



Poznań, 15th May 2020

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Present Position

Associated Professor in Poznan University of Technology, Faculty of Materials Science and Technical Physics, Institute of Materials Research and Quantum Engineering, Head of Division of Optical Spectroscopy, Member of Scientific Board FMSTP PUT Poznań, Poland.

Institutional address

Poznan University of Technology, Piotrowo 3, 60-965 Poznań, Poland.

Education:

15.07.1986

Master's degree/MSc: Faculty of Physics, Adam Mickiewicz University, Poznań, Poland/speciality: physics.

07.01.2000

Doctor's degree/PhD: Faculty of Physics, Adam Mickiewicz University, Poznań, Poland/speciality: physics.

28.09.2012

Habilitation: Faculty of Physics, Poznan University of Technology, Poznań, Poland /speciality: physics - solid state spectroscopy.

Main research field:

The scientific activity is focused on characterization of the rare earth doped materials using optical spectroscopy methods such as absorption, emission, μ -Raman and Brillouin spectroscopy/the efforts have been specifically focused on systems with the down- or up-converted luminescence and/or nonlinear optical NLO effects such as SHG and THG and their applications in new generation optical devices.

Publications:

Co-author of over 50 articles published in peer-reviewed journals and over 70 presentation at International Conferences. Participation in 3 research projects of the Polish Ministry of Sciences and Higher Education and 7 educational UE-funded projects.

Other scientific activity:

Reviewer of a range of specialist scientific journals from the *ISI Master Journal List* such as: MDPI (Molecules, Nanomaterials), Elsevier (Opto-Electronics Review, Optical Materials, Journal of Luminescence, Optics and Laser Technology, Coordination Chemistry Reviews, Journal of Materials Research and Technology, Journal of Alloys and Compounds, Journal of Molecular Structure, Journal of Crystal Growth, InfraredPhysics&Technology, Vibrational Spectroscopy, Chemical Physics Letters, Spectrochimica Acta Part A, Thermochemica Acta, Journal of Physics and Chemistry of Solids), ACS (Crystal Growth&Design, Chemistry of Materials, Applied Materials & Interfaces), RSC (Chemical Communications, New Journal of Chemistry, CrystEngComm, Journal of Materials Chemistry C, Dalton Transaction, Advances, Nanoscale Advances), Springer (Applied Physics A, Central European Journal of Physics, Material Sciences-Poland, Optical and Quantum Electronics) Wiley VCH (Crystal Research and Technology), LTD (Solid State Phenomena), SPIE (Optical Engineering), CCS (Chinese Journal of Chemical Physics) and OSA (Optic Express) (over 200 reviews).

Scientific visits:

1997, 2000 and 2001	Laboratory of Nonlinear and Ultrafast Optics, Institute of Physics, Czech Academy of Science, Prague, Czech Republic.
2003	Institut für Kristallographie, Universität zu Köln, Germany.
2008, 2011, 2012, 2013, 2014 and 2018	Molecular Interaction Nonlinear Optics and Structuring MINOS team at the MOLTECH Anjou, UMRCNRS - 6200, University of Angers, France.
2015, 2016 and 2017	Consiglio Nazionale delle Ricerche Istituto di Fotonica e Nanotecnologie – Unita di Trento, IFN-CNR Trento Section, CSMFO Laboratory, Trento, Italy.

Teaching experience:

since 1987	Teaching in Physics students of Faculty of Materials Science and Technical Physics and other Faculties at Poznan University of Technology (lectures in Polish and English, seminars, exercisers, laboratories). Teaching in Physics students involved in the ERASMUS Programme at Poznan University of Technology. Tutor on Master and PhD students of Faculty of Technical Physics at Poznan University of Technology in the fields of materials characterization with the used of optical spectroscopy methods and NLO investigations. Supervisor/Promotor of Master and PhD thesis. Lectures for PhD students in international schools: <i>IUVSTA Nano-Optics International School</i> , Braga, Portugal (2016, 2019) and <i>International SAOT Workshop on Lasers</i> , Erlangen, Germany (2018); lectures for students according to the ERASMUS+ Programme in NOVA University Lisbon, Lisbon, Portugal (2019).
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Most important prestigious

Polish awards for research:

2006, 2007, 2008, 2010, 2011, 2012, 2013, 2014, 2016 and 2017	Poznan University of Technology Rector's Awards for scientific achievements.
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Professional associations:

since 1986	Polish Physical Society
since 1996	Polish Society of Crystal Growth
since 2013	Member of the Executive Board of Polish Society of Crystal Growth

2016–2019 **President of Polish Society of Crystal Growth**

h index: 11, total citations: 363 /Web of Knowledge

Keywords: rare earth ions, luminescence, NLO, SHG, Raman spectroscopy, optical spectroscopy, up-conversion, borate crystals, laser crystals, luminescence crystals

List of 10 relevant peer-reviewed publications:

1. D. Kasprowicz, T. Zhezhera, A. Lapinski, M. Chrunik, A. Majchrowski, A.V. Kityk, Ya. Shchur *Lattice dynamics of novel Bi₃TeBO₉ microcrystals: μ -Raman/IR spectroscopic investigation and ab initio analysis*, *J. Alloys Comp.*, 782 (2019) 488 – 495, IF = 4.175.
2. K. Jaroszewski, T. Zhezhera, P. Gluchowski, L. Marciniak, M. Chrunik, A. Majchrowski, D. Kasprowicz, *Enhanced 1.5 μ m emission of Er³⁺-doped multifunctional Bi₂ZnOB₂O₆ microcrystals*, *Dalton Trans.*, 48 (2019) 6283 – 6290, IF = 4.052.
3. K. Jaroszewski, P. Gluchowski, M. Chrunik, R. Jastrzab, A. Majchrowski, D. Kasprowicz, *Near infrared luminescence of Bi₂ZnOB₂O₆:Nd³⁺/PMMA composite*, *Opt. Mater.*, 75 (2018) 13 – 18, IF: 2.320.
4. K. Jaroszewski, P. Gluchowski, M.G. Brik, T. Pedzinski, A. Majchrowski, M. Chrunik, E. Michalski, D. Kasprowicz, *Bi-functional Bi₂ZnOB₂O₆:Nd³⁺ single crystal for NIR lasers: luminescence and μ -Raman investigations*, *Cryst. Growth Des.*, 17 (2017) 3656 – 3664, IF: 4.055.
5. D. Kasprowicz, P. Gluchowski, B. M. Maciejewska, M. Chrunik and A. Majchrowski *Up-conversion luminescence of rare earth-doped KGd(WO₄)₂ phosphors for tunable multicolour light generation*, *New J. Chem.*, 41 (2017) 9847– 9856, IF: 3.201.
6. D. Kasprowicz, P. Gluchowski, M.G. Brik, M.M. Makowski, M. Chrunik, A. Majchrowski *Visible and near-infrared up-conversion luminescence of KGd(WO₄)₂ micro-crystals doped with Er³⁺, Tm³⁺, Ho³⁺ and Yb³⁺ ions*, *J. Alloys Comp.*, 684 (2016) 271 – 281, IF: 2.390.
7. D. Kasprowicz, T. Runka, K. Jaroszewski, A. Majchrowski, E. Michalski, *Vibrational properties of nonlinear optical Bi₂ZnOB₂O₆ single crystals doped with Pr³⁺: μ -Raman investigations*, *J. Alloys Comp.*, 610 (2014) 600 – 605, IF: 2.390.
8. K. Iliopoulos, D. Kasprowicz, A. Majchrowski, E. Michalski, D. Gindre, B. Sahraoui, *Multifunctional Bi₂ZnOB₂O₆ single crystals for second and third order nonlinear optical applications*, *Appl. Phys. Letters.*, 103 (2013) 231103 (pp.4), IF: 3.794.
9. D. Kasprowicz, M. G. Brik, A. Majchrowski, E. Michalski, P. Gluchowski, *Spectroscopic properties of KGd(WO₄)₂ single crystals doped with Er³⁺, Ho³⁺, Tm³⁺ and Yb³⁺ ions: Luminescence and micro-Raman investigations*, *J. Alloys Comp.*, 577 (2013) 687 – 692, IF: 2.390.
10. D. Kasprowicz, M. G. Brik, A. Majchrowski, E. Michalski, P. Gluchowski, *Up-conversion emission in KGd(WO₄)₂ single crystals triply-doped with Er³⁺/Yb³⁺/Tm³⁺, Tb³⁺/Yb³⁺/Tm³⁺ and Pr³⁺/Yb³⁺/Tm³⁺ ions*, *Opt. Mat.*, 33 (2011) 1595 – 1601, IF: 2.209, IF: 1.728.

List of 10 relevant conference presentation:

1. 19th International Conference on Crystal Growth and Epitaxy (ICCGE-19), Keystone, Colorado, USA. 28.07 – 2.08.2019, D. Kasprowicz, *Bi-functional rare earth-doped borate crystals*.
2. SPIE Photonics Europe, Fiber Lasers and Glass Photonics: Materials through Applications, Strasbourg, France, 22 – 26 April 2018, D. Kasprowicz, K. Jaroszewski, P. Gluchowski, A. Majchrowski, M. Chrunik, E. Michalski,

- Bi-functional Bi₂ZnOB₂O₆ single crystals doped with Nd³⁺ or Pr³⁺: luminescence and μ-Raman investigations.*
3. [2nd Annual Conference and MC Meeting/COST Action MP1401](#),
Tel Aviv University, Israel, 1 – 2 March **2017**,
[D. Kasprowicz](#), P. Głuchowski, M. Chrunik, A. Majchrowski,
Up-conversion luminescence of rare earth doped photonic materials.
 4. [18th International Conference on Transparent Optical Networks \(ICTON 2016\)](#),
Trento, Italy, 10 – 14 July **2016**,
[D. Kasprowicz](#), P. Głuchowski, K. Jaroszewski, M. Chrunik, A. Majchrowski,
Up-conversion emission and μ-Raman investigations of KGd(WO₄)₂ crystalline powders doped with rare earth ions.
 5. [The 10th International Conference of Polish Society for Crystal Growth \(ICPSCG10\)](#),
Zakopane, 16 – 21 September **2016**,
K. Jaroszewski, J. Gapiński, M. Chrunik, A. Majchrowski, [D. Kasprowicz](#),
Structural and luminescence properties of the Bi₂ZnOB₂O₆:RE³⁺ (BZBO:RE³⁺) and their polymer composites.
 6. [17th International Conference on Luminescence and Optical Spectroscopy of Condensed Matter](#),
Wrocław, Poland, 13 – 18 July **2014**,
[D. Kasprowicz](#), B. Sahraoui, K. Iliopoulos, D. Gindre, T. Runka, K. Jaroszewski, A. Majchrowski, M. Chrunik, E. Michalski,
Bi-functional Bi₂ZnOB₂O₆ single crystals doped with Pr³⁺: opportunities for nonlinear optical applications and μ-Raman investigations.
 7. [The Third Poznan Symposium on Quantum Engineering Information, and Nonlinear Optics \(QEINO 2013\)](#),
Poznań, Poland 15 – 17 September **2013**,
[D. Kasprowicz](#), K. Iliopoulos, A. Majchrowski, B. Sahraoui
Opportunities for Bi₂ZnOB₂O₆ single crystals for nonlinear optical applications.
 8. [International Conference on Advanced Materials for Photonics, Sensing and Energy Conversion Energy Application \(AMPSECA 2012\)](#),
Chouaïb Doukkali University of El Jadida, Morocco, 5 – 7 December **2012**,
[D. Kasprowicz](#), A. Majchrowski, E. Michalski,
Up-conversion emission in KGd(WO₄)₂ crystals doped with Ho³⁺, Er³⁺, Tm³⁺ and Yb³⁺ ions.
 9. [Second French-Polish, Workshop on Organic Electronics and Nanophotonics](#),
Angers, France, 4 – 8 September **2011**,
[D. Kasprowicz](#), A. Majchrowski, E. Michalski,
Micro-Raman investigations of KGd(WO₄)₂ crystals triply-doped with Pr³⁺/Tm³⁺/Yb³⁺, Ho³⁺/Tm³⁺/Yb³⁺ and Er³⁺/Tm³⁺/Yb³⁺ ions and their NIR-VIS up-conversion luminescence.
 10. [17th International Conference on Dynamical Processes in Excited States of Solids DPC'10](#),
Argonne National Laboratory, Illinois, USA, 20 – 25 June **2010**,
[D. Kasprowicz](#), A. Majchrowski, E. Michalski, T. Runka,
Micro-Raman investigations of KGd(WO₄)₂ single crystals triply-doped with Tb³⁺/Tm³⁺/Yb³⁺, Ho³⁺/Tm³⁺/Yb³⁺ and Pr³⁺/Tm³⁺/Yb³⁺.