

Lavric Vasile Professor

University "POLITEHNICA" Bucharest
Faculty of Applied Chemistry and Materials Science
Department of Chemical Engineering



Contact information

Address RO-011061, Polizu 1-7, Building S, room 001
Tel. (+4021) 402 3995, Fax. (+4021) 318 5900
E-mail: v_lavric@chim.upb.ro

Education and training

Dates	1980	1994
Title of qualification awarded	engineer	PhD
Principal subjects/occupational skills covered	Chemical engineering	Chemical engineering
Name and type of organisation providing education and training	University Politehnica f Bucharest	University Politehnica f Bucharest
Level in national or international classification		

Professional experience

Dates	1982-1991	1991-1997	1997-2004	2004-present
Occupation or position held	assistant	lecturer	associate professor	professor
Main activities and responsibilities	Seminars, laboratories and projects in chemical engineering domains	Lectures, seminars, laboratories and projects in chemical engineering domains	Lectures and seminars in chemical engineering domains	Lectures in chemical, biochemical and biological reactors
Name and address of employer	University Politehnica of Bucharest			
Type of business or sector	Teaching, research and development			

Academic and research interests

Time Scales of Biological Processes – Dynamics and Time-Delays; Biological, Biochemical and Chemical Reactors; Systems Optimization and Optimal Control; Unit Operations in (Bio)Chemical Technology; Artificial Neural Networks and Evolutionary/Genetic Algorithms; Process Integration and Intensification

Teaching activity

Se completeaza conform indicatiilor din tabel

<i>Ciclu studii (Master/licenta)</i>	<i>Denumire specializare</i>	<i>Cod disciplina din planul de invatamant</i>	<i>Titlu disciplina</i>	<i>Tip activitate (curs/proiect/laborator etc)</i>
<i>BSc</i>	<i>FILS</i>		<i>Chemical Reactors</i>	<i>lecture</i>
<i>MSc</i>	<i>Biofuels</i>		<i>Chemical and Biochemical Reactors</i>	<i>lecture</i>
<i>MSc</i>	<i>Chemical Engineering</i>		<i>Heterogeneous Reactors</i>	<i>lecture</i>

Publication (selective):

Books

1. Irina Dana Ofițeru, V. Lavric and A. Woinaroschy – *Introduction in Animal Cell Bioengineering* (Romanian), Matrix Rom, București, 2003 (ISBN: 973-685-584-8).
2. V. Lavric, Irina Dana Ofițeru and A. Woinaroschy, *Animal Cells Bioreactor Modeling* (Romanian), Matrix Rom, București, 2004 (ISBN: 973-685-690-9).

Articles (eventual cu link-uri care lucrarile publicate on-line)

1. Márton, M.-R., Krumbein, A., Platz, S., Schreiner, M., Rohn, S., Rehmers, A., Lavric, V., Mersch-Sundermann, V., Lamy, E., 2012, *Determination of bioactive, free isothiocyanates from a glucosinolate-containing phytotherapeutic agent: A pilot study with in vitro models and human intervention*, *Fitoterapia*, **12**, DOI:10.1016/j.fitote.2012.12.016
2. Alupului, A., Lavric, V., 2012, *Artificial Neural Network Modeling of Ultrasound and Microwave Extraction of Bioactive Constituents from Medicinal Plants*, *Rev. Chim.*, **63**(7), 743-748
3. Dogaru, L., Lavric, V., 2012, *Pareto approach in designing optimal semi-continuous water networks*, *Industrial and Engineering Chemistry Research*, **51**(17), 6116–6136
4. Ofiteru, I. D., Ferdes, M., Knapp, C. W., Graham, D. W., Lavric, V., 2012, *Conditional confined oscillatory dynamics of Escherichia coli strain K12-MG1655 in chemostat systems*, *Applied Microbiology and Biotechnology*, **94**(1), 185-92
5. Stoenică, M., Buzatu, P., Lavric, V., 2012, *Multi-criteria optimization of a bioreactor-separator system used for biological treatment of wastewater*, *Rev. Chim.*, **63**(3), 298-304
6. Tudor, R., Lavric, V., 2011, *Dual-objective Optimization of Integrated Water/Wastewater Networks*, *Computers and Chemical Engineering* **35**(12), 2853-2866
7. Stoenică, M., Buzatu, P., Ferdeș, M., Ofițeru, I.D., Graham, D., Lavric, V., 2011, *Comparison of laboratory wastewater treatment systems with settlers: Effect of cycloheximide and recirculation ratio*, *Rev. Chim.*, **62**(6), 633-638
8. Buzatu, P., Lavric, V., 2011, *Optimal operating strategies of a submerged membrane bioreactor for wastewater treatment*, *Chem. Biochem. Eng. Q.* **25** (1) 89–103.
9. Dogaru, L., Lavric, V., 2011, *Dynamic Water Network Topology Optimization of Batch Processes*, *Industrial and Engineering Chemistry Research*, **50**, 3636-3652
10. Dinculescu, D., Lavric, E.D., Konnov, A.A., De Ruyck, J., Lavric, V., 2011, *Experimental study of local axial mixing in a pilot-scale cold burner*, *Industrial and Engineering Chemistry Research*, **50**, 1070–1078
11. Chi Fru, E., Ofiteru, I.D., Lavric, V., Graham, D.W., 2011, *Non-linear Population Dynamics in Chemostats Associated with Live-Dead Cell Cycling in Escherichia coli strain K12-MG1655*, *Applied Microbiology and Biotechnology*, **89**, 791–798
12. Stoenică, M., Lavric, V., 2010, *Searching for efficient operating conditions of wastewater treatment processes*, *Rev. Chim.*, **62** (10), 972-978.
13. Tudor, R., Lavric, V., 2010, *Optimization of Total Networks of Water–Using and Treatment Units by Genetic Algorithms*, *Industrial and Engineering Chemistry Research*, **49**, 3715-3731
14. Stoenică, M., Lavric, V., 2010, *Time scale behavior of a biological wastewater facility*, *Rev. Chim.*, **61**(4), 407-418
15. Popescu, A.R., Lavric, V., 2010, *A new approach in modeling the flocs from biological wastewater treatment bioreactors*, *Rev. Chim.*, **61**(2), 206-212
16. Lavric, V., Graham, D., 2010, *Birth, Growth and Death as Structuring Tools in Bacterial Population Dynamics*, *Journal of Theoretical Biology*, **264**, 45-54
17. Woinaroschy, A., Ofiteru, I.D., Lavric, V., 2009, *Exploratory investigation of bioprocesses sustainability improvement by multicriteria multilevel optimization*, *Environmental Engineering and Management Journal*, **8** (3), 521-526
18. Alupului, A., Lavric, V., 2009, *Extraction intensification using ultrasounds – Case study: Glycosides from Stevia rebaudiana Bert.*, *Rev. Chim.*, **60**(5), 497-500.
19. Iancu, P., Plesu, V., Lavric, V., 2009, *Regeneration of internal streams as an effective tool for wastewater network optimisation*, *Computers & Chemical Engineering*, **33** (3), 731-742

Research projects (eventual cu link-uri care paginile web daca exista)

- Coordinator of two bilateral Belgian – Romanian scientific projects:
 - 1) *Application of chemical pinch methodology in process industries* (Co-promoter: prof. Jacques De Ruyck, VUB), WDGO339, April 2003 - December 2004
 - 2) *Flame Characterization and NOx Reduction through Residence Time Distribution Analysis* (Co-promoter: prof. Jacques De Ruyck, VUB), BWS04/05/MECHWER2, Jan.2005 - Dec.2006
- Director of a PN2 project:

Complex behavior of mixed microbial populations induced by time scales and segregation. Case study: wastewater biological treatment process, PN2 – Ideas, 175/1.10.2007, Oct. 2007 – Sept. 2010

Other information

Recipient of the *Nicolae TECLU* award of the Romanian Academy's Chemical Division for *The Applications of Artificial Neural Networks in Chemical Engineering* – **1998**