

Curriculum Vitae



Name: **Ing. Robert Král, Ph.D.**
Born: October 9, 1982, Prague, Czech Republic
Titles: Ph.D.
Email: kralr@fzu.cz
Webpage: www.fzu.cz/~kralr

Higher Education

2001-2007: Master course at the University of Chemistry and Technology Prague, master thesis “Preparation and growth of lead iodide (PbI₂) single crystals for X-ray detectors”

2007-2014: PhD course at the University of Chemistry and Technology Prague, PhD thesis “Study of crystal growth by directional crystallization method”, experimental work for the dissertation thesis was performed at the Department of Optical materials, at the Institute of Physics, Academy of Sciences of the Czech Republic.

Employment

10/2007-9/2008: Researcher, University of Chemistry and Technology Prague, Laboratory of X-ray Diffractometry, Prague, Czech Republic

9/2007-4/2014: Researcher-PhD student, Institute of Physics AS CR, Department of Optical Materials, Prague, Czech Republic

4/2014-5/2015: Scholarship of Japan Society for Promotion of Science (JSPS), Postdoctoral Fellowship for Foreign Researchers, No. P14040, Institute for Materials Research (IMR), Tohoku University, Sendai, Japan, 2014-2015, 1220000CZK.

6/2015-11/2019: Postdoctoral researcher, Institute of Physics Czech Academy of Sciences, Department of Optical Materials, Prague, Czech Republic

11/2019-recently: Scientific position, Institute of Physics Czech Academy of Sciences, Department of Optical Materials, Prague, Czech Republic

2012-recently: Committee member of Czechoslovak Association for Crystal Growth (CSACG) and member of Organizing committee of domestic conference “Development of Materials Science in Research and Education (DMSRE)”

Academic degrees

Master degree in Chemistry and technology of materials, University of Chemistry and Technology Prague, Czechia, 2007

Ph.D., Chemistry and technology of materials, University of Chemistry and Technology Prague, Czechia, 2014

Research and professorship stays

2009-2018: postdoc stays about 4 years long (in total) at the Prof. Yoshikawa’s laboratory, Institute of Multidisciplinary Research for Advanced Materials (IMRAM) and Institute for Materials Research (IMR), Tohoku University, Sendai, Japan, including a ca. 1 year JSPS postdoctoral scholarship.

2017-2018: stay at CERN, Geneva, Switzerland, for ca. 2 months on behalf of a research collaboration (European EC H2020-TWINN-2015 Twinning, No. 690599 ASCIMAT project)

Invited and keynote lectures at conferences (2018-2023)

- 1) R. Kral, gave an invited talk entitled "Cesium hafnium chloride, novel scintillating material" at the 19th International Conference on Crystal Growth and Epitaxy (ICCGE-19), July 28 – August 2, 2019, Keystone, Colorado, USA.
- 2) R. Kral, gave an invited talk entitled "Novel halide materials for scintillation applications " at 13th Advanced Lasers and Photon Sources (ALPS2024), 22-26 April 2024, Yokohama, Japan.
- 3) R. Kral, gave an invited talk entitled "Low-phonon materials for mid-infrared lasers" at the 8th European Conference on Crystal Growth (ECCG-8), 21-25 July 2024, Warsaw, Poland.

Oral conference talks (2019-2024)

- 1) The 13th Advanced Lasers and Photon Sources (ALPS2024), 22-26 April 2024, Yokohama, Japan.
- 2) The 8th European Conference on Crystal Growth (ECCG-8), 21-25 July 2024, Warsaw, Poland.
- 3) The 33rd DMSRE seminar Development of Materials Science in Research and Education, 9-13 September 2024, Tatranská Štrba, Slovakia.
- 4) Simultaneous DSC-TGA-MS analyses of RE₂O₃ compounds for growth multicomponent oxides, Book of Abstracts of the 32nd DMSRE seminar Development of Materials Science in Research and Education, 4-8 September 2023, Pavlov, Czechia, p. 42
- 5) Ternary cesium lithium iodide crystals grown by vertical Bridgman method for scintillation applications, International Conference on Crystal Growth and Epitaxy (ICCGE-20), 30 July – 4 August 2023 in Naples, Italy
- 6) Growth of Cs₂Hf_xZr_{1-x}Cl₆ mixed crystals by vertical Bridgman method and analysis of Zr content on luminescent and scintillation properties, 7th European Conference on Crystal Growth, Paříž, Francie, 25.-27.7.2022
- 7) Growth and characterization of zirconium-doped cesium hafnium chloride crystals for scintillators, Book of Abstracts of the 30th DMSRE seminar Development of Materials Science in Research and Education, 7-11 September 2020, Pavlov, p. 39.
- 8) Cesium hafnium chloride, novel scintillating material, 19th International Conference on Crystal Growth and Epitaxy (ICCGE-19) and the 19th US Biennial Workshop on Organometallic Vapor Phase Epitaxy (OMVPE-19), July 28 - August 2, 2019, Keystone, Colorado, USA
- 9) Study of luminescent mechanism in cesium hafnium chloride scintillator, SCINT 2019, 15th International Conference on Scintillating Materials and their Applications, September 29 - October 4 2019, Tohoku Univeristy, Sendai, Japa
- 10) Crystal growth of cesium hafnium chloride by Bridgman method, its stability and luminescence and scintillation properties, 3rd German Polish Conference on Crystal Growth (GPCCG-3), March 17–21, 2019, Poznań, Poland

Other key information impacting the evaluation of the academic and research career

Author and co-author of 46 papers in international peer reviewed journals with 293 citations (including selfcitations, according to SCOPUS). Hirsch index: 11 (according to SCOPUS). Presented oral/poster contributions at 10 international conferences since 2019 inclusive.