Curriculum Vitae – Izabela Kuryliszyn- Kudelska

Institute of Physics, Polish Academy of Sciences
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Education

2019: DSc (habilitation) in Physics, Institute of Physics of the Polish Academy of Sciences, Warsaw, Poland
2005: PhD in Physics, Institute of Physics Polish Academy of Sciences Warsaw;
1998: Master Degree in Solid State Physics, Institute of Physics, Warsaw University;

Professional Experience

2006 – until now	Assistant Professor, Institute of Physics PAS, Warszawa
2004 – 2006	maternity leave
2003 – 2004	Research Assistant, Institute of Physics PAS, Warszawa
1998 – 2003	PhD Studies, Institute of Physics PAS, Warszawa

Main Interests

- magnetic nanomaterials: magnetic oxide nanomaterials; magnetic carbon nanotubes, graphene decorated with magnetic nanoparticles;
- diluted magnetic semiconductors;
- ferromagnetic semiconductors;
- magnetic, transport, magnetotransport, magnetooptical studies of magnetic materials;

Scientific visits abroad

- Annual research stay at the Department of Physics, University of Notre Dame, USA (2000)
- Short research stays (2 weeks) in the following scientific centers: Laboratoire National des Champs Magnétiques Pulses Toulouse (Toulouse, France), Humboldt University (Berlin, Germany), Belgrade University (Belgrade, Serbia).

Leading of scientific projects and participating in such projects

- **Leader of the scientific project** „Magnetic semiconductor oxide nanocrystals – synthesis and studies of physical properties" funded by Narodowe Centrum Nauki, UMO-2011/01/B/ST5/06602; (2011-2014).

- **Principal investigator of scientific project** „Magnetic and transport properties of ferromagnetic mixed crystals $Pb_{1-x-y-z}Mn_xEu_ySn_zTe$ and $Ga_{1-x}Mn_xAs$" funded by Komitet Badań Naukowych, 0296/P03/2003/24; (2003- 2004).
- **Principal investigator of scientific project** „Ultra-precise measurements of magnetic properties of complex ferromagnetic semiconductors" funded by Narodowe Centrum Nauki, UMO-2012/05/D/ST3/03161; (2013-2017).
- **Investigator of scientific project** „Transport properties of magnetic semiconductors and nanostructures related to the presence of domain walls" funded by Ministerstwo Nauki i Szkolnictwa Wyższego, 2 P03B 053 25; (2003-2006).

Editorial experience

Co-editor of two issues of Acta Physica Polonica A (APPA Vol. 112 No. 2, 2007 and Vol. 114 No. 25, 2008). The post-conference materials were published in these numbers: texts of invited papers and original works.

Organizational activity

- Secretary of the international conferences of physics of semiconductor materials co-organized by the Institute of Physics of the Polish Academy of Sciences: "XXXVI International School on the Physics of Semiconducting Compounds", Jaszowiec 2007 and "XXXVII International School on the Physics of Semiconducting Compounds", Jaszowiec 2008.
- Scientific secretary of the workshops co-organized by the Institute of Physics PAS "VIII Semiconductor Semiconductor Physics Workshop", Obory 2003.
- Participation in the preparation of post-conference materials of the E-MRS Fall Meeting 2002 international conference, Symposium G, "Solid Solutions of the II-VI Compounds - Growth, Characterization and Applications", Zakopane 2002.
- Participation in the scientific committee of the conference "The 4th International Advances in Applied Physics" Materials Science Congress Exhibition "APMAS Turkey 2014.

Refereeing

- Reviewing research projects for the Austrian Science Fund (twice) and the Ministry of Science of Serbia.
- Reviews of scientific papers for: Journal of Alloys and Compounds, Acta Physica Polonica A, Materials Research Bulletin, Science of Sintering, Nanoscale Research Letters, Journal of Engineering and Manufacturing, Journal of Physics and Chemistry of Solids, Journal of Magnetism and Magnetic Materials, Crystals, Journal of Physics: Condensed Matter, Applied Sciences, Materials, Magnetochemistry, Physica E, Applied Sciences.

The list of invited papers presented at international conferences

- Invited lecture: „Magnetic Semiconductor Nanocrystals Based on Oxide Compounds", 4th International Conference on Nanomaterials, Nanofabrication and Nanocharacterization (NANOMACH2023), Oludeniz, Turkey, 13-19 April 2023.
- Invited lecture: „Effect of Fe doping on properties of nanosized ZnO and ZrO_2", The 2nd Global Virtual Summit on Nanoscience & Nanotechnology, 10-11 November 2022.
- Key lecture: „The effect of iron doping on magnetic and structural properties of ZnO and ZrO_2 nanoparticles", The 2nd Webinar on Material Science and Nanotechnology, 24 February 2021.
- Invited lecture: „Transition metals in oxide diluted magnetic semiconductor nanocrystals", The 4th International Advances in Applied Physics & Material Science Congress Exhibition (APMAS), Fethiye-Mugla, Turkey, 24-27 April 2014.
- Key lecture: „Magnetic and structural properties of ZrO_2(Fe, Mn, Co) nanoparticles", Advanced Ceramics and Application III (ACAI), Belgrade, Serbia, 29 Septemeber-1 October 2014.
- Plenary invited lecture: „Transition metals in ZnO nanocrystals: magnetic and structural properties", Advanced Ceramics and Application I (ACAI), Belgrade, Serbia, 10-11 May 2012.

Bibliometric data

h-index: 14
total number of citations: 1102 citations
average number of citations per publication: 21

Selected publications

- "Hydrothermal Synthesis and Magnetic Properties of Zn/Mn Oxides Nano Particles", **I. Kuryliszyn-Kudelska**, W. Dobrowolski, M. Arciszewska, B. Hadžić, N. Romčević, M. Romčević D. Sibera U. Narkiewicz U., Magnetochemistry, 9, 139, (2023).
- "ZnO:Fe nanoparticles with Fe fraction up to 10%mol – growth and characterization", J. Rosowska, J. Kaszewski, B.S. Witkowski, Ł. Wachnicki, A. Wolska, M.T. Klepka, A. Grabias, **I. Kuryliszyn-Kudelska**, M. Godlewski, , Journal of Luminescence, 263, 119944, (2023)
- "Magnetic interactions in graphene decorated with iron oxide nanoparticles", L. Kilanski, R. Jedrzejewski, D. Sibera, **I. Kuryliszyn-Kudelska**, S. Gorantla, R. Idczak, V. H. Tran and A. Jedrzejewska, Nanotechnology, 32, 305703 (2021).
- "The effect of iron content on properties of ZnO nanoparticles prepared by microwave hydrothermal method", J. Rosowska, J. Kaszewski, B. Witkowski, Ł. Wachnicki, **I. Kuryliszyn-Kudelska**, M. Godlewski, Optical Materials, 109, 110089, (2020).

- “Characterization of LiFePO 4 samples obtained by pulse combustion under various conditions of synthesis”, Z. Ž. Lazarević, G. Križan, J. Križan, A. Milutinović, V. N. Ivanovski, M. Mitrić, M. Gilić, A. Umićević, **I. Kuryliszyn-Kudelska,** and N. Ž. Romčević, Journal of Applied Physics 126, 085109 (2019).
- B. Babic, B. Hadzic, **I. Kuryliszyn-Kudelska**, N. Paunovic, B. Vasic, W. D. Dobrowolski, M. Romcevic, J. Trajic, N. Romcevic, Far-infrared spectroscopy of laser power modified MnO nanoparticles, Optoelectronics and Advanced Materials – Rapid Communications 13, 376-379 (2019).
- “Superparamagnetic and ferrimagnetic behavior of nanocrystalline ZnO(MnO)”, **I. Kuryliszyn-Kudelska**, W. Dobrowolski, M. Arciszewska, N. Romčević, M. Romčević, B. Hadžić, D. Sibera, U. Narkiewicz, Physica E: Low-dimensional Systems and Nanostrucures 98, 10 -16 (2018).
- ”Adjusting the magnetic properties of ZrO_2:Mn nanocrystals by changing hydrothermal synthesis conditions”, I. Kuryliszyn-Kudelska, W. Dobrowolski, M. Arciszewska, A. Małolepszy,L. Stobiński, and R. Minikayev, Magnetochemistry 4, 28 – 28-16 (2018).
- ”Influence of Fe doping on magnetic properties of ZrO_2 nanocrystals”, **I. Kuryliszyn-Kudelska**, M. Arciszewska, A. Małolepszy, M. Mazurkiewicz, L. Stobiński, A. Grabias, M. Kopcewicz, W. Paszkowicz, R. Minikaev, V. Domukhovski, N. Nedelko, W. Dobrowolski, Journal of Alloys and Compounds 632, 609-616 (2015).
- ”Magnetic properties of ZnO(Co) nanocrystals”, **I. Kuryliszyn-Kudelska**, B. Hadžić, D. Sibera, M. Romčević, N. Romčević, U. Narkiewicz, W. Łojkowski, M. Arciszewska, W. Dobrowolski, Journal of Alloys and Compounds 561, 247-251 (2013).
- ”Transition metals in ZnO nanocrystals – magnetic and structural properties”, **I. Kuryliszyn-Kudelska**, W. Dobrowolski, M. Arciszewska, N. Romčević, M. Romčević, B. Hadžić, D. Sibera, U. Narkiewicz, W. Łojkowski, Science of Sintering 45, 31-48 (2013).
- ”Nanocrystalline ZnO Doped with Fe_2O_3 – Magnetic and Structural Properties”, **I. Kuryliszyn-Kudelska**, B. Hadžić, D. Sibera, Ł. Kilański, N. Romčević, M. Romčević, U. Narkiewicz, W. Dobrowolski, Acta Physica Polonica A 119, 689-691 (2011).
- ”Dynamic magnetic properties of ZnO nanocrystals incorporating Fe”, **I. Kuryliszyn-Kudelska**, B. Hadžić, D. Sibera, M. Romčević, N. Romčević, U. Narkiewicz, W. Dobrowolski, Journal of Alloys and Compounds 509, 3756-3759 (2011).
- ”Magnetic properties of nanocrystalline ZnO doped with MnO and CoO”, **I. Kuryliszyn-Kudelska**, W. D. Dobrowolski, Ł. Kilański, B. Hadžić, N. Romčević, D. Sibera, U. Narkiewicz, P. Dziawa, Journal of Physics: Conference Series 200, 072058 – 072058-4 (2010).
- „Influence of laser-induced heating on MnO nanoparticles”, B. Hadžić, B. Vasić, B. Matović, **I. Kuryliszyn-Kudelska**, W. Dobrowolski, M. Romčević, N. Romčević, Journal of Raman Spectroscopy 49, 817-821 (2018).
- „Raman study of surface optical phonons in hydrothermally obtained ZnO(Mn) nanoparticles”, B. Hadžić, N. Romčević, M. Romčević, **I. Kuryliszyn-Kudelska**, W. Dobrowolski, U. Narkiewicz, D. Sibera, Optical Materials 58, 317-322 (2016).
- „Laser power influence on Raman spectra of ZnO(Co) nanoparticles”, B. Hadžić, N. Romčević, D. Sibera, U. Narkiewicz, **I. Kuryliszyn-Kudelska**, W. Dobrowolski, M. Romčević, Journal of Physics and Chemistry of Solids 91, 80-85 (2016).

- „Influence of SOP modes on Raman spectra of ZnO(Fe) nanoparticles", B. Hadžić, N. Romčević, M. Romčević, **I. Kuryliszyn-Kudelska**, W. Dobrowolski, U. Narkiewicz, D. Sibera, Optical Materials 42, 118-123 (2015).
- „Raman study of surface optical phonons in ZnO(Mn) nanoparticles", B. Hadžić, N. Romčević, M. Romčević, **I. Kuryliszyn-Kudelska**, W. Dobrowolski, R. Wrobel, U. Narkiewicz, D. Sibera, Journal of Alloys and Compounds 585, 214-219 (2014).
- „Raman study of surface optical phonons in ZnO(Co) nanoparticles prepared by calcinations method", B. Hadžić, N. Romčević, M. Romčević**, I. Kuryliszyn-Kudelska,** W. Dobrowolski, M. Gilić, M. P. Damjanović, J. Trajić, U. Narkiewicz, D. Sibera, Journal of Optoelectronics and Advanced Materials 16, 508-512 (2014).
- „Raman study of surface optical phonons in ZnO(Co) nanoparticles prepared by hydrothermal method", B. Hadžić, N. Romčević, M. Romčević, I. **Kuryliszyn-Kudelska**, W. Dobrowolski, U. Narkiewicz, D. Sibera, Hemijska Industrija 67, 695-701 (2013).
- „The cation inversion and magnetization in nanopowder zinc ferrite obtained by soft mechanochemical processing", A. Miltunović, Z. Lazarević, C. Jovalekić, **I. Kuryliszyn-Kudelska**, M. Romčević, S. Kostić, N. Romčević, Materials Research Bulletin 48, 4759-4768 (2013).
- „Surface optical phonons in ZnO(Co) nanoparticles: Raman study", B. Hadžić, N. Romčević, M. Romčević, **I. Kuryliszyn-Kudelska**, W. Dobrowolski, J. Trajić, D. Timotijević, U. Narkiewicz, D. Sibera, Journal of Alloys and Coumpounds 540, 49-56 (2012).
- „Enhanced coercivity of as-prepared and chemically modified multiwalled carbon nanotubes", **I. Kuryliszyn-Kudelska**, A. Małolepszy, M. Mazurkiewicz, L. Stobiński, K. Kurzydłowski, W. Dobrowolski, Physica Status Solidi A – Applications and Materials Science 208, 1787-1790 (2011).
- „Magnetic Properties of "as-prepared" and chemically modified multiwalled carbon nanotubes", **I. Kuryliszyn-Kudelska**, A. Małolepszy, M. Mazurkiewicz, L. Stobiński, W. Dobrowolski, Acta Physica Polonica A 119, 597-599 (2011).
- „Raman scattering from ZnO incorporating Fe nanoparticles: vibrational modes and low-frequency acoustic modes", N. Romčević, R. Kostić, B. Hadžić, M. Romčević, **I. Kuryliszyn-Kudelska**, W. D. Dobrowolski, U. Narkiewicz, D. Sibera, Journal of Alloys and Compounds 507, 386-390 (2010).
- „Low-frequency Raman scattering from ZnO(Fe) nanoparticles", R. Kostić, N. Romčević, M. Romčević, B. Hadžić, R. Rudolf, **I. Kuryliszyn-Kudelska**, W. Dobrowolski, U. Narkiewicz, D. Sibera, Acta Physica Polonica A 116, 65-67 (2009).
- „Synthesis by wet chemical method and characterization of nanocrystalline ZnO doped with Fe_2O_3", U. Narkiewicz, D. Sibera, **I. Kuryliszyn-Kudelska**, Ł. Kilański, W. Dobrowolski, N. Romčević, Acta Physica Polonica A 113, 1695-1700 (2008).
- „Magnetoresistance near the ferromagnetic-paramagnetic phase transition in magnetic semiconductors", B. Brodowska, **I. Kuryliszyn-Kudelska**, T. Wojtowicz, M. Arciszewska, W. Dobrowolski, E. I. Slynko, V. E. Slynko, X. Liu, J. K. Furdyna, Applied Physics Letters 93, 042113 – 042113-3(2008).
- „Raman Scattering from ZnO(Fe) Nanoparticles", N. Romčević, R. Kostić, M. Romčević, B. Hadžić, **I. Kuryliszyn-Kudelska**, W. Dobrowolski, U. Narkiewicz, D. Sibera, Acta Physica Polonica A 114, 1323-1328 (2008).
- „Transport and magnetic properties of $Ge_{1-x-y}Mn_x(Eu,Yb)_yTe$ semimagnetic semiconductors", B. Brodowska, **I. Kuryliszyn-Kudelska**, M. Arciszewska, K.

Dybko, V. Domukhovski, W. Dobrowolski, V. E. Slynko, E. I. Slynko, V. K. Dugaev, Materials Science-Poland 26, 927-932 (2008).

- „Magnetic properties of Fe doped SiC crystals", **I. Kuryliszyn-Kudelska**, R. Diduszko, E. Tymicki, W. Dobrowolski, and K. Grasza, Physica Status Solidi (b) 244, 1743-1746 (2007).
- „Magnetic properties of $Ge_{1-x-y}Mn_xEu_yTe$ mixed crystals", W. Dobrowolski, B. Brodowska, M. Arciszewska, **I. Kuryliszyn-Kudelska**, V. Domukhovski, M. Wójcik, V. E. Slynko, E. I. Slynko, and V. K. Dugaev, AIP Conference Proceedings 893, 1231-1232 (2007).
- „Curie temperature control by band parameters tuning in PbMnSnEuTe" **I. Kuryliszyn-Kudelska**, W. Dobrowolski, M. Arciszewska, V. Domukhovski, V. K. Dugaev, V. E. Slynko, E. I. Slynko, I. M. Fita, Semiconductor Science and Technology 21, 1083-1086 (2006).
- „IV-VI ferromagnetic semiconductors recent studies", W. Dobrowolski, M. Arciszewska, B. Brodowska, V. Domukhovski, V. K. Dugaev, A. Grzęda, **I. Kuryliszyn-Kudelska**, M. Wójcik, E. I. Slynko, Science of Sintering 38, 109-116 (2006).
- „The effect of Mn interstitials on the lattice parameter of $Ga_{1-x}Mn_xAs$", **I. Kuryliszyn-Kudelska**, J. Z. Domagala, T. Wojtowicz, X. Liu, E. Łusakowska, W. Dobrowolski, J. K. Furdyna, Journal of Applied Physics 95, 603-608 (2004).
- „Effect of annealing on magnetic and magnetotransport properties of $Ga_{1-x}Mn_xAs$ epilayers", **I. Kuryliszyn-Kudelska**, T. Wojtowicz, X. Liu, J. K. Furdyna, W. Dobrowolski, J. Z. Domagala, E. Łusakowska, M. Goiran, E. Haanappel, O. Portugall, Journal of Magnetism and Magnetic Materials 272, e1575-e1577 (2004).
- Ferromagnetic III-Mn-V semiconductors: manipulation of magnetic properties by annealing, extrinsic doping, and multilayer design", J. K. Furdyna, X. Liu, W. L. Lim, Y. Sasaki, T. Wojtowicz, **I. Kuryliszyn**, S. Lee, K. M. Yu, and W. Walukiewicz, Journal of the Korean Physical Society 42, S579-S590, (2003).
- „Low temperature annealing studies of $Ga_{1-x}Mn_xAs$", **I. Kuryliszyn**, T. Wojtowicz, X. Liu, J. K. Furdyna, W. Dobrowolski. J. M. Broto, M. Goiran, O. Portugall, H. Rakoto, H. Raquet, Journal of Superconductivity and Novel Magnetism 16, 63-66 (2003).
- „Anomalous Hall effect in $Sn_{1-x-y}Mn_xEu_yTe$ and $Sn_{1-x-y}Mn_xEr_yTe$ mixed crystals", K. Racka, **I. Kuryliszyn**, M. Arciszewska, W. Dobrowolski, J. M. Broto, O. Portugall, H. Rakoto, H. Raquet, V. K. Dugaev, E. I. Slynko, V. E. Slynko, Journal of Superconductivity and Novel Magnetism 16, 289-291 (2003).
- „Effect of the location of Mn sites in ferromagnetic $Ga_{1-x}Mn_xAs$ on its Curie temperature", K. M. Yu, W. Walukiewicz, T. Wojtowicz, **I. Kuryliszyn**, X. Liu, Y. Sasaki, J. K. Furdyna, Physical Review B 65, 201303 – 201303-4 (2002).
- „Magnetooptical study of s,p-d exchange interaction in zinc blende $Mg_{1-x}Mn_xTe$", **I. Kuryliszyn**, A. Stachow-Wójcik, A. Twardowski, E. Janik, E. Dynowska, J. Bąk-Misiuk, Solid State Communications 122, 213-216 (2002).

Awards and honors:

Director of the Institute of Physics PAS Award for the best habilitation in 2019