

curriculum vitae



Personal information

Surname(s) / First name **Réka BARABÁS**
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Nationality Hungarian

Date of birth 01.05.1971

Gender Female

Occupational field Lecturer

Work experience

Dates	01.09.1997-30.04.1998
Occupation or position held	Scientific assistant
Main activities and responsibilities	Direction of medical certification for preparation of hydroxyapatite powders
Name and address of employer	University of Veszprém (Hungary), Department of Silicate and Materials Engineering
Type of business or sector	University
Dates	01.11.1999-30.09.2000
Occupation or position held	Scientific assistant
Main activities and responsibilities	Materials of fuel cells
Name and address of employer	Freiberg University of Mining and Technology (Germany), Institute of Ceramic Materials
Type of business or sector	University

Dates 01.10.2000-30.09.2002

Occupation or position held Postdoctoral scholarship

Main activities and responsibilities Characterization of biofilter materials, Direction of heat transfer laboratories

Name and address of employer Freiberg University of Mining and Technology (Germany), Institute of Thermal Process Engineering

Type of business or sector University

Dates 01.03.2004-28.02.2005

Occupation or position held Scholarship for postdoctoral lecture qualification

Main activities and responsibilities Thermal Spraying (setting into operation of the MASTER JET type flame spray gun); Geopolymers/Biocermics

Name and address of employer Freiberg University of Mining and Technology (Germany), Department of Ceramic Engineering

Type of business or sector University

Dates 01.03.2005-31.10.2005

Occupation or position held Scientific assistant

Main activities and responsibilities Nanopowders in MgO-C Refractories (direction of DFG- Project)

Name and address of employer Freiberg University of Mining and Technology (Germany), Department of Ceramic Engineering

Type of business or sector University

Dates 01.01.2006-present

Occupation or position held Scientific assistant and lecturer, since December 2014 vice-dean

Main activities and responsibilities Bioceramics, Transport phenomena, Nanomaterials

Name and address of employer University Babes-Bolyai Cluj- Napoca (Romania), Department of Chemical Engineering and Oxide Materials Science

Type of business or sector University

Education and training

Dates 1994-1997

Title of qualification awarded PhD in Chemistry

Principal subjects/Occupational skills Bioceramics

<p>covered</p> <p>Name and type of organisation providing organisation and training</p> <p>Level in national or international classification</p>	<p>University of Veszprém (Hungary)</p> <p>International Standard Classification of Education (ISCED) 6</p>
<p>Dates</p> <p>Title of qualification awarded</p> <p>Principal subjects/Occupational skills covered</p> <p>Name and type of organisation providing organisation and training</p> <p>Level in national or international classification</p>	<p>1989-1994</p> <p>Chemical Engineer</p> <p>Chemical Engineering</p> <p>Technical University of Timisoara, Faculty of Industrial Chemistry, Department of Science and Engineering of Oxidic Materials, Romania</p> <p>ISCDE 5</p>
<p>Dates</p> <p>Title of qualification awarded</p> <p>Principal subjects/Occupational skills covered</p> <p>Name and type of organisation providing organisation and training</p> <p>Level in national or international classification</p>	<p>1985-1989</p> <p>Final secondary-school examination</p> <p>General education</p> <p>Chemical High School, Tg. Mures (Romania)</p> <p>ISCED 3</p>

Personal skills and competences

Mother tongue(s) **Hungarian**

Other language(s)

Self-assessment European level ()*

Romanian

English

Understanding		Speaking		Writing
Listening	Reading	Spoken interaction	Spoken production	
C2	C2	C2	C2	C2
C2	C2	C2	C2	C2

German
French

C2	C2	C2	C2	C2
B1	B1	B1	B1	B1

(*) *Common European Framework of Reference (CEF) level*

Social skills and
competences

Capacity of work in international and national research teams, interpersonal skills, communication, responsibility, intercultural skills, conflict management, negotiations

Former Board member of TransSilvanus Association

Organisational skills and
competences

Vaste national and international managerial competence, Former President of Proscholamontessorii Assotiation

Technical skills and
competences

Computer skills and
competences

Operating systems: Windows, Linux, MacOSX;
Applications: Windows Office, Origin, Latex

Artistic skills and
competences

Piano

Other skills and
competences

Sports: skiing, swimming,
music, literature

Competence fields:

1. Bioceramics based on hydroxy- and fluorhydroxyapatites

- Preparation and characterization of hydroxy- and fluoroxyapatites
 - Modification of hydroxyapatites' properties by substitutions with F⁻ ions;
 - Preparation of high purity hydroxyapatite powders;
 - Chemical characterization of apatites (X-ray diffractometry IR-, Raman spectroscopy, morphologic analyses with SEM, thermal analyses);
 - Comparison of different analytical methods for determination of Ca²⁺, P³⁻ and F⁻ content (ICP, titration, spectrophotometry, ion chromatography, analyses with fluoride-selective electrode);

2. *Advanced ceramics*

- Sintering of translucent Al₂O₃ -ceramics by Pulsed Electric Current Sintering Method (PECSM);
- Spatial Image Analysis of porous Al₂O₃ ceramic samples;
- Materials for fuel cells (registration and analyses of magnetic impedance data, gas chromatography);
- Testing and characterization of materials for biofilters;
- Thermal Spraying (setting into operation of the MASTER JET type flame spray gun); Nanopowders in MgO-C Refractories.

3. **Biofilter materials (beds)**

- natural materials (wood waste) as biofilter materials
- characterization and modelling of pressure drops across the beds

4. **Crystallization processes**

- mathematical modelling of the crystallization process of hydroxyapatite

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Organized events:

- **Workshop** with the topic: Flame-Spraying, Location: UBB, Cluj-Napoca, Date: 22. 03.2007., Co-organizer: Saint-Gobain Coating Solutions with a participation of national companies and academic staff;
- Hungarian-Romanian **Workshop** on Ceramic Coatings by Thermal Spraying, Location: Institute of Materials and Environmental Chemistry, CRC, HAS, Budapest, Date: 29-th April, 2010, Financed by Domus Hungarica;
- **Winter School:** Topic: Uncertainty in cognition, Location: Babeş-Bolyai University, Cluj-Napoca, Date: 27-28 January 2012, Financed by POSDRU/89/1.5/S/60189

Driving licence(s)

B category

Lectures:

- Transport Phenomena, course and seminar,
- Heat Transfer, course, seminar, lab. work
- Impuls Transfer, course, seminar, lab. work,
- Mass Transfer, course, seminar, lab. work, ,
- Nanotechnology, optional course, seminar,

- Direction of diploma- and master works ;
- Direction of Advanced Materials laboratories;

see:

http://chem.ubbcluj.ro/romana/ANEX/inginerie/research/ceex_5946/reka.htm

Laboratory: Inside the **Institute for Experimental Interdisciplinary Research (IEIR)**, Centre of Biomaterials, the “Laboratory for the synthesis and characterization of micro and nano biomaterials” was created.

• **Projects**

- 1996:** Preparation of high purity hydroxyapatite powders (Hungary)
- 1997:** Sintering of translucent Al₂O₃ -ceramics by Pulsed Electric Current Sintering Method (Japan)
- 1997-1998:** Direction of medical certification for preparation of hydroxyapatite powders (Hungary)
- 1998:** Spatial Image Analysis of porous Al₂O₃ ceramic samples (Germany)
- 1999-2000:** Materials of fuel cells (Germany)
- 2000-2002:** Characterization of biofilter materials (Germany)
- 2004-2005:** Thermal Spraying (setting into operation of the MASTER JET type flame spray gun); Nanopowders in MgO-C Refractories (direction of DFG- Project); Geopolymers/Biocermics (preliminary experiences), Direction of laboratories on methods of test for dense shaped refractory products; Lectures: Bioceramics and Flame Spraying (Germany)
- 2006-2008:** National Excellences Research Project for Researchers Reintegration financed by Ministry of Education and Research, Romania, with the title of the research: *Preparation, Characterization and Deposition of Apatites as Materials or Additive Materials to Artificial Bone Substitute;*

- 2008:** Elaboration of wood waste based bricks for construction, project based on service attestation, 01.02.2008-01.05.2008; S.C. Magic House S.R.L.
- Direction of projects with Romanian Companies: AZOMURES S.A, CHEMICER S.A, Quantumpharm S.A.
- 2009-2010** "Improving University Management" Babes-Bolyai University, Cluj, <http://www.management-universitar.ro/> (Romania)
- 2010-** Structural Founds, Project title: *Doctoral program for high qualified human resource in the interdiscipliner research* (POSDRU/21/1.5/G/36154), Babes-Bolyai University, Cluj, (Romania)
- 2010-2011** Terminology contract for Hungarian D3-IATE-HU-3, terminology research work in the filed of chemical tests and apparatuses, European Commision, DG Translation, Luxemburg

International collaborations:

- Saint-Gobain Coating Solutions
<http://www.coatingsolutions.saint-gobain.com>
- TU Bergakademie Freiberg <http://www.tu-freiberg.de>
- Technical University of Nagaoka <http://ishizaki.nagaokaut.ac.jp>
- Research Institute for Technical Physics and Material Science from Budapest <http://www.mfa.kfki.hu>
- The Semmelweis University from Budapest
<http://www.dgci.sote.hu>
- S.C. CHEMI CERAMIC F SRL, Sf. Gheorghe, Romania
- EMPA – Materials Science and Technology
http://www.empa.ch/plugin/template/empa/79/*/--/l=2
- Institute of Materials and Environmental Chemistry Budapest
<http://www.chemres.hu/ak>
- University of Szeged <http://www.u-szeged.hu/english/>

Membership in editorial boards:

- a. Member of the editorial board of the *International Journal of engineering and Technology Innovation (IJETI)*
- b. Member of the public body of the *Hungarian Academy of Sciences*
- c. Member of editorial board *Nanoscience and Nanoengineering*

Awards:

1. International salon PRO INVENT, 2012, Cluj-Napoca, Romania, **Certificate of excellence and silver medal** for the patent Nr. 123140, The obtaining procedure to a fertilizer composition based on nitrogen, phosphorous and potassium
2. International salon PRO INVENT, 2014, Cluj-Napoca, Romania, **Certificate of excellence and gold medal** for the patent Nr. 127891, Binder composition and obtaining procedure of the construction materials based on wood waste