



Skotnicová
Kateřina

DATE OF BIRTH:
25/02/1977

CONTACT

Nationality: Czech

Gender: Female



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WORK EXPERIENCE

2015 – CURRENT – Ostrava-Poruba, Czech Republic

Associate Professor

VSB – Technical University of Ostrava, Faculty of Materials Science and Technology

Teaching and research activities in the area of powder metallurgy, extractive metallurgy, theory of production of non-ferrous metals and their alloys, refining processes, etc. Tuition of specialized subjects: Powder metallurgy (in Czech and English), Electrotechnical materials, Fundamentals of Nonferrous Metals Processing, Theory of Non-Ferrous Metals and Alloys Processing (in Czech and English), Nanomaterials etc. Supervisor of bachelor and diploma theses. Supervisor of doctoral study program „Materials Science and Engineering“.

2011 – 2018 – Ostrava-Poruba, Czech Republic

Head of research program

VSB – Technical University of Ostrava, Faculty of Materials Science and Technology

Head of research program 2: Development and optimization of processes of powder technologies for production of selected types of materials and products, which is solved at the Department of powder technologies. Main activities: responsibility for all staff of research program (20 members of research team); proposals of new directions of R&D and definition of crucial scientific-research activities; primary responsibility for the processing of technical documentations of equipments for public tender within department of powder technologies; responsibility for the effectivity of prepared and realized research activities; data preparation for monitoring report, etc. Research activities in the area of preparation and complex characterization of hard magnetic materials based on Nd-Fe-B.

2003 – 2014 – Ostrava-Poruba, Czech Republic

Assistant professor

VSB – Technical University of Ostrava, Faculty of Materials Science and Technology

Teaching and research activities in the area of powder metallurgy, extractive metallurgy, theory of production of non-ferrous metals and their alloys, refining processes, etc. Tuition of specialized subjects: Powder metallurgy (in Czech and English), Electrotechnical materials, Fundamentals of Nonferrous Metals Processing, Theory of Non-Ferrous Metals and Alloys Processing (in Czech and English), Nanomaterials etc. Supervisor of bachelor and diploma theses.

EDUCATION AND TRAINING

2015 – 17. listopadu 2172/15, Ostrava-Poruba, Czech Republic

Assoc. Prof.

VSB – Technical University of Ostrava, Faculty of Materials Science and Technology

Habilitation thesis: Complex characterization of single crystals of tungsten- and molybdenum low-alloyed alloys prepared by electron beam floating zone melting and plasma metallurgy.

Field(s) of study

- Materials Science and Engineering

2000 – 2004 – 17. listopadu 2172/15, Ostrava-Poruba, Czech Republic

Ph.D.

VSB – Technical University of Ostrava, Faculty of Materials Science and Technology

Doctoral thesis: Study of structural defined single crystals of low-alloyed tungsten and molybdenum alloys.

Field(s) of study

- Physical metallurgy and limit states of materials

● **MSc.**

VSB – Technical University of Ostrava, Faculty of Materials Science and Technology

Diploma thesis: Theoretical and experimental aspects of the refining of refractory metals with BCC crystal lattice.

Field(s) of study

- Physical and materials engineering / New technical materials

LANGUAGE SKILLS

MOTHER TONGUE(S): Czech

English

Listening
B2

Reading
B2

Spoken
production

Spoken
interaction
B2

Writing
B2

German

Listening
A2

Reading
A2

Spoken
production

Spoken
interaction
A2

Writing
A2

DIGITAL SKILLS

Windows and MS Office

TRAINING AND STAY ABROAD

● **06/2016**

● **Norwegian University of Science and Technology (Trondheim, Norway),
Department of Materials Science and Engineering**

1-month teaching and research stay within EEA and Norway Grants, CZ07 - Scholarship Programme and Bilateral Scholarship Programme.

● **10/2013**

● **Universitat Politècnica de Catalunya-BarcelonaTech (Barcelona, Spain)**

1-week teaching stay within LLP/ERASMUS programme.

● **04/2007**

● **Baikov Institute of Metallurgy and Material Science RAS (Moscow,
Russian Federation)**

2-weeks research stay aimed at the study of single-crystalline refractory metals.

● **09/2002 – 12/2002**

● **TU-Bergakademie Freiberg, Institut für Nichteisen-Metallurgie und
Reinstoffe**

Research stay aimed at the thermodynamic calculations in the binary systems of refractory metals.

PROJECTS

01/2019 - 12/2020

TN01000015 - National Centre of Competence ENGINEERING

Provider: Technology Agency of the Czech Republic - National Centre of Competence program. *Member of research team.*

02/2018 - 12/2020

LTARF18031 - Development of physico-chemical and engineering foundations for the initiation of innovative resources-economy technology of high-power and high-coercivity (Nd,R)-Fe-B (R = Pr, Tb, Dy, Ho) low-REM permanent magnets.

Provider: Ministry of Education, Youth and Sport of the Czech Republic - Inter-Excellence program, Inter-Action subprogram. *Main investigator.*

01/2014 - 12/2018

LO1203 - Regional Materials Science and Technology Centre - Feasibility Program.

Provider: Ministry of Education, Youth and Sport of the Czech Republic - National Feasibility Program. *Head of research program.*

01/2010 - 12/2013

CZ.1.05/2.1.00/01.0040 - Regional Materials Science and Technology Centre.

Provider: Ministry of Education, Youth and Sport of the Czech Republic - OP Research and Development for Innovation. *Head of research program.*

01/2006 - 12/2011

Processes of preparation and properties of highly pure and structural defined special materials.

Provider: Ministry of Education, Youth and Sport of the Czech Republic. *Member of research team.*

01/2006 - 12/2008

GAP106/06/P288 - Preparation and study of characteristic properties of binary and ternary low-alloyed single crystals of tungsten and molybdenum for their application in the thermometry and vacuum engineering.

Provider: Czech Science Foundation. *Main investigator.*

NETWORKS AND MEMBERSHIPS

CURRENT

- Czech Society for New Materials and Technologies

CURRENT

- Czechoslovak Association for Crystal Growth

PUBLICATIONS

- SKOTNICOVA, K., G. S. BURKHANOV, N. B. KOLCHUGINA, et al. Structural and magnetic engineering of (Nd, Pr, Dy, Tb)-Fe-B sintered magnets with Tb₃Co_{0.6}Cu_{0.4}H composition in the powder mixture. *Journal of Magnetism and Magnetic Materials*. 2020, 498, article number 166220. ISSN 0304-8853.
- PROKOFEV, P. A., N. B. KOLCHUGINA, K. SKOTNICOVA, et al. Blending Powder Process for Recycling Sintered Nd-Fe-B Magnets. *Materials*. 2020, 13(14). ISSN 1996-1944.
- CEGAN, T., D. PETLAK, K. SKOTNICOVA, J. JURICA, B. SMETANA, S. ZLA . Metallurgical Preparation of Nb-Al and W-Al Intermetallic Compounds and Characterization of Their Microstructure and Phase Transformations by DTA Technique. *Molecules*. 2020, 25(8), 19583-19595. ISSN 1420-3049.
- SKOTNICOVA, K., PROKOFEV, P.A., KOLCHUGINA, N.B., BURKHANOV, G.S., LUKIN, A.A., KOSHKID'KO, Y.S., CEGAN, T., DRULIS, H., ROMANOVA, T., DORMIDONTOV, N.A. Application of a Dy₃Co_{0.6}Cu_{0.4}Hx Addition for Controlling the Microstructure and Magnetic Properties of Sintered Nd-Fe-B Magnets. *Materials*. 2019, 12(24), 4235. ISSN 1996-1944.
- LI, Y., J. LI, Z. YU, W. LI, M. ZHU, H. JIN, Y. LIU, Y. LI and K. SKOTNICOVA. Study on the high magnetic field processed ZnO based diluted magnetic semiconductors. *Ceramics International*. 2019, 45(16), 19583-19595. ISSN 0272-8842.
- TARIO, M., Y. LI, W. LI, Z. ZHANG, Y. HU, M. ZHU, H. JIN, Y. LI and K. SKOTNICOVA. Ferromagnetic coupling of Fe³⁺-VO-Fe³⁺ polarons in Fe-doped ZnO. *Ceramics International*. 2018, 44(1), 71-75. ISSN 0272-8842.

CITATION REPORT

- H-index: 6, total publications: 49, sum of times cited: 139, without self citations: 102 (Web of Science, Clarivate Analytics).