



Nume Ioan Stefan VOICU

Funcție Sef Lucrari

Departamentul: **Chimie Analitica si Ingineria Mediului**

Grupul de cercetare (daca este cazul): **Materiale Membranare**

Contact

Local "Polizu"

Str. Gh. Polizu 1-7, S1, 011061 București, ROMANIA

Cladire: R

Camera: 4

Tel.: 0214023802

Fax:

E-mail: svoicu@gmail.com



Date biografice

- **Universitatea Politehnica Bucuresti, Facultatea de chimie Aplicata si Stiinta Materialelor, Sef de Lucrari**, Departamentul de Chimie Analitica si Ingineria Mediului (din Oct. 2011); **Asistent Universitar**, Catedra de Chimie Analitica si Analiza Instrumentala (Oct. 2009-Sep. 2011); Cercetator (Oct. 2006 – Sep. 2009); activitate didactica in domeniul membranelor si al materialelor membranare, **activitate de coordonare si tutorat stiintific pentru doctoranzi** (tutore pentru **12 doctoranzi** cu tezele sustinute si titlul de doctor obtinut, in perioada 2011-2014); coordonarea a **10 studenti masteranzi pentru disertatie**, majoritatea lucrarilor de disertatie fiind acoperite de **publicarea rezultatelor in reviste cotate ISI**; membru al Consiliului Profesorat (din 2012).
- **Honeywell Romania SRL, Cercetator stiintific**, Automation and Control Solutions Division, Sensors and Wireless Laboratory Bucharest (Apr. 2006 – Dec. 2007);
- **Institutul National de Cercetare-Dezvoltare pentru Chimie si Petrochimie ICECHIM**, Asistent de cercetare, Departamentul Polimeri (Jan. 2006 – Oct. 2006).

Cercetare

Domenii de cercetare - Materiale si procese membranare



Proiecte cercetare (selectie)

PROJECT MANAGER

- Project manager Grant CNCSIS Bd 013/2006 (Apr. 2006 – Dec. 2008), 34240 RON (\approx 9000 EUR), Functionalized polymeric materials with directed selectivity;
- Project manager Grant CNCSIS Td 025/2007 (May. 2007 – Dec. 2008), 79000 RON (\approx 22000 EUR), Micro and nano-structured functionalized materials, based on cyclodextrin molecularly imprinted polymers for pharmaceutical uses.

FELLOWSHIPS

- Postdoctoral fellowship, ESF Project POSDRU/89/1.5/S/54785 (May 2010 – Apr. 2013), 167165 RON (\approx 39000 EUR) Membrane nanomaterials based on conductive polymers and carbon nanotubes;
- EU Financial Support, Training course, XXIV Summer School of the European Membrane Society – Membrane for Reactive Processes, Marie Curie FP 6, Project Nr. 29483 – 09/2007, 1000 EUR;
- EU Financial Support, Training Course , Nanomemcourse – Nanomaterials for water and health, Marie Curie FP 6, Project Nr. 29483 – 04/2010, 440 EUR;

MEMBRU AL ECHPEI DE LUCRU

PROIECTE INDUSTRIALE

- Molecular Cooling (industrial project, private founding, confidential financial details), Honeywell ACS Division, I10185 (PG), member of the project team, Sep. 2006 – Dec. 2006;
- Syn and test (industrial project, private founding, confidential financial details), Honeywell ACS Division, I10185(PE1), member of the project team, Sep. 2006 – Sep. 2006;
- Functionalized surfaces (industrial project, private founding, confidential financial details), Honeywell ACS Division, D11997(GB9400), member of the project team, Sep. 2006 – Dec. 2006;



Universitatea POLITEHNICA din București
Facultatea de Chimie Aplicată și Știința Materialelor



- Oil monitoring systems (industrial project, private founding, confidential financial details), Honeywell ACS Division, D12022(AA1000), member of the project team, Sep. 2006 – Dec. 2007;
- SAW Platform (industrial project, private founding, confidential financial details), Honeywell ACS Division, I10185(GH1000), member of the project team, Sep. 2006 – Dec. 2007;

PROIECTE NATIONALE

- Calixarene based materials with recognition properties for ionic/molecular species of biological and ecological interest, CNMP-Program PN II, Modul IV, Project Nr. 71063-2007, 1100000 RON, Sep. 2007 – Jul. 2010;
- Nanocomposites with electrical and magnetic properties for high selective separative processes (NEMSEPSEL), CNMP-Program PN II, Modul IV, Project Nr. 71034-2007, 1100000 RON, Sep. 2007 – Jul. 2010;
- Polymeric nanocomposites polysulfone-polyaniline for bio-analysis and bio-separation uses (NANOBIOPAS), CNMP-Program PN II, Modul IV, Project Nr. 71025-2007, 1100000 RON, Sep. 2007 – Jul. 2010;
- Selective composite membranes based on functional materials and molecularly imprinted polymers (SECOFIM), CNCSIS, CEEX Modul II, Project Nr. ET146/2006, 135000 RON, Sep. 2006 – Aug. 2008;
- Molecularly imprinted polymers – support for enzymatic biosensors manufacturing designated to water pollutants monitoring, RELANSIN, CEEX Modul I, Project Nr. 48/2005, 1200000 RON, Jan. 2006 – Oct. 2006;
- Organic-inorganic hybrid nanostructures based on serpentine and vinyl polymers for advanced composites preparation (NAHANOSCA), RELANSIN, CEEX Modul I, Project Nr. 12/2005, 1580000 RON, Jan. 2006 – Oct. 2006;
- Membrane nanomaterials with directed selectivity by redox systems (MEMBREDOX), CNCSIS, Grant A, 359/2005, 12000 RON, Sep. 2005 – Sep. 2007.



Activitate academica

Activitate didactică (in prezent)

Program Studii	Specializare/Facultate	Cod	Titlu disciplina	Tip activitate
Licenta	Inginerie chimica/Facultatea de Chimie Aplicata si Stiinta Materialelor		Chimie analitica si analiza instrumentala	Laborator
	Controlul si Expertizarea Produselor Alimentare/Facultatea de Chimie Aplicata si Stiinta Materialelor		Tehnici membranare in analiza alimentelor	Curs + laborator
Master	Știința și Ingineria Polimerilor		Membrane polimerice	Curs + laborator

Titluri și premii

Premii

- **2010, Best Paper Award, IEEE** International Semiconductor Conference pentru lucrarea "V. Luntraru, V. Danculescu, A.C. Nechifor, **S.I. Voicu**, G. Nechifor, Invertase immobilization onto dispersed magnetic particles. Synthesis and characterization, *Proceedings of International Semiconductors Conference (CAS)*, 2010, pg: 309-312, ISBN: 978-1-4244-5783-0, DOI: 10.1109/SMICND.2010.5650721 (autor de corespondenta al lucrarii);
- **2010, EMS Oral Presentation Award XXVII Summer School of the European Membrane Society** - Systems membranes-complex roadmaps toward functional devices and coupled processes, pentru prezentarea "Polysulfone composite membranes with applications in electronics".

Membru in Organizatii Profesionale

European Membrane Society, European Desalination Society, American Nano Society, SPIE, Societatea Romana de Biomateriale, Societatea Romana de Chimie.

Alte activități semnificative



Publicații

Nr. total carti, articole, conferinte, brevete: 7+19+21+7=54

Articole publicate în reviste de specialitate (selectie)

- 19 M. Miculescu, A. Muhulet, A. Nedelcu, S.I. Voicu, Synthesis and characterization of polysulfone-carbon nanotubes-polyethylene imine composite membranes, *Optoelectronics and Advanced Materials – Rapid Communications*, 2014, 8(11-12), pp.
- 18 E. Rusen, A. Mocanu, L.C. Nistor, A. Dinescu, I. Calinescu, G. Mustatea, S.I. Voicu, C. Andronescu, A. Diacon, Design of antimicrobial membrane based on polymer colloids/multiwall carbon nanotubes hybrid material with silver nanoparticles, *ACS Applied Materials and Interfaces*, 2014, 6(20), pp. 17384-17393.
- 17 M.S. Corobea, M. Stoenescu, M. Miculescu, V. Raditoiu, R.C. Fierascu, I. Sirbu, Z. Vuluga, S.I. Voicu, Titanium functionalizing and derivatizing for implantable materials osseointegration properties enhancing, *Digest Journal of Nanomaterials and Biostructures*, 2014, 9(4), pp. 1339-1347.
- 16 S.I. Voicu, C.M. Ninciuleanu, O. Muhulet, M. Miculescu, Cellulose acetate membranes with controlled porosity and their use for the separation of aminoacids and proteins, *Journal of Optoelectronics and Advanced Materials*, 2014, 16(7-8), pp.903-908.
- 15 S.I. Voicu, M.A. Pandeale, E. Vasile, R. Rughinis, L. Crica, L. Pilan, M. Ionita, The impact of sonication time through polysulfone-graphene oxide composite films properties, *Digest Journal of Nanomaterials and Biostructures*, 2013, 4(8), pp. 1389-1394.
- 14 A.C. Nechifor, V. Panait, L. Naftanaila, D. Batalu, S.I. Voicu, Symmetrically polysulfone membranes obtained by solvent evaporation using carbon nanotubes as additives. Synthesis, characterization and applications, *Digest Journal of Nanomaterials and Biostructures*, 2013, 8(2), pp. 875-884.
- 13 **Voicu, S.I.**, Dobrica, A., Sava, S., Ivan, A., Naftanaila, L. Cationic surfactants-controlled geometry and dimensions of polymeric membrane pores, *Journal of Optoelectronics and Advanced Materials*, 2012, 14 (11-12) , pp. 923-928.
- 12 O. Vasile, F. Miculescu, **S.I. Voicu**, Correlation aspects between morphology, infrared and acoustic absorptions properties of various materials, *Optoelectronics and Advanced Materials – Rapid Communications*, 2012, 6(5-6), pg. 631-638,
- 11 V.I. Luntraru, O. Gales, L. Iarca, E. Vasile, **S.I. Voicu**, A.C. Nechifor, Synthesis and characterization of magnetite - titanium dioxide - 4-Benzene-azo- α -naphthylamine and methylene blue composites, *Optoelectronics and Advanced Materials – Rapid Communications*, 2011, 5(11), pg. 1229-1232,
- 10 C. Baicea, A.C. Nechifor, D.I. Vaireanu, O. Gales, R. Trusca, **S.I. Voicu**, Sulfonated poly (ether ether ketone) – activated polypyrrole composite membranes for fuel cells, *Optoelectronics and Advanced Materials – Rapid Communications*, 2011, 5(11), pg. 1181-1185,
- 09 A.C. Nechifor, M.G. Stoian, **S.I. Voicu**, G. Nechifor, Modified Fe₃O₄ colloidal dispersed



magnetic particles as carrier in liquid membranes, *Optoelectronics and Advanced Materials – Rapid Communications*, 2010, 4 (8), pg. 1118-1123, (ISI IF 0.455),

- 08 **S.I. Voicu**, F. Aldea, A.C. Nechifor, Polysulfone-carbon nanotubes composite membranes. Synthesis and characterization, *Revista de Chimie*, 2010, 61(9), pg. 817-821,
- 07 **S.I. Voicu**, N.D. Stanciu, A.C. Nechifor, D.I. Vaireanu, G. Nechifor, Synthesis and Characterization of Ionic Conductive Polysulfone Composite Membranes, *Romanian Journal of Information Science and Technology*, 2009, 12 (3), pg. 410-422,
- 06 F.D. Balacianu, A.C. Nechifor, R. Bartos, **S.I. Voicu**, G. Nechifor, Synthesis and characterization of Fe₃O₄ magnetic particles-multiwalled carbon nanotubes by covalent functionalization, *Optoelectronics and Advanced Materials – Rapid Communications*, 2009, 3 (3), pg. 219-222,
- 05 G. Nechifor, **S.I. Voicu**, A.C. Nechifor, S. Garea, Nanostructure hybrid membrane polysulfone-carbon nanotubes for hemodialysis, *Desalination*, 2009, 241, pg. 342-348,
- 04 **S.I. Voicu**, A.C. Nechifor, B. Serban, G. Nechifor, M. Miculescu, Formylated Polysulphone Membranes for Cell Immobilization, *Journal of Optoelectronics and Advanced Materials*, 2007, 9 (11), pg. 3423-3426,
- 03 C. Corobea, D. Donescu, S. Rădițoiu, **S.I. Voicu**, G. Nechifor, Materiale membranare. IV. Nanoparticule functionalizate pentru ultrafiltrarea coloidală a ionilor cuprici, *Revista de Chimie*, 2006, 57, pg. 981-987,
- 02 B. Șerban, M. Bercu, **S.I. Voicu**, A.C. Nechifor, C. Cobianu, Sinteza și caracterizarea unei noi polianiline dopată cu sulfat acid de ciclodextrina, *Revista de Chimie*, 2006, 57, pg. 978-980,
- 01 M. Bumbac, B. Serban, C. Luca, G. Nechifor, **S. Voicu**, Studii privind extractia sinergetică a cationilor alcalini Na⁺ și K⁺ în prezenta unor amestecuri p-tertbuilcalix[4]arena – eteri coroana, *Revista de Chimie*, 2006, 57, pg. 927-930,

Cărți (selectie)

Autori **S.I. Voicu**, G. Nechifor, ed.
Titlu **Trends in membranology**,
Volumul Editura Printech, 114 pagini, Bucuresti 2010, ISBN 978-606-521-525-2.

Capitole in cărți (selectie)

- B.6** Autori **S.I. Voicu**, M.E. Craciun, G. Nechifor,
Titlu New membrane systems: innovation and limits,
Volumul Systems Membranes – Complex roadmaps toward functional devices and coupled processes, Editura Printech, Bucuresti 2010, pg. 290-312, ISBN 978-606-521-526-9.
- B.5** Autori C. Trisca-Rusu, A.C. Nechifor, **S.I. Voicu**, G. Nechifor,
Titlu Membrane conductive ionice pentru pile de combustie,
Volumul **Materiale membranare**, Editura Printech, capitolul 6, Bucuresti 2009, pg.



143-170, ISBN 978-606-521-153-7.

- B.4** Autori **S.I. Voicu**, A.C. Nechifor, G.L. Radu, G. Nechifor,
Titlu Membrane composite polisulfona-nanospecii (polisulfona/nanotuburi de carbon si polisulfona/fullerene),
Volumul **Tehnici experimentale in bioanaliza**, Editura Printech, Bucuresti, 2008, vol 6, capitolul 4, pag. 93-115; ISBN 978-606-521-153-7.
- B.3** Autori **S.I. Voicu**, A.C. Nechifor, G. Nechifor, G.L. Radu
Titlu Materiale membranare,
Volumul **Tehnici experimentale in bioanaliza**, Editura Printech, Bucuresti, 2008, vol 7, capitolul 2, pag. 30-60; ISBN 978-606-521-078-3.
- B.2** Autori **S.I. Voicu**, G. Nechifor
Titlu Polysulfone Membranes
Volumul **Membrane Matreials and Processes**, Editura Printech, Bucuresti, 2007, capitolul 7, pag. 189-221; ISBN 978-973-718-771-0
- B.1** Autori **S.I. Voicu**, A.C. Nechifor, G. Nechifor, G.L. Radu
Titlu Polimeri imprentati. Noi materiale membranare
Volumul **Tehnici experimentale in bioanaliza**, Editura Printech, Bucuresti, 2007, vol 4, capitolul 4, pag. 129-180; ISBN 978-973-718-666-9

Conferințe științifice (selectie)

- D.21** Autori **S.I. Voicu**, A.C. Nechifor, O. Gales, G. Nechifor
Titlu Covalent enzyme immobilization onto carbon nanotubes using a membrane reactor
Volum Bioelectronics, Biomedical, and Bioinspired Systems V; and Nanotechnology V, Proceedings of SPIE Vol. 8068 (SPIE, Bellingham, WA 2011) 80680Y, conf. indexata ISI.
- D.20** Autori A.C. Nechifor, **S.I. Voicu**, E. Eftimie-Totu, A.M. Dima, V.M. Voicu, G. Nechifor
Titlu Pervaporation of Volatile Amine Solutions Using Polysulfone-C₆₀ Nanocomposite Membranes
Volum *Proceedings of the 2nd INEEEE WSEAS Conference*, 2011, Venice, Italy, conf. indexata ISI.
- D.19** Autori **S.I. Voicu**, **N.D. Stanciu**, **A.C. Nechifor**, **D.I. Vaireanu**, **G. Nechifor**,
Titlu **Polysulfone-doped polyaniline composite membranes. Synthesis and electrochemical characteristics**,
Volum *Proceedings of International Semiconductors Conference (CAS)*, 2008, IEEE catalog number CFP08CAS-PRT, pg. 245-248, ISBN: 978-1-4244-2004-9, DOI: 10.1109/SMICND.2008.4703392, conf. indexata ISI.
- D.18** Autori C. Baicea, A. Ivan, C. Trisca-Rusu, A.C. Nechifor, D.I. Vaireanu, **S.I. Voicu**, G. Nechifor,



Universitatea POLITEHNICA din București
Facultatea de Chimie Aplicată și Știința Materialelor



- Titlu Ionic conductive silica-polypyrrole composites obtained by in-situ polymerization,
Volum *Proceedings of International Semiconductors Conference (CAS)*, 2010, pg. 359-362, ISBN: 978-1-4244-5783-0, DOI: 10.1109/SMICND.2010.5650655, conf. indexata ISI.
- D.17** Autori V. Luntraru, V. Danciulescu, A.C. Nechifor, **S.I. Voicu**, G. Nechifor,
Titlu Invertase immobilization onto dispersed magnetic particles. Synthesis and characterization,
Volum *Proceedings of International Semiconductors Conference (CAS)*, 2010, pg: 309-312, ISBN: 978-1-4244-5783-0, DOI: 10.1109/SMICND.2010.5650721, conf. indexata ISI.
- D.16** Autori S. Sava, L. Iarca, C. Trisca-Rusu, A.C. Nechifor, **S.I. Voicu**, G. Nechifor,
Titlu New method for tio₂ covalent-ionic functionalization with different molecules for induced properties,
Volum *Proceedings of International Semiconductors Conference (CAS)*, 2010, pg. 321-324, ISBN: 978-1-4244-5783-0, DOI: 10.1109/SMICND.2010.5650685, conf. indexata ISI.
- D.15** Autori C. Trisca-Rusu, A.C. Nechifor, **S.I. Voicu**, G. Nechifor,
Titlu Covalently immobilized crown ethers onto polysulfone membranes as materials for sensors,
Volum *Proceedings of International Semiconductors Conference (CAS)*, 2010, pg 205-208, ISBN: 978-1-4244-5783-0, DOI: 10.1109/SMICND.2010.5649081, conf. indexata ISI.
- D.14** Autori C. Trisca-Rusu, A.C. Nechifor, S. Mihai, C. Parvu, **S.I. Voicu**, G. Nechifor
Titlu Polysulfone-functionalized multiwalled carbon nanotubes composite membranes for potential sensing applications,
Volum *Proceedings of International Semiconductors Conference (CAS)*, 2009, IEEE catalog number CFP08CAS-PRT, pg. 285-288, ISBN: 978-1-4244-4413-7, DOI: 10.1109/SMICND.2009.5336545, conf. indexata ISI.
- D.13** Autori C. Muscalu, R. David, S.A. Garea, A.C. Nechifor, D.I. Vaireanu, **S.I. Voicu**, G. Nechifor,
Titlu Polysulfone-polypyrrole ionic conductive composite membranes synthesized by phase inversion with chemical reaction,
Volum *Proceedings of International Semiconductors Conference (CAS)*, 2009, IEEE catalog number CFP08CAS-PRT, pg. 557-560, ISBN: 978-1-4244-4413-7, DOI: 10.1109/SMICND.2009.5336648, conf. indexata ISI.
- D.12** Autori **S.I. Voicu**, N.D. Stanciu, A.C. Nechifor, D.I. Vaireanu, G. Nechifor,
Titlu Polysulfone- doped polyaniline composite membranes. Synthesis and electrochemical characteristics
Volum *Proceedings of International Semiconductors Conference (CAS)*, 2008, IEEE catalog number CFP08CAS-PRT, pg. 245-248, conf. indexata ISI.
- D.11** Autori G. Nechifor, **S.I. Voicu**, A.C. Nechifor,
Titlu New membrane systems: innovations and limits



Universitatea POLITEHNICA din București
Facultatea de Chimie Aplicată și Știința Materialelor



- Volumu I *Proceedings of the XXV International Symposium on Phisico-Chemical Methods of Separations Ars Separatoria 2010, Torun, Poalnd, ISBN 978-83-231-2208-1, pg. 29-34.*
- D.10** Autori A. Cuciureanu, G. Batrinescu, **S.I. Voicu**, G. Nechifor,
Titlu Composite membranes for BSA separations,
Volumu I *Proceedings of the XXV International Symposium on Phisico-Chemical Methods of Separations Ars Separatoria 2010, Torun, Poalnd, ISBN 978-83-231-2208-1, pg. 338-342.*
- D.09** Autori **S.I. Voicu**, Aurelia Cristina Nechifor, Gheorghe Batrinescu, Gheorghe Nechifor, ,
Titlu Synthesis of new composite membranes polysulfone-polyaniline
Volumu I *Proceedings of the XXXIII International Symposium on Phisico-Chemical Methods of Separations Ars Separatoria 2008, ISBN 978-83-231-2208-1, pg. 353-356.*
- D.08** Autori Florin Aldea, Gabriela Paun, **S.I. Voicu**, Gheorghe Nechifor, ,
Titlu Characterization of polysulfone-polyaniline composite membranes for ultrafiltration and microfiltration
Volumu I *Proceedings of the XXXIII International Symposium on Phisico-Chemical Methods of Separations Ars Separatoria 2008, ISBN 978-83-231-2208-1, pg. 357-360.*
- D.07** Autori **S.I. Voicu**, A.C. Nechifor, C.L. Nistor, G. Nechifor
Titlu Nanofiltration membranes for pesticides pollutants based on molecularly imprinted poly(vinyl-alcohol)
Volumu I *Membranes Science and Technology Conference of Visegrad Countries – PERMEA 2007, 2-6 September, 2007, Siofok, Hungary, CD-ROM, 4 pagini*
- D.06** Autori G. Nechifor, **S.I. Voicu**, A.C. Nechifor, S. Garea
Titlu Nanostructure hybrid membrane polysulfone-carbon nanotubes for hemodialysis
Volumu I *Membranes Science and Technology Conference of Visegrad Countries – PERMEA 2007, 2-6 September, 2007, Siofok, Hungary, CD-ROM, 4 pagini*
- D.05** Autori A.C. Nechifor, H. Iovu, **S.I. Voicu**, G. Nechifor
Titlu Composite magnetic nanoparticles as carrier in liquid membrane processes
Volumu I *Membranes Science and Technology Conference of Visegrad Countries – PERMEA 2007, 2-6 September, 2007, Siofok, CD-ROM, 4 pagini*
- D.04** Autori **S.I. Voicu**, A.N. Cazacu. G. Nechifor
Titlu Drug delivery forms based on molecularly imprinted polymer membranes
Volumu I *Materials Membranes and Processes Proceeding, C.Luca Honorary Symposium, Ed. Printech, ISBN 978-973-718-771-0, pg. 95-104*
- D.03** Autori A.C. Nechifor, H. Iovu, S. Garea, **S.I. Voicu**
Titlu Nanocomposite magnetic nanoparticles as liquid membranes carrier
Volumu I *Materials Membranes and Processes Proceeding, C.Luca Honorary Symposium, Ed. Printech, ISBN 978-973-718-771-0, pg. 105-112*



Universitatea POLITEHNICA din București
Facultatea de Chimie Aplicată și Știința Materialelor



- D.02** Autori **S.I. Voicu**, C. Nistor, G. Nechifor
Titlu Formylated polysulfone membranes for biological applications
Volumu Materials Membranes and Processes Proceeding, C.Luca Honorary
I Symposium, Ed. Printech, ISBN 978-973-718-771-0, pg. 113-122
- D.01** Autori B. Serban, M. Bercu, **S.I. Voicu**, M. Mihaila, G. Nechifor, C. Cobianu
Titlu Calixarene-Doped Polyaniline for Applications in Sensing
Volumu *Proceedings of International Semiconductors Conference (CAS)*, 2006, IEEE
I catalog number 06TH8867, pg. 257-260