

CV Janusz Sadowski

Born: 0.7.10.1962, Hrubieszów, Poland.

Citizenship: double - Polish and Swedish

Home address: Klangvägen 27, 224 72 Lund, Sweden

Phone: +46 709 384 054

ORCID: 0000-0002-9495-2648

Current employment:

(1) Linnaeus University, Kalmar, Sweden – Professor (25%)

(2) Institute of Physics, Polish Academy of Sciences Warszawa, Poland – **Professor (25%)**

Professor appointments:

09. 2015 – Prof. (25%) at the Group of Physics and Technology of Epitaxial Layers, Institute of Physics, Polish Academy of Sciences, Warsaw, Poland

01.01.2019 – Prof. (25%) at Department of Physics and Electrical Engineering, Linnaeus University, Kalmar, Sweden

Habilitation degree:

2011 – *Physics*, Institute of Physics, Polish Academy of Sciences, Warsaw, Poland.

Post-Doc positions:

1998 – 2001 – **MAX-Lab, Lund University** – startup and development of the research activity focused on (Ga,Mn)As diluted ferromagnetic semiconductor thin films and heterostructures grown by molecular beam epitaxy (MBE) 1-st in Sweden, 2-nd in Europe.

1996 - **CEA-CNRS, Grenoble, France**, Group of Physics of II-VI semiconductor microstructures, investigations of MBE grown excitonic CdZnTe/CdMnTe multi-quantum well excitonic Bragg mirrors

Education:

1996 - **Ph.D** Condensed Matter Physics, PhD thesis, *Crystallization of thin layers of PbTe, ZnTe and CdTe by Molecular Beam Epitaxy*”, PhD supervisor – Prof. M. A. Herman
Institute of Physics, Polish Academy of Sciences, Warsaw Poland

1986 - **Msc.** Master thesis: *“Investigations of cesium dimers by laser spectroscopy”*
Institute of Physics, Polish Academy of Sciences, Warsaw, Poland

1981 – 1986 studies at the Faculty of Technical Physics and Applied Mathematics,
Warsaw University of Technology, Poland. Msc, Eng.

Previous appointments:

04/2008-10/2018 **Research Scientist**, MAX-Lab, (MAX IV) Lund University, Sweden

04/2006-03/2008 **Visiting Researcher**, Institute of Semiconductor Physics, Montpellier University, France

03/2005-03/2006 **Visiting Researcher**, Institute of Applied Physics, Regensburg University, Germany

01/2004-02/2005 **Assoc.Prof.** Institute of Physics, Polish Academy of Sciences, Warsaw

10/2003-12/2003 **Visiting Researcher**, MAX-Lab, Lund University, Sweden

10/2002-09/2003 **Assoc. Prof.** Niels Bohr Institute, University of Copenhagen

10/2001-09/2002 **Research Scientist**, Niels Bohr Institute, University of Copenhagen

11/1998-09/2001 **Post-Doc**, MAX-Lab, Lund University, Sweden

10/1996-10/1998 **Research Scientist**, Inst of Physics, Polish Academy of Sciences, Warsaw

03/1996-09/1996 **Post-Doc**, CEA-CNRS, Grenoble, France, laboratory of II-VI semiconductor microstructures

11/1986-03/1996 **Assistant Research Scientist**, Inst. of Physics, Polish Academy of Sciences,

Current professional activities:

(1) at Linnaeus University, Kalmar-Vaxjö / Sweden

Principal Investigator of the research project: *Experimental and computational studies of magnetic topological materials and heterostructures*).

Project financed by **Swedish Research Council (Vetenskapsrådet)**, project budget - 360 k EUR

Time scope: January 2018 – December 2021

(2) at the Inst. of Physics Polish Academy of Sciences, Warszawa / Poland

Principal Investigator of the research project, *Spintronic nanostructures fabricated from III-Mn-V semiconductors and IV-VI topological crystalline insulators*.

Project financed by **National Science Centre, Poland (NCN)**, project budget - 230 k EUR

time scope: February 2015 – February 2019.

Research areas:

(1) since 1998 – Mn-doped III-V semiconductor (Ga,Mn)As 2D (layers) and 1D (nanowires) structures. MBE growth, coordination of research projects, contribution to 19 PhD theses (co-supervisor of 2 PhD students, main supervisor of 1 PhD student).

(2) since 2016 – MBE growth of 2D transition metal chalcogenides (MoTe₂, MoSe₂)

(3) since 2006 – MBE growth of semiconductor nanowires fabricated from different materials: II-VI (ZnTe), IV-VI (PbTe), III-V (Ga,Mn)As. The author of the first publications devoted to NWs made from these three material systems.

(4) 1992 – 1996 MBE growth of IV-VI and (II,Mn)-VI semiconductor structures, investigations of magneto-optical properties of (II,Mn)-VI microcavities and excitonic Bragg mirrors

(5) 1987-1992 – participation in the construction of the MBE system (first in Poland), dedicated to IV-VI narrow gap semiconductors (PbTe, SnTe). The system is still in use at IP PAS, Warsaw, for the growth of Crystalline Topological Insulators.

Research achievements & awards

1996 - French government scholarship (6 months), work in the group of II-VI semiconductor microstructures CEA-CNRS, Grenoble, France.

1998 - Start of the research activity dedicated to investigations of (Ga,Mn)As diluted magnetic semiconductor. This activity resulted in 18 PhD theses based entirely or partially on GaMnAs structures designed & crystallized by JS @ MAX-Lab, Lund University.

2001-2003 - visiting researcher @ Nils Bohr Institute, Copenhagen University, Denmark; with Prof. Poul Erik Lindelof. Contribution to 3 PhD theses, co-supervisor of 1 PhD student; co-author of the patent application which resulted in formation of a spin-off company.

2005-2006 - visiting researcher at the Institute of Applied and Experimental Physics, Regensburg University, Germany; with Prof. Werner Wegscheider. Development of GaMnAs-based spintronic nanostructures. Contribution to DFG (German Research Foundation) grant "Spinphenomena in reduced dimensions".

2006-2008 – award of the research grant "Magnetic Semiconductor Nanowires", from EADS consortium, France. Project realized at *Groupe d'Etude des Semiconducteurs, Université de Montpellier 2*, France with Prof. S. Charar and Dr. F. Terki. Co-supervisor of 1 PhD student.

2008 - 2013 - participant in the European Research Council (ERC) financed senior research grant *Functionalisation of diluted magnetic semiconductors (FunDMS)*, coordinated by Prof. T. Dietl, IP PAS, Warsaw, Poland.

2014 – Award of the director of Institute of Physics, Polish Academy of Sciences, Warsaw, Poland;
For the best scientific publication for the year 2014.

PhD supervision

Co-supervisor, Electrical Engineering, **Dr Zhangcheng Xu**, Technical University of Denmark Lyngby, Denmark (2004).

Main supervisor, Physics, **Aloyzas Siusys**, Institute of Physics, Polish Academy of Sciences, Warsaw, Poland (2016).

Referee activity

Scientific journals: *Physical Review Letters, Physical Review B, Nano Letters, Applied Physics Letters, Journal of Applied Physics, Journal of Magnetism and Magnetic Materials, New Journal of Physics, Journal of Physics and Chemistry of Solids, Scientific Reports, Journal of Crystal Growth*

Research projects: external reviewer: *Agence Nationale de Recherche, France (2010), European Research Centre (ERC) (2016), Polish National Science Centre (2016), King Abdullah University, Saudi Arabia (2016), Academy of Finland (2017).*

PhD theses: *Emission, kinetic and magnetic phenomena in rare-earth and transition metal doped ZnSe single crystals*, by Ivan Radevici, University of Turku, Finland, (2015).

Bibliometric data (after Clarivate Analytics):

Total number of publications (03. 2019): 215

Number of citations: 2071

H-index: 25

Patents:

Method of fabrication and device comprising elongated nanosize elements,

Jonas Hauptmann, Ane Jensen, Poul Lindelof, Gregers Erik, Jesper Nygaard, Janusz Sadowski, US Patent App. 10/571,520, **2004.**

Times Cited: 11

Foreign languages:

Fluent: Polish (mother tongue), French, English, Swedish, Russian.

Good: German

Basic: Italian, Spanish

J. Sadowski