

Doctoral School of Chemical Engineering
Babes-Bolyai University, Cluj-Napoca
2021-2022

The doctoral school in Chemical Engineering has as a goal the education of specialists in Chemical and Process Engineering based on applied research in priority fields related: chemical plant design, modelling, optimization and control, reactor engineering, transfer processes in the chemical industry, vapor-liquid equilibria, electrochemical engineering, electrosynthesis, electro metallurgy, applications of electrochemical engineering in environmental protection, in the electrotechnology of non-polluting processes, renewable energy, carbon capture and storage technologies, advanced energy conversion, material engineering, cement engineering, composites and biomaterials, environmental pollution, water management, application of process engineering in other nonconventional fields (health, data mining, artificial intelligence, etc.).

CONTACT

Babes-Bolyai University, Faculty of Chemistry and Chemical Engineering, 11 Arany Janos Street, 400028 Cluj-Napoca
Tel. +40.264.593.833, Fax. +40.264.590.818.

Web: <http://www.chem.ubbcluj.ro/~sdic/>

Director: Prof. dr. eng. **Vasile-Mircea CRISTEA**

E-mail: mircea.cristea@ubbcluj.ro

Doctoral supervisors

Prof. dr. eng. **Călin-Cristian CORMOȘ**

Chemical reaction engineering. Process design and integration. Mathematical modelling and simulation of chemical and thermo-chemical systems. Process retrofit. Energy conversion systems. Gasification and combustion. Clean coal technologies. Renewable energy sources. Carbon Capture and Storage (CCS) technologies. Chemical looping. Energy vectors poly-generation systems. Techno-economic and environmental evaluations.

E-mail: calin.cormos@ubbcluj.ro

Prof. dr. eng. **Vasile Mircea CRISTEA**

Modelling and control of chemical processes with lumped and distributed parameters (CFD), both at laboratory and industrial scale. Development of traditional and model-based control solutions, model predictive control. Modelling and classification applications using artificial neural networks and fuzzy logic. Data mining. Waste Water Treatment applications.

E-mail: mircea.cristea@ubbcluj.ro;

Prof. dr. eng. **Graziella – Liana TURDEAN**

Applied physical chemistry. Thermodynamics and kinetics of the chemical reaction by electrochemical methods. Nano/materials for electrodes. Supramolecular and nanostructured redox bio/systems. Electroanalytical chemistry (i.e. amperometric bio/sensors, electrochemical techniques of electrode process investigation).

E-mail: graziella.turdean@ubbcluj.ro

Prof. emeritus dr. eng. **Petru ILEA**

Electrochemical Process Technology and Engineering; Metal Recovery from Wastes studies related to: inorganic substances electrosynthesis, electrometallurgy and electrochemical technology applied in environmental remediation, protection and recycling.

E-mail: pilea@chem.ubbcluj.ro; petru_ilea@yahoo.com

Prof. emeritus dr. eng. **Paul Șerban AGACHI**

Process Modeling; Simulation; Control and Optimization; Classical and Advanced Control Systems; Computer Aided Process Engineering (CAPE) Instruments; University Management; Research Management.

E-mail: agachip@biust.ac.bw; serban.agachi@ubbcluj.ro

Prof. dr. eng. **József FAZAKAS**

Oxide Materials; Sol-gel Engineering; Nanomaterials.

E-mail: chemicedramic@gmail.com

Prof. dr. eng. **Zoltán Kálmán NAGY**

Professor of Chemical Engineering, Purdue University

Development and application of process systems engineering approaches and tools for engineered product design and optimal process operation, with applications in pharmaceutical, fine chemical, biotechnology, food and agrochemical industries.

E-mail: znagy@purdue.edu

Affiliated academic staff

Assoc. Prof. dr. eng. **Réka BARABÁS**

Nanobio materials, mathematical modeling of chemical operations, production and characterization of composite materials, application of IoT (internet of things) in chemical and chemical processes.

E-mail: reka.barabas@ubbcluj.ro

Lect. dr. eng. **Liliana BIZO**

Oxidic materials. Transparent conducting oxides (TCOs): synthesis. Crystal chemistry and physical properties studies.

E-mail: liliana.bizo@ubbcluj.ro

Assoc. Prof. dr. **Sorin DORNEANU**

Electrosynthesis; Sensors; Computer Controlled Setups for Electrochemical Measurements. Electrochemical techniques for waste treatment and recycling.

E-mail: sorin.dorneanu@ubbcluj.ro

Assoc. Prof. dr. eng. **Simion DRĂGAN**

Transport and transfer phenomena. Engineering processes in heterogeneous systems. Mass transfer with/without chemical reaction and specific equipment.

E-mail: simion.dragan@ubbcluj.ro

Assoc. Prof. dr. eng. **Árpád IMRE-LUCACI**

Process simulators. Web instruments in education. Process optimization.

E-mail: arpad.imre@ubbcluj.ro

Assoc. Prof. dr. eng. **Adina-Lucreția MICLĂUȘ**

Transport and Transfer Phenomena and Unit Operation, Physico-Mechanical Separation Processes and Specific Equipments, Rheology of Disperse Systems.

E-mail: adina.ghirisan@ubbcluj.ro

Prof. emeritus dr. **Liana Maria MUREȘAN**

Obtaining and characterization of advanced electrode materials, exhibiting electrocatalytic activity and selective recognition properties towards certain chemical species.

Electrodeposition of metals and (nano)composites. Corrosion and anticorrosion protection of metals.

E-mail: liana.muresan@ubbcluj.ro

Assoc. Prof. dr. eng. **Adrian NICOARĂ**

Electrochemical methods for investigating the electrode processes. Virtual electrochemical instrumentation. Reaction mechanisms for electrochemical processes. Membrane separation processes, electrodialysis.

E-mail: adrian.nicoara@ubbcluj.ro

Scientific Researcher II dr. eng. **Zsolt PAP**

The synthesis of semiconductor and noble metal containing composites and their photocatalytic properties in H₂ production and degradation of organic pollutants. The application of shape-tailoring approaches.

E-mail: zsolt.pap@ubbcluj.ro

Assoc. Prof. dr. eng. **Letiția PETRESCU**

Life cycle analysis (LCA), CO₂ capture and storage, Chemical looping. CAPE OPEN modeling and simulation of chemical processes.

E-mail: letitia.petrescu@ubbcluj.ro