

CURRICULUM VITAE



Name: Peter Baláž, Prof., DSc.
Date of birth: June 18, 1947
Place of birth: Nitra, Slovakia
Citizenship: Slovak
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Education

1966-1971 Faculty of Sciences, P.J.Šafárik University Košice, (diploma work: Electrochemistry of organo-lead and organo-bismuth compounds)
1975 M.Sc. degree in chemistry, Faculty of Sciences, P.J.Šafárik University Košice (thesis: Hydrogenation of cyclopropane over supported metallic catalysts)
1981 PhD. degree in mineral processing, Mining Institute of Slovak Academy of Sciences Košice (thesis: Intensification of oxidative leaching of chalcopyrite)
1994 DSc. degree in mineral processing, Institute of Geotechnics of Slovak Academy of Sciences Košice (thesis: Laws and technological aspects of mechanical activation of sulphidic minerals)
1999 Associate Professor in mineralurgy, BERG Faculty, Technical University Košice
2001 Professor in mineralurgy, BERG Faculty, Technical University Košice

Employment

1972-1977 research assistant at the Department of Physical Chemistry, Faculty of Sciences, P. J. Šafárik University Košice
1977-now at the Institute of Geotechnics (formerly Mining Institute) of Slovak Academy of Sciences in Košice as: postgraduate student, research fellow, senior research scientist

Present research activities

The basic and applied research in mechanochemistry which encompasses the fields of solid state chemistry, materials science, medicine, extractive metallurgy and mineral processing. Study of the properties of advanced materials prepared by mechanochemical routes. Interdisciplinary research work concerned with the study of mechanical activation of solids by high-energy milling and their reactivity in pyro-, hydro- and biohydro- metallurgical processes. Study of advanced solid-state methods including nanomilling for preparation of nanophases for application in materials science and medicine.

Research projects

- 1994-1996: *Metastable states in ground substances and mechanically stimulated interactions at the condensed matter interfaces*, project 2/1369/95 of the Grant Agency of the Slovak Republik VEGA (investigator)
Laws and technological aspects of mechanical activation of minerals, project 2/1368/96 of the Grant Agency of the Slovak Republik VEGA (investigator)
- 1995-1998: *Research into advanced technologies of coal cleaning and precious metal ores processing*, project 95/5305/561 of the Grant Agency of the Slovak Republik VEGA (principal investigator)
- 1996-1999: *Slovak brown coal*, project 031-95 of the Ministry of Education of Slovakia and Department of Energy USA (investigator)
- 1997-1999: *A new treatment process to recover magnetite, zinc and lead from iron and steel making dusts and sludges*, project PL 96404 INCO-COPERNICUS of European Union (scientific coordinator)
- 1999-2001: *Mechanochemical methods of preparation of products from natural precursors*, project 2/6101/99 of the Grant Agency of the Slovak Republik VEGA (principal investigator)
- 2001: *Combustion reactions induced by ball milling*, project DMR-9712141 of the National Science Foundation, USA (investigator)
- 2001-2004: *Mechanochemical processing of minerals and industrial wastes*, project 2/2103/22 of the Grant Agency of the Slovak Republik VEGA (principal investigator)
- 2003-2004: *Mechanochemical processing of minerals for advanced applications*, Slovak-Germany project DAAD-PPP (principal investigator)
- 2002-2005: *Synthesis and characterization of nanomaterials prepared by non-traditional methods from metal-based and raw-materials precursors*, project 20-018 402 of the Science and Technology Assistance Agency APVT (principal investigator)
- 2005-2007: *Mechanochemical preparation of nanocrystalline substances and its application in mineral processing*, project 2/5151/5 of the Grant Agency of the Slovak Republik VEGA (principal investigator)
- 2006-2007: *Mechanochemical synthesis and properties of nanocrystalline materials*, Slovak-Germany project DAAD-PPP (principal investigator)
- 2006-2009: *CO₂ sequestration by mechanochemical carbonation of minerals*, project LPP-0196-06 of the Science and Technology Assistant Agency APVV (principal investigator)
- 2007-2009: *Mechanochemical synthesis of nanocrystalline materials for applications in advanced technology*, project 0347-06 of the Science and Technology Assistant Agency APVV (principal investigator)
- 2009-2013: *Arsenic minerals in advanced applications*, project LPP-0107-09 of the Science and Technology Assistant Agency APVV (principal investigator)
- 2010-2011: *Mechanochemical synthesis and properties of nanosized materials*, project SAS-CSIC: Slovakia-Spain (principal investigator)
- 2010-2014: *Mechanochemical modification of minerals for advanced technology applications*, project 0189-10 of the Science and Technology Assistant Agency APVV (principal investigator)
- 2011-2013: *Arsenic in cancer treatment: mechanisms of action and new forms of delivery*, project SAS (Slovakia) – NSC (Taiwan) JRP 2010/03 (investigator)
- 2011-2013: *Mechanical activation for environmental, material and therapeutic applications*, project 2/0009/11 of the Grant Agency of the Slovak Republik VEGA (principal investigator)

- 2012-2013: *Mechanochemical synthesis, activation and characterization of inorganic chemical systems: mixed oxides, sulfides, selenides and carbonates*, project SK-BG-0031-10: Slovakia-Bulgaria (principal investigator)
- 2014-2017: *Mechanochemistry of solids for utilization in nanotechnologies*, project 2/0027/14 of the Grant Agency of the Slovak Republic VEGA (principal investigator)
- 2015-2016: *Mechanochemically nanostructured arsenicals with guided anticancer functionality: from ab-initio quantum-chemical modeling to experimental verification*, project SK-UA-2013-0003: Slovakia-Ukraine (principal investigator)
- 2015-2019: *Mechanochemistry of semiconductor nanocrystals: from minerals to materials and drugs*, project APVV-14-0103 of the Science and Technology Assistant Agency APVV (principal investigator)
- 2015-2019: *Solutions for Critical Raw Materials Under Extreme Conditions*, project of EU COST OC 2015-1-19345 (investigator)

Publications

Books	4
Chapters in books	16
Scientific papers (SCOPUS, 11/04/20).....	262
Citations without self-citations (SCOPUS, 11/04/20).....	3383
Hirsch index (SCOPUS, 11/02/20)	28

Visiting appointments

Shorter visits:

Czech Republic, Germany, Poland, Russia, Sweden, Finland, Norway, Spain, Portugal, Great Britain, France, Italy, Belgium, Denmark, USA, Chile, Peru, Australia, Japan

Longer visits:

Germany (10 months), USA (3 months), South Korea (3 months)

Membership

- 1973 - Slovak Chemical Society
- 1988 - International Mechanochemical Association of International Union of Pure and Applied Chemistry
- 1993 Secretary of the 1st International Conference on Mechanochemistry (Košice, Slovakia)
- 1994-1996 Editorial Board of Journal of Mechanochemistry and Mechanical Alloying (Cambridge Interscience, Great Britain)
- 1995-2002 Grant Agency of the Slovak Republic
- 1996 New York Academy of Sciences
- 1996 International Advisory Committee of the 3rd International Conference on Clean Technologies for the Mining Industry (Santiago, Chile)
- 1998 The Minerals, Metals and Materials Society, USA
- 1998 - Réseau Français de Mécanosynthèse, France
- 1999 International Committee of the International Mining and Environmental Congress (Lima, Peru)
- 2003 International Committee of the INCOME Conference (Braunschweig, Germany)
- 2004-2007 Editorial Board of Hydrometallurgy (Elsevier, Netherland)

- 2006 International Committee of the INCOME Conference (Novosibirsk, Russia)
- 2008 International Committee of the INCOME Conference (Jamshedpur, India)
- 2009 Editorial Advisory Board of The Open Crystallography Journal (Bentham Open, USA)
- 2011 International Committee of the INCOME Conference (Herceg Novi, Montenegro)
- 2014 International Committee of the INCOME Conference (Krakow, Poland)
- 2017 International Committee of the INCOME Conference (Kosice, Slovakia)

Invited lectures

- 1996 Faculty of Science and Technology, Keio University, Yokohama, Japan
- 1996 Institute for Advanced Material Processing, Tohoku University, Sendai, Japan
- 1997 U.S. Department of Energy, Federal Energy Technology Center, Pittsburgh, USA
- 1998 University of Western Australia, Special Research Centre for Advanced Mineral and Materials Processing, Perth, Australia
- 1999 International Mining and Environment Congress, Lima, Peru
- 2000 Facultad de Ingenieria Geológica, Minera y Metalúrgica, Universidad Nacional de Ingenieria, Lima, Peru
- 2002 International Conference on “New Trends in Chemistry and Their Applications”, Cairo, Egypt
- 2002 Institute für Physikalische und Theoretische Chemie, Technische Universität Braunschweig, Germany
- 2002 Universite de Liege, Metallurgie et Traitement des Minerais, Liege, Belgium
- 2003 International Conference COPPER 2003-COBRE 2003, Santiago de Chile
- 2003 International Conference INCOME 2003, Braunschweig, Germany
- 2003 International Conference, Lima, Peru
- 2003 Instituto de Ciencia de Materiales, Sevilla, Spain
- 2005 The Korea-Japan International Symposium on Powder Science and Technology, Busan, South Korea
- 2005 Norwegian University of Science and Technology, Trondheim, Norway
- 2005 University of Ulsan, South Korea
- 2006 International Conference INCOME 2006, Novosibirsk, Russia
- 2007 International Conference Solid State Ionics 2007, Shanghai, China
- 2008 International Conference Quo Vadis Hydrometallurgy 2008, Herľany, Slovakia
- 2008 International Conference INCOME 2008, Jamshedpur, India
- 2009 29th International Exhibition Congress on Chemical EngineeringACHEMA 2007, Frankfurt am Main, Germany
- 2010 Instituto de Ciencia de Materiales, Sevilla, Spain
- 2011 International Conference INCOME 2011, Herceg Novi, Montenegro
- 2011 Symposium on Mechanochemistry and Solvent-free Synthesis, Belfast, United Kingdom
- 2011 13th International Workshop on Nanoscience&Nanotechnology, Sofia, Bulgaria
- 2012 International Conference Quo Vadis Hydrometallurgy 2012, Herľany, Slovakia
- 2013 6th World Cancer Congress 2013, Xi’An, Čina
- 2014 International Conference INCOME 2014, Cracow, Poland
- 2016 Materials Science and Technology 2016, Symposium “Mechanochemical Synthesis and Reactions in Materials Science”, Salt Lake City, USA

Awards

- 2001 Price of the Slovak Literary Fond for the book “*Extractive Metallurgy of Activated Minerals*” published by Elsevier, Amsterdam 2000
- 2006 Award of International conference on mechanochemistry (INCOME 2006) for the Achievements in Applied Mechanochemistry
- 2007 Silver medal of Aurel Stodola for achievements in technical sciences (Price of the Slovak Academy of Sciences)
- 2001, 2006,
2007,2009 Premium of the Slovak Literary Fond for the outstanding scientific citations record in technical sciences
- 2009 Price of the Slovak Literary Fond for the book “*Mechanochemistry in Nanoscience and Minerals Engineering*” published by Springer, Berlin Heidelberg 2008
- 2012 Price of the Slovak Academy of Sciences for the book “*Mechanochemistry in Nanoscience and Minerals Engineering*” published by Springer, Berlin Heidelberg 2008
- 2013 Gold medal of the Slovak Academy of Sciences at the occasion of 60 years o Slovak Academy of Sciences
- 2015 Price of the Slovak Literary Fond for the book “*Chemistry of Materials*” published by VEDA, Publishing House of Slovak Academy of Sciences, Bratislava 2014