

# Doctoral School of Chemical Engineering



Doctoral School of Chemical Engineering trains high-profile qualified professionals for the field of chemical engineering, promoting education and research in agreement with the demands of society based on in-depth knowledge and excellence. The research carried out within the doctoral school is in line with the priority direction of advanced chemical engineering that conceives, develops new materials and applies modern chemical processes, energetically and economically efficient, designed in the spirit of sustainable development, operable in optimal conditions based on computer modeling and control, aiming an equally applicative, economic and social impact. The PhD graduates will valorize the highly skilled doctoral qualification and bright opportunities will be opened for their careers in companies, research institutions and universities.



## Doctoral supervisors

### Prof. Dr. Eng. CORMOȘ Călin Cristian

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.  
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### Prof. Dr. CORMOȘ Ana-Maria

Modelling and simulation of chemical and biochemical processes. Carbon Capture, Utilization and Storage (CCUS) technologies. Innovative energy conversion systems. Hydrogen production from renewable energy sources (biogas, biomass). Multi-scale modeling of gas-solid (catalytic and non-catalytic) processes. Techno-economic and environmental evaluations of industrial processes.  
ana.cormos@ubbcluj.ro

### Prof. Dr. Eng. CRISTEA Vasile Mircea

Modelling and simulation of chemical processes with concentrated and distributed parameters (CFD). Development of classical and advanced automatic control systems based on mathematical modelling; model-based predictive control. Modelling, optimization and control applications that implement artificial intelligence tools; artificial neural networks and fuzzy logic. Data mining. Wastewater treatment plant control and resources recovery; modelling and control of water flow and pollutant propagation in rivers.  
mircea.cristea@ubbcluj.ro

### Prof. Dr. Eng. TURDEAN Graziella Liana

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).  
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### Assoc. Prof. Dr. Eng. BARABÁS Reka

Preparation and characterization of nanomaterials with optimized properties based on process design and IoT.  
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### Prof. Dr. Eng. AGACHI PAUL Șerban

Process Modeling; Simulation; Control and Optimization; Classical and Advanced Control Systems; Computer Aided Process Engineering (CAPE) Instruments; University Management; Research Management  
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### Prof. Dr. Eng. ILEA Petru

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.  
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### Prof. Dr. Eng. FAZAKAS József

Oxide Materials; Sol-gel Engineering; Nanomaterials.  
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### Prof. Dr. Eng. NAGY Zoltan Kálmán

Prof. Dr. 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.  
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## CONTACT

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