Profile

I am deeply passionate about computation, science, and learning, capable to work alone and collaborate within a team setting, driven by challenge and results.

Education

PhD

Aristotle University of Thessaloniki, Greece, February 2016 – present

MEng

University „Politehnica" of Bucharest, Romania, October 2013 – July 2015, Chemical Process Engineering

Main courses: numerical methods and optimization techniques, chemical reaction engineering, process dynamics, process control, separation techniques.

The research activities performed during this program produced an article, which compares the performance of a classical reactor–separation–recycle process with that of a catalytic distillation column:

Bîldea, C. S., Győrgy, R., Sánchez-Ramírez, E., Quiroz-Ramírez, J. J., Segovia-Hernandez, J. G., & Kiss, A. (2015). Optimal design and plantwide control of novel processes for di-n-pentyl ether production. *Journal of Chemical Technology and Biotechnology, 90* (6), 992-1001. onlinelibrary.wiley.com/doi/10.1002/jctb.4683/abstract.

ChimMaster Research Program

Between March 1st and May 31st 2015 I have been an exchange student at Linköping University, Sweden, as part of the ChimMaster (SOP HRD) research program. My task was to model and simulate light interaction with complex structured periodic media.

BEng

University „Politehnica" of Bucharest, Romania, October 2009 – July 2013, Major: Chemical and Biochemical Process Engineering and Informatics

Main courses: (moment, heat and mass) transport phenomena, unit operations, chemical reaction engineering, process simulation using AspenTech software.

Computer Skills

- Advanced programming skills in: MATLAB, FORTRAN, Python, Mathcad
- Process Simulation: Aspen Plus, Aspen HYSYS
- Good command of Microsoft Word, Excel and PowerPoint

Work history

Intern at OMV Petrom „Petrobrazi" refinery

I was tasked with heat exchanger fouling mitigation, caused by the presence of olefins, coupled with severe operating conditions (high temperature and pressure).

Associate Teacher at University „Politehnica" of Bucharest

I taught elementary physics concepts to 1st year bachelor students: Newtonian mechanics, thermodynamics, and electromagnetics.

Languages

- Romanian: native proficiency
- English: professional working proficiency
- Spanish, Swedish: limited working proficiency
- Turkish, French, German, Greek: basic proficiency

Membership

Member of the Romanian Chemical Society (www.schr.org.ro) since 2009. Head of the IT department of the Youth division (stc-schr.blogspot.ro) between 2010 and 2015. My responsibilities included making the website more accessible, managing databases, and producing nametags and certificates for participants and organizers.

Member of the Romanian Society of Chemical Engineering (sicr.ro) since July 2013.

Interests and Hobbies

Computation: whenever I find myself redoing an activity or procedure, I usually write a program to do it, if I think it is worth investing the time to do so. To minimize the total annual cost for a chemical process I ended up writing MATLAB code that automates the integer parameter sweeps and retains the best results.

Teaching: I have been a volunteer teaching assistant for the scientific computing (MATLAB and Mathcad) course taught to 3rd year bachelor students; my contribution included creating homework assignments that would get students to engage deeper with the material, through making it more enjoyable.

Competitions

Participated at science fairs within University „Politehnica" of Bucharest with presentations about vacuum tower operation, production of acetaldehyde by catalytic dehydration of ethanol (2nd prize), dynamic model and simulation of a distillation tower separating a mixture of di-n-pentyl ether, 1-pentanol, and water (3rd prize).

Winner of 2nd prize at the national (RO) FameLab competition organized by the British Council. Each competitor had to present a science topic of his/her choice in under 3 minutes. We were ranked based on content, clarity, and charisma.

3rd prize at the National Chemistry Olympiad (RO) in 2008