

PERSONAL INFORMATION



Calin-Cristian CORMOS

 Babes-Bolyai University, Faculty of Chemistry and Chemical Engineering,
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Sex: M | Date of birth: 08.04.1971 | Nationality: Romanian

RESEARCH FIELDS

Chemical Engineering, Chemical Reaction Engineering, Process Design and Integration, Computer Aided Process Engineering (CAPE), Energy Conversion Processes, Gasification, Carbon Capture, Utilization and Storage (CCUS), Clean Coal Technologies, Renewable Energy Sources, Hydrogen Production, Environmental Evaluations of Energy Conversion Processes, Techno-Economic Evaluation of Industrial Processes, Life Cycle Assessment (LCA)

WORK EXPERIENCE

October 2004 - present

Professor (October 2015 - Present)
Assoc. Prof. Eng. (February 2009 - September 2015)
Lecturer PhD Eng. (October 2004 - February 2009)

Faculty of Chemistry and Chemical Engineering, Babes – Bolyai University,
 Arany Janos No. 11, Cluj – Napoca, Romania

Research activities in chemical reaction engineering, mathematical modelling, simulation and optimization of chemical and thermo-chemical processes, Computer Aided Process Engineering (CAPE), process synthesis and design, techno – economic assessments, process integration, gasification, carbon capture technologies. Teaching courses, seminars and laboratory work for the following academic disciplines: “*Integrated design of chemical processes*”, “*Thermal integration and pinch technology*”, “*Chemical Reaction Engineering - Parts I and II*”, “*Advanced chemical engineering*” and “*Carbon capture and utilization technologies*”

Business or sector: Academic and scientific research

December 2005 - October 2007

Contractual Scientific Officer

European Commission, DG Joint Research Centre, Institute for Energy,
 Westerduinweg 3, Petten, The Netherlands

Techno-economic evaluation of energy conversion processes based on fossil fuels with CO₂ capture and storage - FP6 Integrated Project Dynamis: „Towards hydrogen and electricity production with CO₂ capture and storage” (Project no. 019672, www.dynamis-hypogen.com)
 Techno-economical evaluation of CO₂ capture and storage (CCS) technologies, hydrogen production processes, coal and lignite gasification processes, renewable energy sources, improving energy efficiency, combined heat and power

Business or sector: Scientific research in energy and environment

October 2001 - March 2004

Products Development Manager, Chemical Division

S.C. Terapia S.A., Fabricii 124, Cluj – Napoca, Romania

Managing the Products Development Department – Chemical Division, coordinating research activities regarding synthesis of active pharmaceutical ingredients (API), regulatory affairs and elaboration of Drug Master File (DMF) for synthesized API, setting-up and accomplishment of the research plan for the chemical division (laboratory and pilot phases, application at industrial scale)

Business or sector: Pharmaceutical and chemical industry, Research area: Organic chemistry and Chemical engineering

May 2001 - October 2001

Head of Technical Department for Synthesis Manager, Chemical Division

S.C. Terapia S.A., Fabricii 124, Cluj – Napoca, Romania

Managing the Technical Department for Synthesis – Chemical Division, coordinating research activities regarding synthesis of active pharmaceutical ingredients (API), regulatory affairs and elaboration of Drug Master File (DMF) for synthesized API, verification of standard operation procedures (SOP), writing techno - economic reports and feasibility studies for synthesis processes of pharmaceutical ingredients

Business or sector: Pharmaceutical and chemical industry, Research area: Organic chemistry and Chemical engineering

May 1998 - May 2001

Chemical Engineer, Technical Department Manager Assistant

S.C. Terapia S.A., Fabricii 124, Cluj – Napoca, Romania

Regulatory affairs for pharmaceutical products, research activities for synthesis of active pharmaceutical ingredients (API), elaboration of standard operation procedures (SOP) for synthesis processes, registration of company's patents to the Romanian National Office for Patents (OSIM), analysing raw material and utilities consumptions of chemical synthesis processes

Business or sector: Pharmaceutical and chemical industry, Research area: Organic chemistry and Chemical engineering

September 1995 - May 1998

Chemical Engineer, Pantolactone Plant Manager, Calcium Pantothenate Plant

S.C. Terapia S.A., Fabricii 124, Cluj – Napoca, Romania

Managing the pantolactone synthesis plant, supervision of the plant and the working personal, writing of technical reports and standard operation procedures (SOP) for pantolactone plant, inventory of raw materials and finite product, research for process and plant improvements

Business or sector: Pharmaceutical and chemical industry, Research area: Organic chemistry and Chemical engineering

EDUCATION AND TRAINING

October 1997 - January 2004

PhD in chemical engineering

Faculty of Chemistry and Chemical Engineering, Babes – Bolyai University, Cluj - Napoca, Romania

PhD thesis: "*Mathematical modeling and simulation of racemic calcium pantothenate synthesis*"

July 2005

Basic heat integration, applications in energy systems with CAPE instruments

Prof. Jiri Klemes and Simon Perry, Centre for Process Integration, University of Manchester, UK

February 2005

Creativity support tools and methods in process engineering

Prof. Andrzej Kraslawski, Lappeenranta University of Technology, Finlanda

February 2005

Modeling of turbulent reacting flow and coupling of CFD with micromixing and population balance

Prof. Antonello Baresi, Politecnico di Torino, Torino, Italia

July 2004 - September 2004

Model Predictive Control and Hybrid Systems

Eidgenössische Technische Hochschule (ETH), Institut für Automatik, Zurich, Switzerland

January 2002

The fundamentals of finance for non-financial manager

Management Centre Europe, Brussels, Belgium

November 2001 - May 2002

The Effective Manager, Course: BZT 654

The Open University Business School, Great Britain - Codecs, Romania

October 2001

Project management

Centre for Development in Management, Cluj - Napoca, Romania

May 1999

Hazard and risk in chemical industry

PhD. Eng. Stefano Boy, Snamprogetti, Italia

July 1999

Patent - From idea to profit

Cluj Chamber of Commerce, Industry and Agriculture, Cluj - Napoca, Romania

February 1999

ChemCAD – A tool for modeling and simulation of chemical processes

Prof. Ph.D. Eng. Kovan Moser, Vesprem University, Ungaria

October 1995 - June 1996

Master of science

Faculty of Chemistry and Chemical Engineering, Babes - Bolyai University, Cluj - Napoca, Romania

Specialization: Catalysis and biocatalysis

September 1990 - June 1995

Chemical Engineering

Faculty of Chemistry and Chemical Engineering, Babes - Bolyai University, Cluj - Napoca, Romania

Specialization: Technology of Organic Substances

PERSONAL SKILLS

Mother tongue

Romanian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C2	C2	C1	C1
French	B2	C1	C1	B2	C1
German	A2	A2	A2	A2	A2

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user
Common European Framework of Reference for Languages

Social skills and competences

Teamwork, interpersonal skills, communication, responsibility

Organisational / managerial skills

System thinking, problem identification, problem solving, planning skills, foresight planning, resources management, time management

Technical skills and competences

System theory, Computer Aided Design (CAD), Computer Aided Process engineering (CAPE), process control, modelling, simulation and optimization, numerical programming, process engineer, techno-economic evaluation of industrial processes

Computer skills Microsoft Windows & Microsoft Office (Word, Excel, Power Point, Access, Project)
Turbo Pascal, CorelDraw, Latex
Technical software: MATLAB / SIMULINK, Comsol, LabVIEW
Chemical specific software: ChemCAD, Aspen, HYSYS, Pro II
Energy related specific software: Thermoflex, GT Pro, IPSE Pro, Cyclo-Tempo
Life Cycle Assessment (LCA): GaBi

ADDITIONAL INFORMATION

Publications Publications: 3 books / chapters, 195 scientific papers (2635 citations, Hirsch index 29), 1 patent

Presentations

Projects Project director / responsible for national and international research projects e.g.: Horizon 2020 projects: "*SEWGS - Technology platform for cost effective CO₂ reduction in the iron & steel industry*", "*CONVERGE - Carbon valorisation in energy-efficient green fuels*"; project Romania – Norway "*Hybrid Solvent – Membrane for post-combustion CO₂ capture and utilization*"; ERANET Co-fund Advanced Carbon Capture Technologies (ACT) projects; FP6 project "*Dynamis: Towards hydrogen and electricity production with CO₂ capture and storage*"; bilateral project Romania - Switzerland "*Advanced thermo-chemical looping cycles for the poly-generation of decarbonised energy vectors: Material synthesis and characterisation, process modelling and life cycle analysis*"; Ideas exploratory research projects "*Innovative methods for chemical looping carbon dioxide capture applied to energy conversion processes for decarbonised energy vectors poly-generation*"; studies done for European Commission "*Conceptual design of typical power plant configurations for the estimation of reference capital costs including material*" and "*Analysis of hydrogen and power (HYPOGEN)-type power plant*" etc.

Conferences

Seminars

Honours and awards

Memberships

References

Expert and project evaluator: UEFISCDI, Romania; Bulgarian National Science Fund, Bulgaria; Energy and carbon capture and storage expert, European Commission, DG-JRC, Institute for Energy; IEA Clean Coal Center; FP7 / Horizon 2020 / Horizon Europe project evaluator – Energy & CCUS panel; National Center of Science and Technology, Republic of Kazakhstan etc.

Scientific referent for ISI-ranked journals: Renewable & Sustainable Energy Reviews; Journal of CO₂ Utilization; Renewable Energy; International Journal of Hydrogen Energy; Energy; International Journal of Greenhouse Gas Control; Industrial & Engineering Chemistry Research; Applied Energy; Fuel Processing Technology; Environmental Science & Technology; Energy & Fuels; Fuel; Clean Technologies and Environmental Policy; Journal of Cleaner Production; International Journal of Environmental and Pollution; Applied Thermal Engineering; Energies; Processes; World Journal of Modeling and Simulation; Open Renewable Energy Journal; Studia Universitatis - Seria Chemia etc.

Member of professional associations: Society of Chemical Engineers Romania