



**Nume:** CALINESCU IOAN

**Funcție:** profesor

**Departamentul:** Bioresurse și Știința Polimerilor

**Grupul de cercetare:** Bioresurse



## Contact

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## Date biografice

### Perioada      Pozitie ocupata

2001-	Profesor, Departamentul Bioresurse și Știința Polimerilor, Universitatea POLITEHNICA Bucuresti
1999-2001	Conferentiar, Catedra Tehnologia Substantelor Chimice și Compusilor Macromoleculari, Universitatea POLITEHNICA Bucuresti
1993-1999	Sef de lucrari, Catedra Tehnologia Substantelor Chimice și Compusilor Macromoleculari, Universitatea POLITEHNICA Bucuresti
1990-1993	Asistent, Catedra Tehnologia Substantelor Chimice și Compusilor Macromoleculari, Universitatea POLITEHNICA Bucuresti
1982-1984	Inginer, Catedra Tehnologia Substantelor Chimice și Compusilor
1987-1990	Macromoleculari, Institutul POLITEHNIC Bucuresti
1984-1987	Cercetator stiintific, Centrul national de Cercetare pentru Chimie Militara
1992-1996	Stagiu de doctorat in cadrul Catedrei Tehnologia Substantelor Chimice și Compusilor Macromoleculari, Institutul POLITEHNIC Bucuresti
1975-1980	Studii de licenta in cadrul Facultatii de Tehnologie Chimica, specializarea Tehnologie Chimica Organica, Institutul POLITEHNIC Bucuresti

## Cercetare

### Domenii de cercetare

- Biocombustibili, biorafinarii;
- Aplicarea electronilor accelerati și a microundelor in sinteza chimica și in procesarea materialelor;
- Chimie industriala – sinteza compusilor organici;
- Metode de reducere a poluarii in industria chimica și petrochimica;
- Decontaminarea chimica și radiologica



### Proiecte cercetare (selectie)

- „Procese ecologice de extractie a compusilor valorosi din plante” , PN-II-PT-PCCA-2013 nr.172 / 2014, Director proiect;
- ‘Tehnologie si instalatie de tratare a deseurilor solide petroliere’ , Contract CEEEX 138/2006 , Director de proiect;
- „Indepartarea compusilor organici volatili din gaze prin tratament combinat: electroni accelerati si microunde” Contract CEEEX 55/2005 (Nr. UPB 45-05-12), Director de proiect;
- „Cresterea performantei de conversie a gazelor acide din gazele de ardere industriale, prin tratament combinat cu electroni accelerati si microunde”, Proiect PNCDI-2 nr. 21-025/2007, UPB este partener, contract UPB CH 39.07.09, Responsabil UPB;
- „VOC Removal by combined electron beam and microwave treatment” –contract de cercetare IAEA-Viena nr. 13138/RF - 2005-2006, Responsabil UPB

## Activitate academica

### Activitate didactică (in prezent)

Program Studii	Specializare/Facultate	Cod	Titlu disciplina	Tip activitate
Licenta	CISOPC	UPB.11.T.06.O.314	Tehnologie Chimica Organica 2	Curs
Master	Biocombustibili, biorafinarii si tehnologii conexe	UPB.11S.10.O.0107	Biorafinarii – tehnologii	Curs
	Biocombustibili, biorafinarii si tehnologii conexe	UPB.11.S.11.O.0103	Reducerea emisiilor de poluanti la producerea si utilizarea biocombustibililor	Curs si aplicatii
	Ingineria si managementul proiectelor complexe - IMST	UPB.06.M2.O.06-03	Combustibili, arderi, emisii	Curs
Doctorat	FCASM – inginerie chimica			Conducator doctorat

Director al programului de studii: “Biocombustibili, biorafinarii si tehnologii conexe”

### Alte activitati didactice (in trecut)

Cataliza,  
Organic Technologies – FILS;  
Pollution prevention and control – FILS  
Strategii experimentale in tehnologia chimica organica ;  
Tensioactive



## Titluri si premii

### Premii

- Am fost invitat in 2005, 2006, 2007 si 2008 sa prezint lucrari la „Research coordination meeting on Electron Beam treatment of organic pollutants contained in gaseous streams” –organizat de Agentia Internationala de Energie Atomica la Viena, Beijing , Varsovia si Sofia. Aici am luat legatura cu citiva din cei mai renumiti specialisti din lume in domeniul depoluarii gazelor industriale prin utilizarea electronilor accelerati si microundelor.
- La Conferinta internationala: International Conference on optimization of electrical and electronic equipments, OPTIM 2002, am primit un premiu pentru competenta tehnica, acordat pentru lucrarea: “Non thermal plasma processing for SO<sub>2</sub> and NO<sub>x</sub> Removal”
- Am primit premii pentru publicatii stiintifice (UEFISCDI)

### Membru in Organizatii Profesionale

Din 1990 membru al Societatii Romane de Chimie;

Din 1990 membru al Societatii Romane de Inginerie Chimica

Consultant national pentru Regional Workshop on Feasibility Study For Electron Beam Flue Gas Treatment organised by International Atomic Agency (2005-2008)

### Alte activități semnificative

- ✓ Recenzor pentru:
  - Ultrasonics Sonochemistry
  - Environmental Science & Technology
  - Chemical Engineering Journal
  - Journal of Hazardous Materials
  - Surface and Coatings Technology
  - Transport Problems
  - Revue Roumaine de Chimie
  - UPB-Scientific Bulletin,
  - 11<sup>th</sup> International Conference on Optimization of Electrical and Electronic Equipment
- ✓ Membru in Comitetul de Organizare al „Romanian International Conference on Chemistry and Chemical Engineering”, editiile 15<sup>th</sup>, 16<sup>th</sup>, 17<sup>th</sup> Bucuresti.
- ✓ Presedinte al Comitetului de organizare al „Romanian International Conference on Chemistry and Chemical Engineering”, editiile 18<sup>th</sup>, 19<sup>th</sup>, Bucuresti.



## Publicații

### **Nr.total carti, articole, conferinte, brevete**

Articole publicate in reviste cotate ISI – 56; articole in alte reviste de specialitate internationale – 12; articole in reviste de specialitate recunoscute CNCSIS – 17; Brevete nationale - 3

### **Articole publicate în reviste de specialitate (selectie)**

- Christina Zălaru, Claudia C. Crișan, Ioan Călinescu, Zenovia Moldovan, Isabela Țârcomnicu, Simona C. Litescu, Rodica Tatia, Lucia Moldovan, Daniel Boda, Mircea Iovu, “**Polyphenols in *Coreopsis tinctoria* Nutt. fruits and the plant extracts antioxidant capacity evaluation**”, *Central European Journal of Chemistry*. • 12(8) • 2014 • 858-867;
- Ioan Calinescu, Adina I. Gavrilă, Maria Ivopol, Gabriel C. Ivopol, Mariana Popescu, Nectara Mircioaga, **Microwave assisted extraction of essential oils from enzymatically pretreated lavender (*Lavandula angustifolia* Miller)**, *Central European Journal of Chemistry*, August 2014, Volume 12, Issue 8, pp 829-836; DOI: 10.2478/s11532-014-0532-4,
- Calinescu, I., Martin, D., Ighigeanu, D., Gavrilă, A., Trifan, A., Patrascu, M., Munteanu, C., Diacon A., Manaila, E., Craciun, G., **Nanoparticles synthesis by electron beam radiolysis**, *Central European Journal of Chemistry*, January 2014, (DOI) 10.2478/s11532-014-0502-x
- Calinescu, I., Chipurici, P., Alexandrescu, E., Trifan, A., **Saccharomyces cerevisiae yeast immobilized on marrow stem sunflower and polyacrylamide hydrogels**, *Central European Journal of Chemistry*, January 2014, (DOI) 10.2478/s11532-014-0508-4
- van Staden, J. Georgescu, R., van Staden, R.I.S., Calinescu, I., **Graphene Based Dot Microsensors Used for the Screening of Urine for Adenine, Guanine and Epinephrine**, *Journal of The Electrochemical Society*, 161 (2) B3014-B3022 (2014), pp 3014-3022, DOI: 10.1149/2.002402jes, IF 2.588, ISSN 0013-4651
- Calinescu, I., Martin, D., Chmielewski, A., Ighigeanu, D., **E-Beam SO<sub>2</sub> and NO<sub>x</sub> removal from flue gases in the presence of fine water droplets**, *Radiation Physics & Chemistry*, 2012, Vol., Pages, ISSN, IF 2011: 1.227, DOI: <http://dx.doi.org/10.1016/j.radphyschem.2012.10.008>.
- Rusen, E., Calinescu, I., Patrascu, M., **Polymer Colloids and Silver Nanoparticles Hybrid Materials**, *Colloid & Polymer Science*, 2012, 290 (3), 193-201
- Calinescu, I., Ighigeanu, D., Martin, D., Matei, C., Trifan, A., Oproiu, C., **VOCs Removal by combined use of electron beam, microwave and catalyst**, *Revue Roumaine de Chimie*, Year, 54(8), 693-698,
- Radoiu, M.T., Martin, D., Calinescu, I., Iovu, H., **Preparation of Polyelectrolytes for Waste water Treatment**, *Journal of Hazardous Materials*, 2004, 106/B, 27-37, ISSN: 0304-3894, IF 2011: 4.17, DOI: 10.1016/j.jhazmat.2003.08.014.
- Radoiu, M., Martin, D., Calinescu, I., **Emission control of SO<sub>2</sub> and NO<sub>x</sub> by irradiation methods**, *Journal of Hazardous Materials*, 2003, B97, 145-158, ISSN: 0304-3894, IF 2011: 4.17
- Calinescu, I., Bulearca, A., Ighigeanu, D., Martin, D., Matei, C., Trifan, A., **Hybrid Technology with Microwaves, Electron Beams and Catalysts for VOCs Removals**,



*Journal of Microwave Power & Electromagnetic Energy*, ISSN 0832-7823, Vol. 43, No. 3, 2009, pp.31-38

- Ighigeanu, D Martin, D Zissulescu, E Macarie, R; Oproiu, C Cirstea, E Iovu, H Calinescu, I Iacob, **SO<sub>2</sub> and NO<sub>x</sub> removal by electron beam and electrical discharge induced non-thermal plasmas** *VACUUM* Volume: 77 Issue: 4, Pages: 493-500 Published: 2005

### Cărți (selectie)

- Călinescu, I., Iliuta, I., **Heterogeneous Catalysts – Applications in organic chemical industry**, Ed. Printech, Bucharest, 2007, ISBN: 978-973-718-646-1 (in English).
- Iliuta, I., Calinescu, I., **Water - Apa – Treatment processes and quality standards - Legal regulations**, Ed. Printech, Bucharest, 2008, ISBN: 978-973-718-977-6 (in Romanian).
- Iovu, H., Călinescu, I., Martin, D., **Polymeric materials, new methods of synthesis and applications**, Ed. Printech, Bucharest, 1998, ISBN: 973-9402-58-5 (in Romanian).

### Capitole in cărți (selectie)

- *Advances in Microwave & Radio Frequency Processing* (Monika Willert - Porada Editor), editura Springer Berlin, 2003; capitolele:
  - Environmental Aspects of Microwave Heating in Polyelectrolite synthesis (E. Mateescu, G. Craciun, D. Martin, D. Ighigeanu, M. Radoiu, I. Calinescu, H. Iovu) pp. 349-354
  - Liquid Phase Catalytic Hydrodechlorination of chlorobenze under microwave irradiation (M. Radoiu, I. Calinescu, D. Martin, R. Calinescu) pp. 398-405.
- Practical Aspects and Applications of Electron Beam Irradiation, Research Signpost / Transworld Research Network, Kerala, India 2011,
  - Chapter 7: Gaseous Pollutants Treatment by Combined Electron Beams and Microwaves, pp. 181-198
- « Electrotehnologii : Protectia mediului, procesarea de materiale si control nedistructiv » F.T. Tanasescu, M.Bologa, R.Cramariuc, A.Bologa, B.Cramariuc
  - cap. 3 “Aplicații ale microundelor în sinteza și procesarea materialelor, ” –pag.113-158, autori: I.Călinescu, D.Martin, H.Iovu, Ed. AGIR, București 2011, ISBN: 978-973-720-353-3

### Conferințe științifice (selectie)

- Calinescu, I., Martin D., Ighigeanu D. and Calinescu R., **Dechlorination of polychlorinated biphenyls (PCBs) by electron beam or microwave treatment**, *11th International Conference On Environmental Science And Technology (CEST2009)* A107-113
- Calinescu, I., **The combined irradiation with EB and MW for removal of pollutants from gases**, *Third Research Coordination Meeting of the Coordinate Research Project on “Electron Beam Treatment of Organic Pollutants Contained in Gaseous Streams”* 333-F2-RC975.3 (F2.30.24) 15 – 19 September 2008, Bialowieza, POLAND
- Calinescu, I., Ighigeanu, D., Martin, D., Matei, C., Trifan, A., **Hybrid Technology with Microwaves, Electron Beams and Catalysts for VOCs Removal**, *Global Congress on Microwave*



*Energy Applications*, August 4 - 8, 2008, *Otsu*, pp. 395-398 ISBN: 978-4-904068-04-5, pp. 395-398

- Calinescu, I., Ighigeanu, D., Martin, D., **The removal of VOC from air using EB, MW and catalyst - laboratory plant results**, *Technical Meeting on "Prospects and Challenges in Applications of Radiation for Treating Exhaust Gases"*, Warsaw, 14-18 may 2007
- Calinescu, I., Ighigeanu, D., Martin, D., Matei, C., Trifan, A., **Application of microwave, electron beam and catalytic oxidation to the VOCs decomposition**, *41<sup>st</sup> IUPAC World Chemistry Congress*, Torino, 2007
- Calinescu, I., Ighigeanu, D., Martin, D., Matei, C., Craciun, G., Manaila E., **Combined Processes for the Removal of Volatile Organic Compounds from Air**, *3<sup>rd</sup> International Conference on Microwave Chemistry*, Brno, republica Ceha, 3-7 sept. 2006
- Calinescu, I., Ighigeanu, D., Martin, D., Zissulescu, E., **VOC Removal by electron beam and MW irradiation**, *First research coordination meeting on Electron Beam treatment of organic pollutants contained in gaseous streams – IAEA – Viena – 2005*, pp.114-123
- Calinescu, I., Ighigeanu, D., Martin, D., **The decomposition of diluted VOCs in air by electron beam, microwave and catalytic oxidation- Part II. Experimental results**, *Second research coordination meeting on Electron Beam treatment of organic pollutants contained in gaseous streams – IAEA – Beijing – 2006*
- Radoiu, M., Martin, D., Ighigeanu, D., Calinescu, I., Iovu, H., **A Combined Microwave Discharge and Accelerated Electron Beam Irradiation for Flue Gas Cleaning**, *Proceedings of the V-th International Workshop on Microwave Discharges-Combined Fundamentals and applications*, Greifswald, Germany, July 08-12, 2003, Editor: Andreas Ohl, INP Greifswald, pp. 255-258, ISBN 3-00-011612-5;

## Brevete

- Ighigeanu, D., Martin D., Calinescu I., Matei C., Manaila, E., Craciun, G., **Growing of the conversion performance of the gaseous pollutants from industrial flue gases by combined electron beam and microwave treatment**, Assignee: INFLPR, Patent Number(s): RO126841-A2 Derwent Primary Accession Number: 2011-Q13072
- Predeanu, G., Lambescu, S., Calinescu, I., Chipurici, P., Slavescu, V., Mihaiescu, D., Vacarciuc, I., Patrut, A., Ciminian, C., **Process for air and used water treatment using active coal obtained from recycled materials**, Patent number: RO125293-A2/30.03.2010;
- Avram R., Călinescu, I., Vueric, E., **Continuous separation of anthracene from coke chemistry anthracene|consists of extraction based on aqueous soln. of polar solvents** Patent no: RO 103108 B1 19911102