

Contacts

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Workplace: University of Pardubice, Faculty of Chemical Technology

Department of General and Inorganic Chemistry and Center for Materials and Nanotechnologies.

Private address: Pernštýnské nám. 68, 53002 Pardubice, ČR

Work experience:

1982- Faculty Chemical Technology, Pardubice, Czech Republic;

Specialization - Very pure and metallic materials.

1983-1984 - research assistant, Joint Laboratory of the Solid State Chemistry and Technology, Institute of Physics CSAS and Institute of Chemical Technology, Pardubice.

1985-1990 - research assoc., Dept. of Gen. and Inorg. Chemistry, Institute of Chemical Technology, Pardubice.

1990-1992 - assist., Dept. of Gen. and Inorg. Chemistry, Institute of Chemical Technology, Pardubice.

1992-2000 - assist. prof., Institute of Chemical Technology, Pardubice

(currently University of Pardubice).

2000-2004 - research position, Research Centre LN0A028 „New and Perspective Inorganic Materials“.

2005- assoc. director, Research centre LC 523 “Perspective Inorganic Materials”.

2005-full professor, Dept. General and Inorg. Chemistry, Center for Materials and Nanotechnologies (since 2014) Fac. Chem.-Technology, University of Pardubice

2009- 2011, director of the University Institute, Centre for Materials Research.

2012-2014 - Coordinator and head of international research team in frame of EU project “ReAdMat”.

Education:

1982, MSc (ing.). - Faculty of Chemical Technology, Pardubice, Czech Republic,

Specialization - Very pure and metallic materials.

Academic and scientific titles:

CSc. (Ph.D.) - 1990

Doc. (associate professor) - 2000

Prof. (full professor) - 2005

DSc. (doctor of sciences) - 2016

Research leaves abroad and awards:

1987: Central Laboratory of Photoprocesses, Bulgarian Academy of Sciences, Sophie, Bulgaria.

1990 : St.Peterburg's Technical University, St.Petersburg, Russia.

1992-1993 (1 year): Royal Society Fellowship, London, Department of Electrical Engineering, University of Edinburgh, Scotland.

1995-1996 (2 years): NSERC Canada-NATO Research Fellowship, Department of Electrical Engineering, University of Saskatchewan, Saskatoon, Canada.

1995 University of Cadiz, Department of Material Physics, Spain.

1997-2017: (every second year), Department of Electrical Engineering, University of Saskatchewan, Saskatoon, Canada.

2002-2003 (1 month) Institute of Optical Technologies, IPHT Jena, Germany

2003 East China University Science and Technology, Shanghai, China.

2005 FORTH/ICE-HT Patras, Greece.
2009 NIMS Tsukuba, TTI Nagoya, Hokkaido University Sapporo, all Japan.
2011 POSTECH- Pohang, Korea.
2012 University of Cambridge, UK; Institute of High Purity Compounds, Nižnyj Novgorod, Russia.
2014, 2015 University of Ohio Athens, USA.
2015 St. Peterburg State University, Petersburg, Russia.
2015 NIMS Tsukuba, Japan.

Organisational skills and competences:

1998– Member of academic senate of the University of Pardubice.
1998–2005, member of academic senate of the Fac. Chem. Tech., University of Pardubice.
2000–2002, secretary, Dept. Gen. and Inorg. Chem., Fac. Chem. Tech., University of Pardubice.
2002–2004, secretary, Research centre of the University of Pardubice, LN00A028.
2003– present, secretary, thematic group „Inorganic chemistry”, Czech Chemical Society.
2005– present- vice-head of the Research Centre LC523, „Perspective Inorganic Materials“.
2008–2011 (end March) vice-dean of the Faculty of Chemical Technology, University of Pardubice.
2009–2014, director of Centre for Material Science (CEMNAT), University of Pardubice.

Organization of scientific conferences:

1989 - Member of organization committee of the conference "Solid State Chemistry", Karlovy Vary, CR.
2002 - Member of organization committee of the conference „13th Int. Symp. on Non-Oxide Glasses and New Optical Materials“ (ISNOG), Pardubice 2002, CR.
2006, 2012, 2018 - Chairman of the conference Int. Conf. on Solid State Chemistry (SSC), Pardubice
2008 - Chairman of the conference European Symposium on Phase-change and Ovonic Science (EPCOS2008), Prague, CR.
2010 - chairman of 62nd conference of Czech and Slovak Chemical Societies, Pardubice, CR.
2006, 2007, 2008, 2010, ...2020 member of Int. programme committee of ICOOPMA2006, Darwin, Australia, 2007, London, UK, 2008, Edmonton, Canada and 2010 Budapest, Hungary, 2020 Pardubice, CR.
2006, 2008, 2010, 2012, ...2020 - Member of Int. programme committee of ISNOG 2006, Bangalore, India and ISNOG2008, Montpellier, France, ISNOG 2010 Nimbo, China, ISNOG2012 St. Malo, France, ISNOG2018, Niznyj Novgorod, Russia.
2008 Member of Int. programme committee Int. Conf. Amorph. Noncryst.Sol. (ICANS23)- Utrecht.
2008, 2009, 2010, 2011 - Member of Int. programme committee EPCOS, 2008-Prague, 2009-Aachen, 2010 Milano, 2011 - Laussagne.

Technical skills and competences:

Materials engineering; Solid state chemistry, semiconducting materials; Preparation and properties of amorphous and glassy chalcogenides, photostructural effects; Physical and chemical methods of thin films preparations; Thermal analysis (MDSC, photocalorimetry); X-ray Fluorescence Analysis (XRF); Spectral ellipsometry VASE; Applications microoptics, phase/change and new type of memories;

Publication activity:

A total of more than 500 titles including primary reports (5) and 7 chapters in books, international refereed journal papers (230), invited lectures (40), refereed proceedings of int.symposia and conferences (20); conference presentations (more than 300) invited editor (3) and coeditor (4), e.g. special issue of J. Non-Cryst. Sol., J. Phys. Chem. Solids, Pure and Applied Chemistry.
Web of Science (January, 2020); h-index: 29; number of publications in int. journals till 2020: more than 230, number of citations: 2762.

Principal investigator or investigator in many international and national projects:

National (examples):

1999-2001 - Grant GACR 203/99/0420
2002-2004 - Grant GACR 203/02/0087
2006-2009 - Grant GACR 203/06/1368
2019-2021 - Grant GACR 19-17997S

International:

1995–1997 - Grant EC COPERNICUS (ERBCIPA CT940107), other partners UK, Bulgaria, Canada
2001–2002 - Grant CZE-00-012, Germany
2001–2003 - Grant MEYS, KONTAKT-ME471, USA
2003–2004 - Grant MEYS, KONTAKT ME633, China
2003–2005 - Grant MEYS, KONTAKT ME690, Greece
2005–2007 – Grant MEYS, KONTAKT ME 807, China
2006–2007 - Grant MEYS, KONTAKT ME 807, Greece
2005–2008 – Grant 6th Framework Programme EC, “CAMELS”, partners Italy, Germany, Lichtenstein, Czech Republic, which also involved two business companies: Numonyx and Umicore, with a task to demonstrate functional device (phase-change memory element).
2005–2011 - NSF's International Materials Institute project, USA.
2011–2013 - Grant MEYS, KONTAKT II LH1101 with Pohang University, Korea.
2012–2014 - Grant MEYS, Operational Funds EU, “ReAdMat”.
2017–2019 - TACR, GAMA, Non-volatile memory based on resistive switching in thin films of chalcogenides
2009–2018 - projects on Popularization Science and Chemistry (“Evenings with chemistry and science”, Faculty of Chemical Technology, Univ. Pardubice).

Recent papers (2019-2020)

LU, X. - ZHANG, R. - ZHANG, Y. - ZHANG, S. - REN, J. - STŘIŽÍK, L. - WÁGNER, T. - FARRELL, G. - WANG, P. Crystal-field engineering of ultrabroadband mid-infrared emission in Co²⁺-doped nano-chalcogenide glass composites *Journal of the European Ceramic Society*, 2020, vol. 40, no. 1, s. 103-107. ISSN: 0955-2219.

SOPHA, H. - ZDENEK, S. - JAN, M. - HROMÁDKO, L. - BULÁNEK, R. - WÁGNER, T. - MACÁK, J. Bismuth Oxychloride Nanoplatelets by Breakdown Anodization Bismuth Oxychloride Nanoplatelets by Breakdown Anodization *ChemElectroChem*, 2019, vol. 6, no. 2, s. 336-341. ISSN: 2196-0216.

ZHANG, B. - ZIMA, V. - KUTÁLEK, P. - MIKYSEK, T. - WÁGNER, T. The mechanism of filament formation in Ag doped Ge–Se resistive switching cell *Journal of Materials Science: Materials in Electronics*, 2019, vol. 30, no. 3, s. 2459-2463. ISSN: 0957-4522.

LU, X. - LAI, Z. - ZHANG, R. - GUO, H. - REN, J. - STŘIŽÍK, L. - WÁGNER, T. - FARRELL, G. - WANG, P. Ultrabroadband mid-infrared emission from Cr²⁺-doped infrared transparent chalcogenide glass ceramics embedded with thermally grown ZnS nanorods *Journal of the European Ceramic Society*, 2019, vol. 39, no. 11, s. 3373-3379. ISSN: 0955-2219.

PATIL, D. - KONALE, M. - WÁGNER, T. Impedance spectroscopy data of Ag-x(Ge₁₆Sb₁₂Se₇₂)(100-x) chalcogenide glasses *Data in Brief*, 2019, vol. 22, no. neveden, s. 1052-1056. ISSN: 2352-3409.

PROKOP, V. - STŘIŽÍK, L. - OSWALD, J. - VLČEK, M. - BENEŠ, L. - YANNOPOULOS, S. - FRUMAROVÁ, B. - WÁGNER, T. 1.5 μm photoluminescence and upconversion photoluminescence in GeGaAsS:Er chalcogenide glass *Pure and Applied Chemistry*, 2019, vol. 91, no. 11, s. 1757-1767. ISSN: 0033-4545.

PATIL, D. - KONALE, M. - COZIC, S. - CALVEZ, L. - ZIMA, V. - WÁGNER, T. - MCCLOY, J. - LE COQ, D. Percolation behavior of Ag in Ge₁₆Sb₁₂Se₇₂ glassy matrix and its impact on corresponding ionic conductivity *Journal of Alloys and Compounds*, 2019, vol. 782, no. neuveden, s. 375-383. ISSN: 0925-8388.

LU, X. - LAI, Z. - REN, J. - STŘIŽÍK, L. - WÁGNER, T. - DU, Y. - FARRELL, G. - WANG, P. Distribution of Tm³⁺ and Ni²⁺ in chalcogenide glass ceramics containing Ga₂S₃ nanocrystals: Influence on photoluminescence properties *Journal of the European Ceramic Society*, 2019, vol. 39, no. 7, s. 2580-2584. ISSN: 0955-2219.

STŘIŽÍK, L. - YANNOPOULOS, S. - BENEKOU, V. - OSWALD, J. - PAVLIŠTA, M. - PROKOP, V. - WÁGNER, T. - ORAVA, J. Photoluminescence in pulsed-laser deposited GeGaSbS:Er films *Optical Materials*, 2018, vol. 85, no. November, s. 246-253. ISSN: 0925-3467.

FRAENKL, M. - FRUMAROVÁ, B. - PODZEMNÁ, V. - ŠLANG, S. - BENEŠ, L. - VLČEK, M. - WÁGNER, T. How silver influences the structure and physical properties of chalcogenide glass (GeS₂)₅₀(Sb₂S₃)₅₀ *Journal of Non-Crystalline Solids*, 2018, vol. 499, no. November, s. 412-419. ISSN: 0022-3093.

GAO, Z. - GUO, S. - LU, X. - ORAVA, J. - WÁGNER, T. - ZHENG, L. - LIU, Y. - SUN, S. - HE, F. - YANG, P. - REN, J. - YANG, J. Controlling Selective Doping and Energy Transfer between Transition Metal and Rare Earth Ions in Nanostructured Glassy Solids *Advanced optical materials*, 2018, vol. 6, no. 13, s. "1701407-1"- "1701407-9". ISSN: 2195-1071.

HIMICS, D. - STŘIŽÍK, L. - OSWALD, J. - HOLUBOVÁ, J. - BENEŠ, L. - ŠLANG, S. - FRUMAROVÁ, B. - WÁGNER, T. 1.2 μm and 1.5 μm near-infrared photoluminescence and visible upconversion photoluminescence in GeGaS:Er³⁺/Ho³⁺ glasses under 980 nm excitation *Journal of Materials Science: Materials in Electronics*, 2018, vol. 29, no. 20, s. 17314-17322. ISSN: 0957-4522.

KLEE, B. - STELLHORN, J. - KRBAL, M. - BOUDET, N. - CHAHINE, G. - BLANC, N. - PILGRIM, W. - WÁGNER, T. - HOSOKAWA, S. DISTINGUISHING THE LOCAL ENVIRONMENTS OF Ga AND Ge IN AMORPHOUS (Ga₂Se₃)_{0.25}(GeSe₂)_{0.75} BY ANOMALOUS X-RAY SCATTERING *Chalcogenide Letters*, 2018, vol. 15, no. 1, s. 1-6. ISSN: 1584-8663.