



Europass Curriculum Vitae



Personal information

First name(s) / Surname(s) Gheorghe BUMBAC
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Nationality Romanian
Date of birth Ianuarie, 26, 1958
Gender M

Desired employment / Occupational field Research Project: (*Decision Support Tools for Integrated Solid Waste Management Based on the Analysis of Life Cycle Chains, Eco-efficiency and Sustainability*) – (DESTIM) / Energy Flow Modelling and Simulation Group leader

Work experience

Dates 1984-1986
Occupation or position held Process development engineer
Main activities and responsibilities Studies for implementation of new technologies for the factory, including energy saving
Managing implementation of investment projects
Name and address of employer Rubber Technical Articles Factory *DANUBIANA, BUCHAREST*
Type of business or sector Industrial production of rubber production
Dates 09/86 - 02/97
Occupation or position held Process Chemical Engineer
Main activities and responsibilities Ammonia, Fertilisers, Soda Ash Processes Analysis For Retrofit, Developments And Design
Name and address of employer Chemical Process Design Iprochim, Bucharest
Type of business or sector Chemical engineering
Dates 02/97 - 09/2000
Occupation or position held **Research Engineer** In The Department Of Chemical Engineering
Main activities and responsibilities Research In Chemical Engineering, Teaching Basis Of Chemical Engineering, Computers Applied In Chemical Engineering, Rational Use Of Energy
Name and address of employer University "Politehnica" Of Bucharest (Former Polytechnic Institute Of Bucharest)
Type of business or sector Educational and research services
Dates 09/2000 - 09/2004

Occupation or position held **Lecturer In The Department Of Chemical Engineering**
Main activities and responsibilities Teaching And Research Basis Of Chemical Engineering, Mathematics Applied In Chemical Engineering, Mass Transfer, Computers Applied In Chemical Engineering, Efficient Use Of Process Simulation And Process Integration Techniques For Energy Saving And Pollution Reduction In Process Industries, Computer Aided Design, Information Systems For Process Industries, Information Systems In Universities

Name and address of employer University "Politehnica" Of Bucharest

Type of business or sector Educational and research services

Dates 09/2004 – To date

Occupation or position held **READER IN THE DEPARTMENT OF CHEMICAL ENGINEERING**

Main activities and responsibilities *Teaching* : basis of chemical engineering, mathematics applied in chemical engineering, mass transfer operations, computers applied in chemical engineering, efficient use of process simulation and process integration techniques for energy saving and pollution reduction in process industries, process modelling and simulation
Research : analysis of process plants for better use of raw materials, energy and pollution reduction, new methodologies in engineering education, information systems for university management, modelling and simulation of process equipment and plants

Name and address of employer University "Politehnica" Of Bucharest

Type of business or sector Educational and research services

Education and training

Dates 1973-1978

Title of qualification awarded Baccalaureate diploma

Principal subjects/occupational skills covered **chemical plant operator**

Name and type of organisation providing education and training School of Industrial Chemistry (in romanian: Liceul Industrial de Chimie), Navodari, jud. Constanta

Dates 1979 – 1984

Title of qualification awarded Chemical engineer

Principal subjects/occupational skills covered engineer

Name and type of organisation providing education and training University "Politehnica" Of Bucharest (Former Polytechnic Institute Of Bucharest)

Dates 1997- 1998

Title of qualification awarded Postgraduate Diploma (in romanian: Diploma de studii Aprofundate)

Principal subjects/occupational skills covered Computer tools in chemical engineering

Name and type of organisation providing education and training University "Politehnica" Of Bucharest

Dates 1999

Title of qualification awarded PhD diploma

Principal subjects/occupational skills covered Physical-Chemistry

Name and type of organisation providing education and training University "Politehnica" Of Bucharest

Title of qualification awarded

Principal subjects/occupational skills covered

Name and type of organisation providing education and training

Personal skills and competences

Mother tongue(s) **Romanian**
 Other language(s) **English; French**

Self-assessment
European level ()*

Language
Language

Understanding				Speaking				Writing	
Listening		Reading		Spoken interaction		Spoken production			
B1	English	B1	English	B1	English	B1	English	B1	English
A2	French	A2	French	A2	French	A2	French	A2	French

(*) [Common European Framework of Reference for Languages](#)

Technical skills and competences

- * TRAINING IN THE DEPARTMENT OF PROCESS INTEGRATION – UNIVERSITY OF MANCHESTER INSTITUTE OF SCIENCE AND TECHNOLOGY (DPI-UMIST) ON MANAGEMENT OF R&D PROJECTS AS WELL AS INDUSTRIAL PROJECTS FOR ANALYSIS OF PLANTS IN CHEMICAL, PETROCHEMICAL AND OIL REFINING INDUSTRIES, INCLUDING SAVING OF ENERGY AND REDUCTION OF POLLUTION, UNDER BRITISH COUNCIL LINK PROJECTS 1997-1999.
- * TRAINING ON USING COMPUTERS IN CHEMICAL ENGINEERING FOR PROCESS ENGINEERING IN RATIONAL USE OF ENERGY AND POLLUTION REDUCTION, UNDER LEONARDO DA VINCI PROJECT, 1998, UMIST
- * TRAINING ON CONSULTING FOR ENERGY SAVING AND POLLUTION REDUCTION PROJECTS, IN PHARE SCHEME “TWINNING AND NETWORKING OF ENERGY CONSULTANTS”, 1997-1998, UMIST
- * TRAINING ON IMPLEMENTATION OF UNIVERSITY MANAGEMENT INFORMATION SYSTEM UNDER PHARE PROJECT RO9601, MAY 2001, BUCHAREST

Computer skills and competences

- PROCESS SIMULATION SOFTWARE (HYSYS, ASPEN, SUPER PRO DESIGNER, ICAS)
- PROCESS INTEGRATION SOFTWARE : PROCESS INTEGRATION SOFTWARE FROM THE DEPARTMENT OF PROCESS INTEGRATION AT UNIVERSITY OF MANCHESTER INSTITUTE OF SCIENCE AND TECHNOLOGY (UMIST)
- CFD : CFX 5.5
- ENGINEERING SOFTWARE: MATLAB, MATHCAD, G- PROMS, GAMS
- WINDOWS,
- GENERAL OFFICE SOFTWARE (OFFICE, STAROFFICE, CORELDRAW SUITE)
- PROGRAMMING LANGUAGES (PASCAL, FORTRAN)
- COMPUTER AIDED DESIGN (AUTOCAD, PRO ENGINEER)

Driving licence Yes (Vehicles in B Category)

Annexes

RELEVANT PUBLICATIONS :

1. V. PLESU, M.T. BERCARU, **G. BUMBAC**, P. IANCU, *DATA EXTRACTION PROCEDURES FOR ENERGY BASED SYSTEMS IN PROCESS INDUSTRIES*, 3RD CONFERENCE PRES2000 PROCESS INTEGRATION, MODELLING AND OPTIMISATION FOR ENERGY SAVING AND POLLUTION REDUCTION, PRAGUE 27-31 AUGUST 2000, P7.88.
2. V. PLESU, C. MARCOV-TACU, **G. BUMBAC**, P. IANCU, M. T. BERCARU, *INTERFACES BETWEEN PROCESS SIMULATION ENVIRONMENT AND PROCESS INTEGRATION SOFTWARE*, PROCEEDINGS OF 3RD SYMPOSIUM ON PROCESS SIMULATION, INTEGRATION AND OPTIMISATION – PSIO2002, BUCHAREST, BREN, PP 14-23, 2002.
3. **G. BUMBAC**, V. PLESU, P. IANCU, D. BAETENS, *CATALYTIC REFORMING PLANT SIMULATION FOR ENERGY SAVING AND RATIONAL PRODUCTION OF HYDROGEN*, AIDIC CONFERENCE SERIES, VOL 5, PP71-78, 2002.

4. Gr. Bozga, **G. Bumbac**, V. Plesu, I. Muja, D. C. Popescu, *Modelling and Simulation of Kinetics and Operation for the TAME Synthesis by Catalytic Distillation*, European Symposium on Computer Aided Process Engineering, **ESCAPE – 13**, A. Kraslawski and I. Turunen (Editors), Elsevier, 2003, pp. 575- 580.
5. **G. Bumbac**, V. Plesu, Gr. Bozga, *New Aspects Concerning Design and Simulation of Reactive Distillation for TAME Synthesis*, 13th Romanian Chemistry and Chemical Engineering Conference - SYMPOSIUM Process Simulation, Integration and Optimisation in Process Engineering – **PSIO'03**, 18 September, 2003, Bucharest, Romania.
6. **G. Bumbac**, V. Plesu, I. Ivanescu, D.C. Popescu, *Retrofit solution for n-parafines from gasoline isomerisation plant using process simulation and process integration*, Poster no. 00456, 53rd Canadian Chemical Engineering Conference, 6th Conference on Process Integration Modelling and Optimisation of Energy Saving and Pollution Reduction **PRES2003**, Hamilton, Ontario, Canada, 27- 30 Octombrie 2003
7. C. Ciornei, **G. Bumbac**, A. Turcu, M. Ilie, V. Croitoru, D. Petre, *Hydrogen Management in an Oil Refinery Plant*, 13th Romanian Chemistry and Chemical Engineering Conference Process Simulation, Integration and Optimisation in Process Engineering – **PSIO'03** September 18th 2003.
8. **G. Bumbac**, V. Plesu, C. Ciornei, *Hydrogen Storage In Metallic Hydride. Modeling of Hydrogen Discharge Step*, **H2-Age:When Where Why**, Pisa, Italy, 16-19 may 2004, ISBN 88-900775-3-0.
9. **G. Bumbac**, V. Plesu, C. Ciornei, F. Constantinescu, *Energy saving solutions for gas preparation unit and synthesis loop in ammonia plant*, 31st International Conference of Slovak Society of Chemical Engineering, Slovakia-**SSCHE**, May 24-28 2004 ISBN 80-227-2052-6.
10. V. Plesu, C. Tacu Marcov, **G. Bumbac**, P. Iancu, M. T. Berbaru, I. Grozeanu, *Interfaces between Process Simulation Environment and Process Integration Software*, **CHISA**, Praga, Cehia, 2002.
11. **G. Bumbac**, C. Ciornei, E. Lacatus, J. DE Ruyck, V. Lavric *Is post-separation mixing of raw materials and recycle better for ammonia synthesis loop*, Chemical Engineering Transactions (**PRES'05**, 15-18 May, 2005, Taormina, Italy),
12. J. DE Ruyck, E. Lacatus, **G. Bumbac**, V. Plesu, V. Lavric, *Combined process integration of chemical reactors energy and pinch analysis to improve the ammonia plant energetic performances*, 7th World Congress of Chemical Engineering, 10-14 July 2005, Glasgow, Scotland,
13. J. DE Ruyck, E. Lacatus, **G. Bumbac**, V. Plesu, V. Lavric, *Power integration of the ammonia reaction loop*, 14th Romanian International Conference on Chemistry and Chemical Engineering, Bucharest, September 19, 2005,
14. **G. Bumbac**, G., Bozga, G., Dima, R., Popescu, D.C., Toma, A.: *[Kinetic studies on the etherification of c5-alkenes to fuel ether](#)*. TAME, 32nd International Conference of **SSCHE**, Vysoké Tatry (High Tatras), Hotel Hutník, Tatranské Matliare, Slovakia May 23-27 2005,
15. Plesu V., **Bumbac G.**, Iancu P., Ivanescu I., Popescu D. C., *Process simulation and process integration analysys in a FCC plant*, **PRES'05**, 15-18 May, 2005, Taormina, Italy,
16. Plesu, V., **G. Bumbac**, C. Tacu-Marcov, I. Ivanescu, D. C. Popescu, *Retrofit Solutions in Crude Distillation Plant Using Process Simulation and Process Integration*, **PRES'05**, 15-18 May, 2005, Taormina, Italy,
17. C. Ciornei, **G. Bumbac**, V. Plesu, *Modelling and Simulation of Operation for the TAME Synthesis by Catalytic Distillation*, European Symposium on Computer Aided Process Engineering, **ESCAPE – 15**, L. Puigjaner and A. Espuña (Editors) © 2005 Elsevier Science B.V.
18. **Bumbac, G.**, Bozga, G., Ivanescu, I., Simion, C., Toma, A.: *[Kinetic studies on the etherification of c5-alkenes to fuel ether TAME](#)*, International Conference of **SSCHE**, Vysoké Tatry (High Tatras), Hotel Hutník, Tatranské Matliare, Slovakia May 23-26 2006,

19. Ciornei, C., **Bumbac, G.**, Plesu, A.E., Motelica, A., Ivanescu, I., Toma, A.: [Catalytic distillation process modelling and simulation for the TAAE synthesis on Amberlyst35 SSCHE](#), Vysoké Tatry (High Tatras), Hotel Hutník, Tatranské Matliare, Slovakia May 23-27 2006,

SOME INTERNATIONAL RESEARCH PROJECTS:

1. *“Implementation of a Technology Transfer Centre for Process Industries in University “POLITEHNICA” of Bucharest”* CONTRACTOR, TEMPUS CME PROJECT NO. CME-03064-97, 1998 –1999, PARTNERS : UPB, UMIST, HYPROTECH EUROPE, UNIVERSITAT POLITECNICA DE CATALUNYA – BARCELONA, SNP PETROM.
2. *“Sustainable Development by Retrofit and Debottlenecking for Energy Based Systems - REDBAS”* SCIENTIFIC DIRECTOR, COPERNICUS PROJECT, ERB IC15-CT98-0506, 1999 – 2001. PARTNERS: UPB, UMIST, SNP PETROM, REFINERY ASTRA ROMÂNĂ, TECHNICAL UNIVERSITY BRNO (CZ), KHARKOV STATE POLYTECHNIC UNIVERSITY (UA), EVECO (CZ), VITO (B).
3. *“INTRODUCTION OF CHEMICAL PINCH AND APPLICATION IN PETROCHEMICAL INDUSTRIES”*, MEMBER OF EXECUTIVE TEAM, BILATERAL COLLABORATION PROJECT ROMANIA – BELGIUM, CO-FUNDED BY THE MINISTRY OF FLEMISH COMMUNITY AND ROMANIAN RESEARCH AGENCY. 2000-2002. PARTNERS: VRIJE UNIVERSITEIT BRUSSEL, VLAAMSE INSTELLING VOOR TECHNOLOGISCH ONDERZUG, UPB- CTTIP.
4. *“INTELLIGENT COLUMN INTERNALS FOR REACTIVE SEPARATIONS- INTINT”*, MEMBER OF TEAM FOR UPB, FRAMEWORK PROGRAMME V PROJECT IN COMPETITIVE AND SUSTAINABLE GROWTH PROGRAMME, GRD1-1999-10596, 15 EUROPEAN PARTNERS, CONTRACTOR UNIVERSITY OF DORTMUND (D), 2000 – 2002.

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