prof. Ing. Bedřich Smetana, Ph.D., CV

Born in Ostrava, 1978.

Professor at the Department of physical chemistry and theory of technological processes (DPCHTTP), Faculty of Materials Science and Technology (FMST), VŠB–Technical University of Ostrava (VŠB–TU Ostrava), Czech Republic (CZ).
Senior Researcher, Regional Materials Science and Technology Centre (RMSTC), Czech Republic.

University education:

2020: Appointed as professor (Chemical metallurgy) VŠB–TU Ostrava, CZ.
2012: Appointed as associate professor (Chemical metallurgy) at the FMST, VŠB–TU Ostrava, CZ.
2002–2006: Ph.D. study, degree awarded in September 2006 in the study programme Chemical metallurgy at FMST, VŠB–TU Ostrava, CZ.
1997–2002: Master study, Ing. degree awarded in June 2002 (specialisation Process engineering and Chemical engineering), FMST, VŠB–TU Ostrava, CZ.

Occupation:

since 08/2020:	Professor at DPCHTTP, FMST, VŠB – TU Ostrava
since 01/2013:	Deputy Head, DPCHTTP, FMST, VŠB–TU Ostrava.
since 01/2012:	Senior Researcher, Regional Materials Science and Technology Centre.
01/2012–7/2020:	Associate professor at DPCHTTP, FMST, VŠB – TU Ostrava
01/2009–12/2011:	Junior Researcher, Regional Materials Science and Technology Centre
05/2005–12/2011:	Lecturer at the DPCHTTP, FMST, VŠB–TU Ostrava.

Publication activity:

He is author or co-author of more than **220** professional publications that were published both in Czech Republic and abroad, at national and international conferences and in scientific journals.
H-index: **14**; records at WOS: **105**; records at SCOPUS: **110**.
He is **author** or **co–author** of**:**
42 publications in peer-reviewed (impacted) journals indexed in Web of Science (WOS),
more than **55** contributions in international peer-reviewed conference proceedings,
more than **90** contributions in other international and Czech conference proceedings,
more than **40** other reviewed (foreign or Czech) papers
1 book (monography) and a co-author of **3** book chapters.

Award:

B. Smetana was awarded by APDIC (Alloy Phase Diagram international Commission) regarding the BEST PAPER published on alloy phase diagram data in the year 2018 and recieved the prestigious international award: **APDIC Best Paper AWARD 2019** (http://www.apdic.info/index.php?id=567). Published manuscript: SAUERSCHNIG, P., GRYTSIV, A., VRESTAL, J., ROMAKA, V.V., SMETANA, B., GIESTER, G., BAUER, E., ROGL, P. On the constitution and thermodynamic modeling of the system Zr-Ni-Sn. *Journal of Alloys and Compounds*, 2018, vol. 742, p. 1058-1082.

Invited learned (impacted) papers:

MARTINÍK, O., SMETANA, B. et al. Prediction and measurement of selected phase transformation temperatures of steels. *Journal of Mining and Metallurgy, Section B: Metallurgy*, 2017, vol. 53, no. 3, p. 391-398.
MARTINÍK, O., SMETANA, B. et. al. Experimental and Theoretical Assessment of Liquidus, Peritectic Transformation, and Solidus Temperatures of Laboratory and Commercial Steel Grades. *Journal of phase equilibria and diffusion*, 2019, vol. 40, no. 1, p. 93-103.

Participation in research projects:

He participated and still participates in solution of several scientific national and international grant projects: GAČR 17-18668S (solver), LTARF18031, DMS CZ.02.1.01/0.0/0.0/17_049/0008399, TN01000015 and, COST:

OC08032, RMSTC–Feasibility Program: LO1203 and CZ.1.05/2.1.00/19.0387, KONTAKT: ME10121, TAČR: TA 03011277, TA 04010035.

Organisation of scientific conferences

International Organizing Committee member, Central and Eastern European Conference on Thermal Analysis and Calorimetry 5, ITSPAM conference organizing committee member (Interaction of melts with progressive inorganic materials, 3 conferences). 66th Congress of Czech chemical societies, organizing committee member.

Institutional responsibilities and commissions of trust

Member of RVŠ (Rada Vysokých Škol), Working group of scientific affairs. Member of senate of FMST and VŠB-TU Ostrava. Member of legislative commission of VŠB-TU Ostrava.
Evaluator of COST and Kontakt projects.
Long-standing reviewer for 3 peer reviewed (impacted) scientific journals: J THERM ANAL CALORIM, J ALLOY COMPD and STEEL RES INT.

Memberships of scientific societies and research groups

Member of Czech Chemical Society (CCS), group of Thermal Analysis.
Member of Central and Eastern European Committee for Thermal Analysis and Calorimetry.

Research stages in foreign countries

2001: Student research fellowship for one half - year term at Technische Universität Bergakademie Freiberg, Freiberg, Germany, discipline: Process engineering.

Major international collaboration

Dr. Andrew Watson (University of Coventry, UK) in the field of phase transitions and thermodynamic modelling and phase diagram calculations.

Assoc. Prof. Christian Bernhard, Dr. Peter Presoly and Dipl. Ing. Michael Bernhard (MU Leoben, AUT). Collaboration, mainly, in the field of phase transitions progress using HTCSLM.

Dr. Volker Klemm and Prof. David Rafaja (TU Bergakademie Freiberg, GER). Collaboration in the branche of preparation and characterization of new prepared ceramic based materials.

Prof. Peter Rogl (University of Vienna, AUT), Dipl. Ing. Philipp Sauerschnig (TU Wien, AUT), Dr. Vitaliy Romaka (Lvov polytechnic National University, UKR). Collaboration in the field of preparation and characterization of advanced non-ferrous alloys.

Main specialization:

Thermophysical, thermodynamical and kinetic behaviour of metallic alloys and other inorganic and organic materials, structural and phase analysis of advanced alloys such as: advanced steels, nickel based super-alloys, solders, titanium and other non-ferrous alloys,...) from the theoretical and experimental, fundamental and applied point of view, in solid and liquid phase. Study of new prepared materials (alloys, nanomaterials based on ceramics,…) with wide application possibilities. Study with use of methods of thermal analysis, e.g. phase transformations of alloys, specific heats, enthalpies,… Development of methodology of thermal analysis methods and its unconventional utilisation (applications) in the metal surface coatings field. Methods of thermal analysis: DTA, DSC, TG, DROP Calorimetry and Dilatometry.

Participation on scientific-pedagogical and pedagogical projects:

He participate(d) also on solution of many scientific-pedagogical and pedagogical projects in the frame of activities at FMST and VSB-TU Ostrava, e.g. projects reg. no.: 04766/2017/RRC, reg. no.: CZ.02.1.01/0.0/0.0/16_017/0002668, reg. no.: CZ.02.2.69/0.0/0.0/16_018/0002706, reg. no.: CZ 1.07/2.3.00/35.0018, reg. no.: CZ.1.07/2.3.00/45.0021.