

# CURRICULUM VITAE

## CATINCA SECUIANU



University POLITEHNICA of Bucharest  
Faculty of Applied Chemistry & Materials Science  
Department of Inorganic Chemistry, Physical Chemistry & Electrochemistry  
1-7 Gh. Polizu Street, S1, 011061 Bucharest, Romania  
Building E, 3<sup>rd</sup> Floor, Rooms 305-306  
Tel. +4021 4023823, Mobile: +4074 4489698  
Emails: tina@catedra.chfiz.pub.ro; c\_secuianu@chim.upb.ro; catinca.secuianu@upb.ro

---

## STUDIES and DIPLOMAS

### ▪ STUDIES & POSTDOCTORAL DIPLOMAS

*“Phase equilibria and thermophysical properties at ambient and high-pressures”*, Habilitation thesis, University Politehnica of Bucharest, January 2016, Bucharest.

*“Master procedures. Procedures for accreditation / periodical external evaluation of master programs”*; *“Case Study: external quality assessment of master studies”*; *Case Study: evaluation of an undergraduate study program* courses/exams organized by the The Romanian Agency for Quality Assurance in Higher Education, March 2016, Bucharest

*„The Impact of the Quality of CO<sub>2</sub> on Transport and Storage Behaviour”*, ISPE - Institute for Studies and Power Engineering, October, Bucharest

*“Preparing Successful Research Funding Applications”*, 14<sup>th</sup> April 2011, Imperial College London, UK, Tutor Dr. Liz Elvidge

*“Starting Teaching for Postdocs 1 & 2”*, 26 March & 15 June 2010, Imperial College London, UK, Tutor Dr Martyn Kingsbury

*“Planning for an Academic Career & Interview”* 26<sup>th</sup> May 2010, Imperial College London, UK, Tutors Jane Pooler, Mark Allen

*“Stand and Deliver: Giving Presentations for Conferences”*, 11 May 2010, Imperial College London, UK, Trainer Emma Cater (Vox Coaching)

*“Class: Writing Up Your Research for Publication”*, 10 May 2010, Imperial College London, UK, Trainer Hilary Glasman-Deal

*“Intro to Project Management for Research Staff”*, 5 May 2010, Imperial College London, UK, Trainer Roger Mayhew

*“Presenting Research Effectively”* 30 March 2010, Imperial College London, UK, Tutor Dr. Louise Baron

“*Pressure Fittings*”, 15-16 February 2010, Imperial College London, UK, Course leader Steve Preece (FTI Ltd)

“*Personal Organisation for Research Staff*”, 5 & 12 February 2010, Imperial Collge London, UK, Tutor Dr. Baggy Cox

“*Introduction to E&P*”, A Society of Petroleum Engineers (SPE) Continuing Education Seminar, November 19, 2009, Geological Society, London, United Kingdom.

ETS TOEFL certificat, September 26 2009, Bucharest

“*Seminar Laboratory P*”, March 17 2009, ABL&E-JASCO Romania, Bucharest

“*Gas Cromatography*”, February 9-11 2009, Comporter SRL, Bucharest, Tutor Dr. Dan Mihaiescu

Seminar “*Management and student-centered learning for academics*”, June 28-29 2007, ARACIS, Sinaia, Romania

#### ▪ **STUDIES & DOCTORAL DIPLOMA**

2004 *PhD in Chemical Engineering*, University POLITEHNICA of Bucharest, Department of Applied Physical Chemistry & Electrochemistry, Dissertation: “*High Pressure Vapor-Liquid Equilibria in the Binary Systems Carbon Dioxide + Monohydroxilic Alcohols*”  
Thesis Advisor: Professor Dan Geană

#### ▪ **STUDIES & GRADUATE DIPLOMA**

2001 *Advanced studies in Applied Thermodynamics & Electrochemistry*, University POLITEHNICA of Bucharest, Faculty of Industrial Chemistry, Department of Applied Physical Chemistry & Electrochemistry, Dissertation: *Vapor-Liquid Equilibria in the Binary Mixtures of n-Alkanes with Carbon Dioxide*

#### ▪ **STUDIES & UNDERGRADUATE DIPLOMAS**

2000 Certificate of completion of the Academics Training Department

2000 *Diploma of engineer diplomat in the Technology of Organic Substances*, University POLITEHNICA of Bucharest, Faculty of Industrial Chemistry, Diploma thesis: “*Formation of C-C bonds in the reactions of benzylic halides with metal carbonyl*”

1999 TEMPUS scholarship (three months) for chemistry educational software development, Service Enseignement sur Mesure Médiatisé (SEMM), Université des Sciences et Technologies, Lille, France

### **PROFESSIONAL EXPERIENCE & JOBS**

#### ▪ **PROFESSIONAL EXPERIENCE**

##### ➤ **TEACHING**

2011-Present Teaching activities, mentoring students (student scientific research, technological internships) și tutoring at the Department of Inorganic Chemistry, Physical Chemistry & Electrochemistry former Applied Physical Chemistry &

2001-2009

Electrochemistry, University POLITEHNICA of Bucharest, activities for the academic community (schedules, papers work, participating to the Faculty Council, etc)

**Courses:**

- ✓ *Physico-chemical properties of fluids. Database* (undergraduate students, Faculty of Applied Chemistry & Materials Science)
- ✓ *Thermodynamics of multicomponent systems* (master students, Faculty of Applied Chemistry & Materials Science)
- ✓ *Technical specifications & gases expertise at extreme pressures* (master students, Faculty of Applied Chemistry & Materials Science)
- ✓ *Physical chemistry* (undergraduate students, Faculty of Applied Chemistry & Materials Science)
- ✓ *Physical chemistry* (undergraduate students, Faculty of Entrepreneurship, Business Engineering and Management)
- ✓ *Physical Chemistry I* and *Physical Chemistry II* (taught in English for undergraduate students, Faculty of Engineering in Foreign Languages)

**Laboratory experiments and/or tutorials for:**

- ✓ *Colloidal Physical Chemistry* (1<sup>st</sup> year, undergraduate students, Faculty of Applied Chemistry & Materials Science, fields: Food engineering, Applied engineering sciences)
- ✓ *Physical Chemistry* (2<sup>nd</sup> year, undergraduate students, Faculty of Applied Chemistry & Materials Science, fields: Chemical engineering, Environment engineering; Faculty of Materials Science & Engineering, Faculty of Entrepreneurship, Business Engineering and Management)
- ✓ *Physical Chemistry I* (2<sup>nd</sup> year, undergraduate students, Faculty of Engineering in Foreign Languages)
- ✓ *Physical Chemistry* (3<sup>rd</sup> year undergraduate students, Faculty of Applied Chemistry & Materials Science, fields: Chemical engineering, Environment engineering;)
- ✓ *Technical specifications & gases expertise at extreme pressures* (master students, Faculty of Applied Chemistry & Materials Science)
- ✓ *Equations of state* (Advanced studies, Faculty of Applied Chemistry & Materials Science)
- ✓ *Chemical Equilibrium in multicomponent systems* (Advanced studies, Faculty of Applied Chemistry & Materials Science)

## Upgrading the Physical Chemistry Laboratory for Bachelor and Master cycles

### ➤ RESEARCH

2000-Present Scientific activity falls within the areas of applied thermodynamics, transport properties, and thermophysical properties of fluids. Its results were published in articles in professional journals of the field, by participating at international conferences in Romania and abroad, and research grants.

The research is divided into the following areas:

- ✓ High-pressure phase equilibria – experiments & modelling
  - University Ruhr-Bochum, Germany – *High-pressures measurements in binary systems of carbon dioxide + polymers*
  - University Politehnica of Bucharest – *High-pressures measurements in binary and ternary systems.*
- ✓ Physico-chemical properties at atmospheric pressure - experiments and modelling
  - University Politehnica of Bucharest – *Density, viscosity, refractive index, excess properties measurements for binary and ternary systems*
- ✓ Transport properties measurements
  - Imperial College London – *Design, construction, and operation of a high-pressure installation for measuring diffusion coefficients (up to 700 bar) and temperatures (up to 200°C) for systems containing carbon dioxide, brines, and hydrocarbons*

### ▪ JOBS

2016-Present Head of International Rankings, University POLITEHNICA of Bucharest

2012-2016 Vice Dean, Faculty of Applied Chemistry & Materials Science, University POLITEHNICA of Bucharest

2011-Present Honorary Research Fellow, Department of Chemical Engineering, Imperial College London, UK

2014-Present Professor at the Department of Inorganic Chemistry, Physical Chemistry & Electrochemistry, University POLITEHNICA of Bucharest

2012-2014 Associate professor at the Department of Inorganic Chemistry, Physical Chemistry & Electrochemistry, University POLITEHNICA of Bucharest

2007-2012 Lecturer at the Department of Inorganic Chemistry, Physical Chemistry & Electrochemistry (former Applied Physical Chemistry & Electrochemistry), University POLITEHNICA of Bucharest

2009-2011 Research Fellow, Thermophysics Group, Qatar Carbonates and Carbon Storage Research Centre (QCCSRC), Department of Chemical Engineering, Imperial College London, UK

- 2005-2007 Assistant professor at the Department of Applied Physical Chemistry & Electrochemistry, University POLITEHNICA of Bucharest
- 2004-2005 Substitute Assistant professor at the Department of Applied Physical Chemistry & Electrochemistry, University POLITEHNICA of Bucharest
- 2001-2002 Doctoral internship at Lehrstuhl für Verfahrenstechnische Transportprozesse, Fakultät Maschinenbau, Ruhr-Universität Bochum, Germany
- 2000-2004 PhD student at the Department of Applied Physical Chemistry & Electrochemistry, University POLITEHNICA of Bucharest

**RESEARCH AND DEVELOPMENT PROJECTS AND GRANTS** (*selection of projects obtained as project manager*)

- 2013 *Phase behaviour & thermophysical properties of systems containing carbon dioxide and their role in carbon capture and storage*, Bilateral project Romania-Argentina, No. 730/01.08.2013, 2013-2015, Capacity program, Modul III - Projects to support Romania's participation in international research projects, 65900 RON, **project manager** C. Secuianu.

Sima, S., Cruz-Doblas, J., Cismondi Duarte, M. C., **Secuianu, C.\***, *High-pressure phase equilibrium calculations for carbon dioxide + cyclopentane binary system*, SPRINGER, *Cent. Eur. J. Chem.*, 12 (9), 918-927, **2014**, ISSN: 1895-1066, **IF 2013: 1.329**.

**Secuianu, C.**, Dinca, C., Cismondi, M., *Phase behaviour & thermophysical properties of systems containing carbon dioxide and their role in carbon capture and storage*, in *CIEM 2013*, 6<sup>th</sup> International Conference on Energy and Environment, November 7-8, **2013**, Politehnica University Conference Center, Bucharest, Romania (oral communication)

Sima, S. Cruz Doblas, J., Cismondi, M., **Secuianu, C.**, *High pressure phase equilibria in carbon dioxide + branched alkanes mixtures*, in 18<sup>th</sup> Romanian International Conference on Chemistry and Chemical Engineering RICCE 18, 4-7 September, **2013**, Sinaia, Romania (oral communication)

- 2007 *High-pressure phase behaviour experimental measurements and for binary systems of carbon dioxide + 1-pentanol and carbon dioxide + 1-hexanol*, Grant type AT, Code CNCSIS 3, 39 200 RON, **project manager** Catinca Secuianu

**Secuianu, C.**, Feroiu, V., Geană, D. "High-Pressure Vapor-Liquid and Vapor-Liquid-Liquid Equilibria in the Carbon Dioxide + 1-Hexanol System" in *ESAT 2008 Proceedings of 23<sup>rd</sup> European Symposium on Applied Thermodynamics*, May 29<sup>th</sup>-June 1<sup>st</sup>, Cannes, France, pp. 31, CD: pp. 79-86, ISBN 2-905267-59-3 (oral communication).

**Secuianu, C.**, Feroiu, V., Geană, D. "High-pressure phase equilibria in the (carbon dioxide + 1-hexanol) system", *J. Chem. Thermodyn.* 42, 1286-1291, 2010.

- 2006 *High-pressure phase behaviour experimental measurements and for binary systems of carbon dioxide + 1-pentanol and carbon dioxide + 1-hexanol*, Grant type AT, Code CNCSIS 3, 20 000 RON, **project manager** Catinca Secuianu

**Secuianu, C.**, Feroiu, V., Geană, D. “Phase equilibria calculations for carbon dioxide + alcohols binary mixtures with the Huron-Vidal infinite dilution (HVID) mixing rules” in “Romphyschem-12” International Conference on Physical Chemistry, Bucharest, Romania, 6-8 September 2006, pp. 235.

**Secuianu, C.**, Feroiu, V., Geană, D. “High-Pressure Vapor-Liquid Equilibria of Carbon Dioxide + 1-Pentanol System: Experimental Measurements and Modeling”, *Rev. Chim.* (Bucharest) 58 (12), 1176-1181, 2007.

**Secuianu, C.**, Feroiu, V., Geană, D., “High-Pressure Phase Equilibria for Carbon Dioxide (1) + 1-Pentanol (2) Binary System” in *Molecular Modelling & Simulation for Process and Product Design*, March 22 - 23, 2010, Würzburg, Germany.

**Secuianu, C.**, Feroiu, V., Geană, D. “Measurements and Modelling of High Pressure Phase Behavior of Carbon Dioxide + 1-Pentanol Binary System”, *J. Chem. Eng. Data* 56 (12), 5000-5007, 2011, Festschrift K. Marsh.

**Secuianu, C.**, Feroiu, V., Geană, D., “Phase Equilibria of Carbon Dioxide + 1-Pentanol System at High Pressures”, in 25<sup>th</sup> European Symposium on Applied Thermodynamics ESAT 2011, June 24-27, Saint Petersburg, Russia, pp 395-398 (poster), ISBN 5-85263-061-6.

2004 *High-pressure vapour-liquid equilibria measurements for carbon dioxide + 2-butanol binary system. Equations of state correlations*, Grant type Td, Code CNCSIS 445, 4800 RON, **project manager** Catinca Secuianu

**Secuianu, C.**, Feroiu, V., Geană, D. “High-Pressure Vapor-Liquid Equilibria in the System Carbon Dioxide + 2-Butanol and Calculations with EOS methods” *Sci. Technol. Env. Protection* 11 (1), 48-60, 2004 (Indexed IDB: METADEX, Cambridge Scientific Abstracts).

**Secuianu, C.**, Feroiu, V., Geană, D. “High-Pressure Vapor-Liquid Equilibria in the System Carbon Dioxide + 2-Butanol at Temperatures from 298.15 K to 318.15 K” in “*BRAMAT 2005*” Proceedings International Conference on Materials Science and Engineering, Braşov – România, 24-26 February 2005, P5A15, CD, ISBN 973-635-454-7 (Book of Abstracts, pp. 281, ISBN 937-635-454-7).

**Secuianu, C.**, Feroiu, V., Geană, D. “Phase behavior for carbon dioxide + 2-butanol system: experimental measurements and modeling with cubic equations of state”, *J. Chem. Eng. Data* 54 (5), 1493-1499, 2009.

## **AWARDS AND OTHER ELEMENTS OF THE SCIENTIFIC CONTRIBUTIONS' RECOGNITION**

### **▪ AWARDS**

2016 Romanian Executive Unit for Financing Higher Education, Research, Development, and Innovation: Three prizes for research results

- 2012 Romanian Executive Unit for Financing Higher Education, Research, Development, and Innovation: One prize for research results (RU/ PN-II-RU-PRECISI-2012-6-1096)
- 2011 National Research Council of Romania Two prizes for research results (RU/PN-II-RU-PRECISI-2011-3-1473, RU/PN-II-RU-PRECISI-2011-3-1475)
- 2010 National University Research Council of Romania (CNCSIS) Three Prizes for research results (RU/Cod CNCSIS 490; RU/Cod CNCSIS1075; RU/Cod CNCSIS 1369; <http://cncsis.ro/articole/2131/Proces-evaluare-2010.html>)
- 2009 National University Research Council of Romania (CNCSIS) Three Prizes for research results (RU-255, Stage I 2009, RU-781, RU-782, Stage II 2009)
- 2008 National University Research Council of Romania (CNCSIS) Four Prizes for research results (RU-83 July 2008, RU-59 August 2008, RU-12, RU-325 October 2008)
- 2007 National University Research Council of Romania (CNCSIS) Two Prizes for research results: (RU-24, RU-25)
- 2005 The prize “*In tempore opportuno*” of the Politehnica University of Bucharest
- 2004 The “Young Ph.D. Student Award” of the Politehnica University of Bucharest

▪ **OTHER ELEMENTS OF THE SCIENTIFIC CONTRIBUTIONS’ RECOGNITION**

- 2016 *Preliminary examiner* for the PhD thesis “*Thermodynamic study of protic ionic liquids for lignocellulosic biomass processing*”, Aalto University, Finland
- 2016 *Chair* of the 29<sup>th</sup> European Symposium on Applied Thermodynamics – ESAT 2017, 18-21 May 2017, Bucharest, Romania, [www.esat2017.ro](http://www.esat2017.ro)
- 2016 Citations - *Hirsch Index* **12**, ISI Web of Science; **12**, Scopus
- 2016 *Founder and President* of the *Association for Education, Applied Sciences & Technologies*
- 2016 *Guest Editor* Special Issue RICCCE 19 in *Chem. Eng. Comm.*
- 2016 Evaluator of the Romanian Agency for Quality Assurance in Higher Education
- 2016 Member of the Steering Committee of the European Symposium on Applied Thermodynamics
- 2014-2015 Member of the International Jury for the *Excellence Award in Thermodynamics and Transport Properties* of the European Federation of Chemical Engineering
- 2015 *Member of the doctoral committee* for the PhD thesis “*Aerosol-based Emissions, Solvent Degradation, and Corrosion in Post Combustion CO<sub>2</sub> Capture*”, Delft University of Technology, the Netherlands

- 2015 *Member of Scientific committee and vicepresident of the organizing committee of “The 19<sup>th</sup> Romanian International Conference on Chemistry and Chemical Engineering – RICCCE 19, September 2-5, 2015, Sibiu, Romania”*
- 2014 Evaluating expert for research grants of Chile
- 2013-2014 *Editor of the three special issues of “The 18<sup>th</sup> Romanian International Conference on Chemistry and Chemical Engineering –RICCCE 18, September 4-7, 2013, Sinaia, Romania” published in “Central European Journal of Chemistry”, Springer*
- 2013-2014 ERASMUS bilateral agreement University Politehnica of Bucharest (Dr. Catinca Secuianu) – Technical University of Athens, Greece (Dr. Epaminondas Voutsas)
- 2013-2014 ERASMUS bilateral agreement University Politehnica of Bucharest (Dr. Catinca Secuianu) – University of Silesia (Dr. Miroslaw Chorazewski), Poland
- 2013 *Member of Scientific committee and vicepresident of the organizing committee of “The 18<sup>th</sup> Romanian International Conference on Chemistry and Chemical Engineering – RICCCE 18, September 4-7, 2013, Sinaia, Romania”*
- 2011-Present **Physical Chemistry Editor** of Open Chemistry (former *Central European Journal of Chemistry*, Springer), ISSN: 1895-1066, IF 2013: 1.329
- 2014 Head of Physical Chemistry subject for the “C.D. Nenițescu“ Chemistry National Contest for College Students
- 2004-2013 Member of the Jury for the “C.D. Nenițescu“ Chemistry National Contest for College Students, Section Physical Chemistry
- 2012-2014 Bilateral agreement University Politehnica of Bucharest (Dr. C. Secuianu), Romania – National University of Cordoba (Dr. M. Cismondi), Argentina
- 2012 *Evaluator* UEFISCDI for Partnerships program
- 2010-2014 Member of Sections on Product Design and Engineering, and on Process Engineering for Sustainable Energy, two of the six sections of the European Federation of Chemical Engineering - EFCE)
- 2009-2012 ERASMUS bilateral agreement University Politehnica of Bucharest (Dr. Catinca Secuianu) – National University of Athens, Greece (Dr. Epaminondas Voutsas)
- 2009 Finalist of the Section Teacher of the Year category university education, Education Awards Gala, the "Dinu Patriciu" Foundation
- 2008-Present *Member of the editorial board of International Journal of Liquid State Sciences (IJLSS), Serial Publications, ISSN 0975-4504*
- 2008 *Evaluator* for the Bulgarian Scientific Research Fund for the programs: „Supporting the development of the scientific potential in higher schools”, “Stimulating scientific research in state schools for higher education”, “Ideas”, „Young scientists”, "Thematic competition for financing of research projects in priority domains"



2007-Present *Reviewer for the journals:*

- *Journal of Chemical & Engineering Data;*
- *Central European Journal of Chemistry;*
- *International Journal of Liquid State Sciences;*
- *Chemical Reviews;*
- *Theoretical Chemistry Accounts;*
- *The Journal of Chemical Thermodynamics;*
- *Chemical Engineering Communications;*
- *The Journal of Supercritical Fluids;*
- *Chemical Engineering Science;*
- *Fluid Phase Equilibria;*
- *Chemical Industry & Chemical Engineering Quaterly;*
- *Chemical Engineering Research and Design;*
- *International Journal of Thermophysics.*

2007-Present *National Delegate of Romania* of the **Working Party on Thermodynamics and Transport Properties (WP-TTP)**, one of the seventeen WPs of the European Federation of Chemical Engineering (EFCE), <http://www.wp-ttp.dk/NationalDelegates.html>)

2007-Present *Member* of the Romanian Chemical Engineering Society

2005-Present *Member* of the Romanian Chemistry Society

2001-2009 *Member* of the organizing committee, Physical Chemistry section of “*The Romanian International Conference on Chemistry and Chemical Engineering -RICCCE*”