 6), DEA "*mention très bien*"
Thesis title: Simulation des expériences menée sur un système couplé atome-cavité avec une interaction dispersive, Supervisor: Prof. Jean-Michel Raimond
- 1995-1998: Laboratoire Kastler Brossel de l'Ecole Normale Supérieure, Doctorat de l'Université Pierre et Marie Curie (Paris 6), "*mention très bien avec félicitation du jury*"
Thesis title: Microlasers et logique quantique: description théorique de nouveaux effets d'électrodynamique en cavité, Supervisor: Prof. Jean-Michel Raimond

Research experience

- 1998 October - 2000 January: Research assistant at the Research Institute for Solid State Physics and Optics of the Hungarian Academy of Sciences, Budapest
- 2000 February - 2001 March: Postdoctoral fellow at the Institute for Theoretical Physics (University of Innsbruck)
- 2001 April - 2003 March: Individual Marie Curie Fellow at the Institute for Theoretical Physics (University of Innsbruck)
- 2003 April – : Senior research fellow, Research advisor (2007-2013) and Research Professor (2013-) at the Institute for Solid State Physics and Optics, Wigner Research Centre for Physics, Budapest

Publications, conferences, scientometric data

- papers in peer-reviewed journals: 84
- conference proceedings, book parts: 19
- conference talks: 53 (32 invited); invited colloquia: 32
- citation number 2941 independent (MTMT), h-index 29

Project leadership

Last 5 years

- “*Atom-light crystals in photonic crystals*”, FETOPEN-01-2018-2019-2020, No. 964531 CRYST³, 1 March 2021 - 28 February 2025, Consortium partner PI
- “*Quantum Information National Laboratory*”, National Research, Development and Innovation Office 2020–2025, Principal coordinator of the consortium and Project leader of the Quantum Optics Group
- “*Preparation and distribution of quantum bits and development of quantum information networks*”, “Quantum Technology”, National Excellence Program of the National Research, Development and Innovation Office (2017-1.2.1-NKP-2017-00001) 2017–2021, coordinator of the consortium
- “*Open system quantum dynamics in the ultrastrong coupling regime*”, National Research, Development and Innovation Office (OTKA K115624) 2015–2019

Earlier than 5 years

- “*Circuit and Cavity Quantum Electrodynamics*” (CCQED), FP7-PEOPLE-2010-ITN EU Network partner (PITN-GA-2010-264666), 2011-2014
- “*Quantum measurement theory in hybrid systems and in networks*”, Momentum Prize of the Hungarian Academy of Sciences (LP2011-016/2011), 2011-2016, approved for finalization in 2014
- “*Optomechanical coupling: extending Cavity Quantum Electrodynamics*”, National Office for Research and Technology, ERC_HU_09–OPTOMECH, 2010-2014
- “*Quantum measurement in the hybrid system of coupled Bose-Einstein condensate and carbon nanotubes*”, MÖB/DAAD/18-1/2012, 2012-2013
- “*Cavity Quantum Electrodynamics: from single atoms to many-body ensembles*”, National Scientific Research Fund (OTKA) NF68736, 2007-2010
- “*Quantized motion in cavity*”, Hungarian-Austrian Bilateral Intergovernmental Cooperation (TÉT), OMFB-00327/2008, AT3/2007, 2008-2010
- “*Cavity-mediated molecular cooling*” (CMMC), Associated partner in Eurocores Collaborative Research Programme (06-EuroQUAM-FP-007), 1 June 2007 – 30 November 2010
- “*Collective dynamics of cold atoms in a cavity*”, 1 February 2004- 31 January 2005, FP6 Marie Curie European Reintegration Grant (MERC-CT-2004-502887)
- “*Moving atoms and molecules in strongly coupled radiation fields*”, National Scientific Research Fund (OTKA) T043079, 2003-2006
- “*Cavity-mediated long-range interaction of cold atoms: a way to multiparticle entanglement*”, 1 April 2001- 31 March 2003, FP5 MCFI-Marie Curie Individual Fellowship (HPMF-CT-2000-00788)
- “*Light-matter interaction in complex quantum systems*”, OTKA F032341, 2000-2003
- “*Cavity Quantum Electrodynamics*”, OTKA F017380, 1995-98

PhD Students and postdocs

- András Vukics, PhD (2004–2006), postdoc (2011– 2014), tenured
- János Asbóth, PhD (2004–2008) (with H. Ritsch), postdoc (2011-2012), tenured
- Dávid Nagy, PhD (2006–2010), postdoc (2010–2013), tenured
- András Dombi PhD student (2011–2017), postdoc (2017–)

- Gergely Szirmai, postdoc (2007-2009), tenured
- Orsolya Kálmán, postdoc (2010 – 2011), tenured
- Gábor Kónya, PhD student (2012 – 2018)
- Tobias Grießer, postdoc (2014 – 2015)
- Thomas W Clark, postdoc (2017 –)

Awards, titles, and fellowships

- 2016 April-May: Leopold-Franzens-Universität Innsbruck Guest Professor
- 2013: Corresponding member of the Hungarian Academy of Sciences
- 2011: Momentum Prize of the Hungarian Academy of Sciences
- 2010: Outstanding Referee of the American Physical Society
- 2007: Doctor of Sciences (DSc) of the Hungarian Academy of Sciences
- 2004: Physics Award of the Hungarian Academy of Sciences
- 2003: "Talentum" Academy Prize
- Bolyai János Fellowship of the Hungarian Academy of Sciences 2003-2006
- Marie Curie Individual Fellowship 2001-2003
- Boursier du Gouvernement Francais 1994-1998
- Young Researcher Award of the Hungarian Academy of Sciences, 1996
- Scholarship of the Hungarian Republic (1992/93 and 1993/94)

Memberships

- 2019 – : Physical Review Letters Editorial Board, Divisional Associate Editor
- 2019 – : Member of the Doctoral Committee of the Doctoral School in Physics of the Budapest University of Technology
- 2019– : Member of the Advisory Board of the Faculty of the Natural Sciences of the Roland Eötvös University
- 2016– 2018: Member of the Council of Science and Engineering, National Research, Development and Innovation Office
- 2016– 2020: Member of the Science Committee (OTKA) of the National Research, Development and Innovation Office
- 2014–2017 : Member of the Publication Advisory Committee of the Hungarian Academy of Sciences
- 2014– 2020: Member of the Doctoral Committee of the Hungarian Academy of Sciences
- 2014– : Member of the Bolyai Board of Trustees for the Section of Physical Sciences
- 2012 – : Board member of the Physics Doctoral School of the University Pécs
- 2012 – 2019 : Member, 2015–2019, Chair of the Application Evaluation Committee of the Institute for Solid State Physics and Optics
- 2011–2016: Secretary, IUPAP Member Committee of Hungary
- 2007–2013: Doctor representative at the Hungarian Academy of Sciences
- 2005–2017 : Editor of the European Physical Journal D

- 2006–2007: Editor of the Acta Physica Hungarica B
- 1993- : Member of the Roland Eötvös Physical Society

Administrative positions

- 2019 – : Director of the Institute for Solid State Physics and Optics and Deputy director of the Wigner RCP
- 2016 – 2019 : Vice-director of the Institute for Solid State Physics and Optics
- 2010 – 2016: Head of the Department of Quantum Optics and Quantum Information
- 2017 – : Leader of the HunQuTech consortium of the National Excellence Program on Quantum Technology