

Emil DUMITRIU,

DR. ING.

Profesor

Catedra de Inginerie Organica si Biochimica
Facultatea de Inginerie Chimica
Universitatea Tehnica "Gh. Asachi" din Iasi
Bd. Prof. D. Mangeron Nr. 71
Iasi-700050, ROMANIA

E_mail: edumitri@ch.tuiasi.ro
emildumitriu@yahoo.com

Fax: +40-232-271 311
Tel. +40-232-278 683/2261
(Lab): +40-788-219 181
Mobile: +40-744-357 680



EDUCATIE

- 1964 - Diploma de Bacalaureat, Liceul "Unirea", Focsani,
- 1971 - Diploma Inginer chimist, Institutul Politehnic "Gh. Asachi" Iasi,
- 1980 - Diploma Doctor-inginer; Institutul de Chimie Macromoleculara "P.Poni" Iasi, Academia Romana; Titlul tezei: "Contributii la studiul reactivitatii monomerilor acrilici in copolimerizarea radicalica", *Conducator st. Prof. dr. doc. M. Dima*

CARIERA SI EXPERIENTA PROFESIONALA

- **CERCETATOR**
Laboratorul de Polimeri Reactivi
Institutul de Chimie Macromoleculara (1971-1975)
- **INGINER PROIECTANT**
Institute for Designs in Chemical Industry
IPROCHIM - Subsidiary Iasi (1975-1976)
- **ASISTENT** (1976 - 1980)
Catedra de Industrii Organice,
Facultatea de Chimie Industriala
Institutul Politehnic "Gh. Asachi" din Iasi
- **SEF LUCRARI** (1980 - 1990)
Catedra de Industrii Organice
- **CONFERENTIAR** (1990- 1991)
Catedra de Tehnologia Substantelor Organice
- **PROFESOR** (since 1991)
Catedra de Inginerie Organica si Biochimica
Facultatea de Inginerie Chimca
Universitatea Tehnica "Gh. Asachi" din Iasi

VISITING-PROFESOR

- ✓ Département de Sciences
Université de Pau et des Pays de l'Adour, FRANCE (5-6/1998)
- ✓ Laboratoire de Matériaux Minéraux
ENSC, Université „Haute Alsace“ de Mulhouse (11/1999-3/2000)
- ✓ Istituto di Biocatalisi e Riconoscimento Molecolare
Milano, ITALY (2-3/2001)
- ✓ Département de Sciences
Université de Pau et des Pays de l'Adour, FRANCE (6-7/2001)
- ✓ Dipartimento di Scienze Chimiche
Università degli Studi di Cagliari, ITALY (2003/2004)

MEMBRU IN SOCIETATI PROFESIONALE

- American Chemical Society
- International Zeolite Association
- Group Français de Zéolithes
- International Mesostructured Material Association
- Societatea de Cataliza din Romania
- Societatea Romana de Chimie
- Societatea Romana de Inginerie Chimica
- Asociatia Romana de Zeoliti si Site Moleculare
- Forumul Inventatorilor

DOMENII DE INTERES

- **Cataliza Eterogena**
 - ✓ Sinteza de materiale poroase ordonate: zeoliti, aluminosilicofosfati, argile cationice si anionice, materiale mezoporoase
 - ✓ Reactii chimice organice catalizate de materialele mentionate mai sus
- **Biocataliza**
 - ✓ Sinteza si caracterizarea suporturilor pentru imobilizari de enzime
 - ✓ Reactii chimice organice activate de biocatalizatori
- **Materiale hibride organice-anorganice**
 - ✓ Nanocompozite cu activitate fiziologica (medicamente, pesticide)
 - ✓ Nanocompozite cu activitate catalitica
- **Noi materiale catalitice**

GRUP DE CERCETARE

- **Studenti doctorat**
 - Drăgoi Brandusa (co-tutela Dr. A. Auroux, Université Claude Bernard Lyon I)
 - Botomei Anca Dana (co-tutela Prof. A. Nastro, Università della Calabria)
 - Alupoaei Alice-Gabriela
 - Rusu Oana Alice

- Maciuca Alina (co-tutela Prof. V. Hulea, Université Montpellier II)
- David Oana-Nadia (co-tutela Prof. Vincenzo Solinas, Università di Cagliari)
- Ciocan Cristina Elena
- Curuciuc-Suceveanu Adrian
- Calinciuc Georgeta-Cristina
- Ignat Eugenia Corina

- **Studenti Masterat**

TEZE SUSTINUTE

- **Gabriela CARJA**, Rolul proprietatilor acido-bazice si texturale ale materialelor cristaline microporoase in condensarea catalitica a aldehydelor, 1996.
- **Doina LUTIC**, Studii asupra sintezei si proprietatilor catalitice ale sitelor moleculare de tip MeAPO si SAPO, 1997.
- **Ioana FECHETE**, Etude de la conversion d'hydrocarbures aromatiques sur des zéolithes de type structural EMT et MWW substituées isomorphiquement (co-director Prof. Ph. Caullet – Université « Haute Alsace » de Mulhouse), 2001.
- **Adrian Ungureanu**, Semicrystalline zeolitic mesoporous UL-zeolites of MFI type: synthesis, characterization and catalytic properties (co-director Prof. S. Kaliaguine – Laval University of Quebec), 2005.

REALIZARI SPECIFICE

- ✓ 11 carti
- ✓ peste 180 articole publicate in reviste si lucrari ale simpozioanelor cu referenti
- ✓ 3 brevete
- ✓ 65 comunicari orale si postere la diverse congrese nationale si internationale
- ✓ 17 conferente la diverse universitati straine (intre care: Universität Stuttgart, Universität Karlsruhe, Universität Kaiserslautern, Université Haute Alsace de Mulhouse, Université Montpellier II, Université de Pau et Pays de l'Adour, Università degli Studi di Cagliari);
- ✓ 63 contracte de cercetare

SELECTIE DIN CARTI

1. E. Dumitriu, **BIOCATALIZA**, Editura VIE, Iasi, 2003, ISBN-973-85989-82, 273 p.,
2. E. Dumitriu si D. Litic, **CATALIZA : O ABORDARE GENERALA**, Editura VIE, Iasi, 2002, ISBN-973-85989-7-4, 348 p.,
3. E. Dumitriu si V. Hulea, **METODE CATALITICE ETEROGENE APLICATE IN PROTECTIA MEDIULU**, Editura BIT, Iasi, 1997, ISBN-973-9327-01-X, 294 p.
4. S. Oprea si E. Dumitriu, **TEHNOLOGIE CHIMICA ORGANICA**, vol 1, Editura Tehnica, Bucuresti, 1992; ISBN-973-31-0299-9, 404 p.
5. S. Oprea si E. Dumitriu, **CATALIZA IN INDUSTRIA ORGANICA**, Rotaprint, Institutul Politehnic Iasi, 1990, 431 p.,

SELECTIE DIN PUBLICATII RECENTE

1. A. Ungureanu, S. Royer, T.V. Hoang, D. Trong On, E. Dumitriu and S. Kaliaguine, *Aldol condensation of aldehydes over semicrystalline zeolitic mesoporous UL-ZSM-5*, **Micropor. Mesopor. Mater.** 84 (2005) 283-296
2. A. Ungureanu, T.V. Hoang, D. Trong On, E. Dumitriu and S. Kaliaguine, *An investigation of the acid properties of UL-ZSM-5 by FTIR of adsorbed 2,6-ditertbutylpyridine and aromatic transalkylation test reaction*, **Appl. Catal. A: General** 294 (2005) 92-105

3. A. Salis, D. Meloni, S. Ligas, M. F. Casula, M. Monduzzi, V. Solinas and E. Dumitriu, *Physical and chemical adsorption of Mucor Javanicus lipase on SBA-15 mesoporous silica. Synthesis, structural characterization and activity performance*, **Langmuir**, 21(12) (2005) 5511-5516
4. L. Dussault, J.C. Dupin, E. Dumitriu, A. Auroux and C. Guimon, *Microcalorimetry, TPR and XPS studies of acid-base properties of NiCuMgAl mixed oxides using LDHs as precursors*, **Thermochim. Acta**, 434 (2005) 93-99
5. E. Dumitriu, D. Meloni, R. Monaci and V. Solinas, *Liquid-phase alkylation of phenol with t-butanol over various catalysts derived from MWW precursors*, *Compt. Rend. Chim.* 8 (2005) 441-456,
6. I. Fechetea, Ph. Caullet, E. Dumitriu, V. Hulea, and H. Kessler, *Study of the conversion of aromatic hydrocarbons on EMT-type zeolite. Influence of the partial substitution of Al by Ga*, **Appl. Catal. A: General**, 280 (2005) 245-254,
7. V. Hulea and E. Dumitriu, *Styrene Oxidation with H₂O₂ over Titanium-Molecular Sieves with MFI, BEA and MCM-41 Topologies*, **Appl. Catal. A: General**, 277 (2004) 99-106
8. J. Barrault, A. Derouault, G. Courtois, J.M. Maissant, J.-C. Dupin, H. Martinez, C. Guimon, and E. Dumitriu, *On the catalytic properties of mixed oxides obtained from the Cu-Mg-Al LDH precursors in the process of hydrogenation of the cinnamaldehyde*, **Appl. Clay Sci.**, 262 (2004) 43.
9. Jean-C. Dupina, Hervé Martinez, Claude Guimon, Emil Dumitriu and Ioana Fechete, *Intercalation of (2,6-Dichlorophenyl)-Amino-Phenyl Acetate Anions Into the Host Lattice of Layered Double Hydroxides*, **Appl. Clay Sci.**, 27 (2004) 95-106
10. D. Trong On, S.V. Nguyen, V. Hulea, E. Dumitriu and S. Kaliaguine, *Mono- and bifunctional MFI, BEA and MCM-41 titanium-molecular sieves and their catalytic activity in styrene oxidation. Part 1: Synthesis and characterization*, **Micropor. Mesopor. Mater.**, 57 (2003) 169-180
11. A. Ungureanu, D. Trong On, E. Dumitriu and S. Kaliaguine, *Hydroxylation of 1-naphtol by hydrogen peroxide over UL-TS-1 and TS-1 coated MCF*, **Appl. Catal. A: General**, 254 (2003) 203-223
12. E. Dumitriu and V. Hulea, *Effects of channel structures of large-pore zeolites on liquid phase t-butylation of phenol*, **J. Catal.**, 218 (2003) 249-257
13. E. Dumitriu, F. Secundo, J. Patarin and I. Fechete, *Preparation and properties of lipase immobilized on a MCM-36 support*, **J. Mol. Catal. B: Enzymatic** 22 (2003) 119-133
14. S. Casenave, H. Martinez, C. Guimon, A. Auroux, V. Hulea and E. Dumitriu, *Acid-Base properties of MgCuAl mixed oxides*, **J. Therm. Anal. Cal.** 72 (2003) 191-198
15. E. Dumitriu, C. Guimon, V. Hulea, D. Lutic and I. Fechete, *Transalkylation of toluene with trimethylbenzenes catalyzed by various AFI catalysts*, **Appl. Catal. A: General** 237 (2002) 211-221
16. E. Dumitriu, I. Fechete, P. Caullet, H. Kessler, V. Hulea, C. Chelaru, T. Hulea and X. Bourdon, *Conversion of aromatic hydrocarbons over MCM-22 and MCM-36 catalysts*, **Stud. Surf. Sci. Catal.**, vol. 142 (2002) 951-958.
17. D. Meloni, R. Monaci, E. Rombi, C. Guimon, H. Martinez, I. Fechete and E. Dumitriu, *MCM-22 zeolite for the N₂O oxidation of benzene to phenol*, **Stud. Surf. Sci. Catal.**, vol. 142 (2002) 167-174.
18. S. Casenave, H. Martinez, C. Guimon, A. Auroux, V. Hulea, A. Cordoneanu, E. Dumitriu, *Acid-base properties of Mg-Ni-Al mixed oxides using LDH as precursors*, **Thermochim. Acta**, 379 (2001) 85-93
19. E. Dumitriu, V. Hulea, Ioana Fechete, A. Auroux, J.-F. Lacaze and C. Guimon, *Study of the gas-phase aldol condensation of the lower aldehydes over isomorphous substituted MFI catalysts*, **Micropor. Mesopor. Mater.**, 43(3), (2001) 341-359
20. E. Dumitriu, C. Guimon, A. Cordoneanu, S. Casenave, T. Hulea, C. Chelaru, H. Martinez and V. Hulea, *Heterogeneous sulfoxidation of thioethers by hydrogen peroxide over layered double hydroxides as catalysts*, **Catal. Today** 66(2-4), (2001) 529-534

21. E. Dumitriu, Doina Lutic, V. Hulea, A. Azzouz and Dana Dorohoi and C. Kappenstein, *Synthesis optimization of chabasite-like SAPO in presence of sec-butylamine as template*, **Micropor. Mesopor. Mater.**, 31(1-2), (1999) 187-193
22. E. Dumitriu, V. Hulea, Ioana Fechete, C. Catrinescu, C. Guimon, J.F. Lacaze and Aline Auroux, *Prins condensation of isobutylene and formaldehyde over Fe-silicates of MFI structure*, **Appl. Catal. A: General** 181, (1999) 15-28

CURSURI PREDATE (perioada 2000-2005)

- ✓ Cataliza in Industria Chimica Organica
- ✓ Enzimologie
- ✓ Tehnologie Chimica Organica
- ✓ Sinteza Materialelor Catalitice
- ✓ Caracterizarea Materialelor Catalitice
- ✓ Metode Catalitice Aplicate in Elaborarea Proceselor Nepoluante
- ✓ Metode catalitice Eterogene Aplicate in Protectia Mediului