Universitatea POLITEHNICA din Bucureşti

Facultatea de Chimie Aplicată şi Ştiinţa Materialelor

Nume STANCU Izabela-Cristina

Funcţie Conferentiar universitar

Departmentul: Bioresurse si Stiinta Polimerilor

Grupul de cercetare (daca este cazul): Centrul de Materiale Polimerice Avansate

Contact

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Date biografice

Perioada	Pozitie ocupata
2012-	Conferentiar universitar, Departmentul de Bioresurse si Stiinta Polimerilor, Universitatea Politehnica din Bucuresti
2007-2012	Sef de lucrari, Departmentul de Bioresurse si Stiinta Polimerilor, Universitatea Politehnica din Bucuresti
2002-2007	Asistent universitar, catedra Tehnologia Substantelor Organice si Compusilor Macromoleculari, Universitatea Politehnica din Bucuresti
2000-2003	Doctorat in Chimie, catedra Tehnologia Substantelor Organice si Compusilor Macromoleculari, Universitatea Politehnica din Bucuresti (cotutela cu Universitatea Angers, Franta) Teza de doctorat: "Polimeri biocompatibili si biodegradabili in patologia osoasa", teza in cotutela, profesor coordonatori: Prof. Corneliu Cincu si Prof. Daniel Chappard
1995-2000	Inginer Diplomat, Inginerie Chimica, Departamentul de Stiinte Ingineresti, Filiera Francofona, Universitatea Politehnica din Bucuresti

Cercetare

Domenii de cercetare

- proiectarea si sinteza de substraturi polimerice cu prorietati predefinite pentru medicina regenerativa
- mineralizarea biomimetica;
- controlul proprietatilor polimerilor prin tehnici de bioconjugare;
- sisteme polimerice multicomponent;
- hidrogeluri si hidrogeluri nanostructurate
- (nano)compozite polimerice
- biopolimeri si (bio)adeziune

Proiecte cercetare (selectie)

- ***BIOMATERIALE MACROPOROASE INJECTABILE BIOACTIVE PENTRU REGENERARE OSOASA***. PN-II-PT-PCCA-2011-3.2-0885 (2012-2015), director de proiect
- ***STUDIUL MINERALIZARII BIOMIMETICE FOLOSIND HIDROGELURI 3D FUNCTIONALIZATE SPECIFIC,*** PN-II-RU-TE-2009-1, TE-80 06/02.08.2010, (2010-2013), director de proiect;
- ***BIOMATERIALE POLIMERICE PENTRU REGENERARE OSOASA. BIOMIMETISM PRIN NANOSTRUCTURAREA SUPRAFETEI***, PN-II-ID-2008-2, No. 729/2009, IDEI 729/2009 (2009-2011), director de proiect;
- ***MATERIALE POLIMERICE HIBRIDE INTELIGENTE PENTRU REGENERARE OSOASA; COMBINARE INOVATIVA DE MINERALIZARE DIRIJATA SI ADEZIUNE CELULARA***, CNCSIS CEEX 5853/18.09.2006, 2006-2008 director de proiect;
- ***OBTINEREA DE MATERIALE FIBROASE PENTRU ORTOPEDIE PRIN GREFARE PE SUBSTRATURI POLIMERICE NATURALE,*** CNCSIS 2, Grant AT 175/ 2004, director de proiect.

Activitate academica

Activitate didactică (in prezent)

Program Studii	Specializare/Facultate	Cod	Titlu disciplina	Tip activitate
Licenta	Stiinta si Ingineria Polimerilor (SIPOL) / Facultatea de Chimie Aplicată şi Ştiinţa Materialelor	UPB.11.S.05.O.803	Fizica Polimerilor II	Curs
	Inginerie Chimica, Engleza / Facultatea de Inginerie in Limbi Strasine	T.7.O.002.EC	Macromolecular Compounds II	Curs
	Echipamente şi Sisteme Medicale (ESM) / Facultatea de Inginerie Medicala *Biomateriale şi Dispozitive Medicale (BDM)* / Facultatea de Inginerie Medicala	14.D.05.O.047	Procese la interfata biomaterial-tesut	Curs
Master	Stiinta si Ingineria Polimerilor (SIPOL) / Facultatea de Chimie Aplicată şi Ştiinţa Materialelor	UPB.11.S.10.O.910	Modificarea chimica a polimerilor pentru aplicatii biologice si medicale	Curs

Titluri si premii

Comitete internationale

2014 Membru comisie de evaluare si sustinere teza de doctorat, Yang Sun - KTH, Royal Institute of Technology Fibre and Polymer Technology, School of Chemical Science and Engineering, octombrie 2014

Premii

- 2012 premierea rezultatelor cercetarii UEFISCDI: RU/ PN-II-RU-PRECISI-2012-6-0095, RU/PN-II-RU-PRECISI-2012-6-0284 si RU/ PN-II-RU-PRECISI-2012-6-1379
- 2010 premierea rezultatelor cercetarii CNCSIS: RU/Cod CNCSIS 59
- 2007 Societatea Romana de Biomateriale (SRB) Scholarship for 2008 (Bursa Medical Ortovit)

Membru in Organizatii Profesionale

din 2014: Membru in **Education Committee** - **European Doctoral Award,** the European Society for Biomaterials, http://www.esbiomaterials.eu/index.php?cid=Education&op=11

2010-2014 : Secretar general - Societatea Romana de Biomateriale

2009-2017: Secretar al Young Scientist Forum at the European Society for Biomaterials http://www.esbiomaterials.eu/index.php?cid=YSF&op=4

2008-2013: Reprezentant national al Romanian Chapter of the Young Scientist Forum - Societatea Romana de Biomateriale

2008: (Co)fondator al Romanian Chapter of the Young Scientist Forum - Societatea Romana de Biomateriale

Din 2008 : Societatea Romana de Biomateriale - membru

Din 2007: Societatea Europeana de Biomateriale - membru

Alte activităţi semnificative

- Din 2014: **consultant stiintific** - revista **Morphologie, Elsevier,** ISSN: 1286-0115.
- From 2013: Membru comitete de evaluare teze de doctorat
- **Socrates Bilateral Agreement** Politehnica University of Bucharest – Universitatea Ghent
- 2011**: Guest Editor** Recent advances in biomaterials science, *Int. J. Nano and Biomaterials, Vol. 3, No. 4, 2011*, Published by Inderscience Enterprises Ltd.

- **Recenzor**: *Biomacromolecules, Acta Biomaterialia, Reactive and Functional Polymers, Journal of Materials Science: Materials in Medicine, Materials, Journal of Raman Spectroscopy, High Performance Polymers, Colloid and Polymer Science, Journal of Colloid and Interface Science, Current Pharmaceutical Design, Journal of Materials Chemistry B*

- Membru in **comitetului stiintific** of the 6th *International Conference "Biomaterials, Tissue Engineering & Medical Devices" BiomMedD'2014* 17 – 20 September, 2014, Constanta, Romania

- Membru al **comitetelor de organizare**:
  1. *2014 YSF workshop* on entrepreneurship, organized at **ESB 2014 - 26th European Conference on Biomaterials,** August 31, 2014, Liverpool, UK
  2. *2013 YSF workshop* on scientific writing of research proposals and journal publications, organized at **ESB 2013 - 25th European Conference on Biomaterials**, September 8-12, 2013, Madrid, Spain
  3. *5th International Conference "Biomaterials, Tissue Engineering & Medical Devices" BiomMedD'2012* 29thAugust – 1stSeptember, 2012, Constanta, Romania
  4. *YSF workshop* - the 23th ESB European Conference of Biomaterials 2011, Tampere, Finland
  5. *4th International Conference "Biomaterials, Tissue Engineering & Medical Devices"* BiomMedD'2010 23-25th September, 2010, Sinaia, Romania

- Membru - **Conference Secretariat** - the 3rd International Conference on Biomaterials and Medical Devices BIOMMEDD'2008, Bucharest, Romania

- 2006-2007: postdoctoral researcher, Prof. Etienne Schacht, Universitatea Ghent, Ghent, Belgia
- 2005-2006: **Marie Curie** postdoctoral fellow - Dresden University of Technology, Prof. Reiner Salzer, Dresden, Germania

Publicaţii

Nr.total carti, articole, conferinte, brevete

5 carti, 3 capitole de carte, > 36 articole

Articole publicate în reviste de specialitate (selectie)

- Serafim A., Tucureanu C., Petre D.G., Salageanu A., Van Vlierberghe S., Dubruel P., **Stancu I.C.**, One-pot synthesis of superabsorbent hybrid hydrogels based on methacrylamide gelatin and polyacrylamide. Effortless control of hydrogel properties through composition design, *New Journal of Chemistry*, 2014, **DOI:** 10.1039/C4NJ00161C, IF **2.966**
- Vasile, E; Serafim, A; Dragusin, D-M; Damian C., Iovu H., **Stancu I.C.**, Apatite formation on active nanostructured coating based on functionalized gold nanoparticles, *J Nanopart Res*, 14(6) 918, 2012, **DOI** 10.1007/s11051-012-0918-1, IF **2.175**
- Dragusin DM, Van Vlierberghe S, Dubruel P, Dierick M, Van Hoorebeke L, Declercq HA, Cornelissen MM, **Stancu IC** Novel gelatin-PHEMA porous scaffolds for tissue engineering applications, *SOFT MATTER* 8(37): 9589-9602, 2012, **DOI:** 10.1039/C2SM25536G, IF **3.909**
- Bubenikova S, **Stancu IC**, Kalinovska L, Schacht E, Lippens E, Declercq H, Cornelissen M, Santin M, Amblard M, Martinez J, Chemoselective cross-linking of alginate with thiol-terminated peptides for tissue engineering applications, *Carbohydrate Polymers* 88(4): 1239-1250, 2012, http://dx.doi.org/10.1016/j.carbpol.2012.01.089, IF **3.479**
- **Stancu I.C.**, Dragusin D.M., Vasile E., Trusca R., Antoniac I., Vasilescu D.S., Porous calcium alginate-gelatin interpenetrated matrix and its biomineralization potential, *Journal of Materials Science: Materials in Medicine*, 22: 451–460, 2011, doi: 10.1007/s10856-011-4233-7 IF **2.141**
- **Stancu, I.C.**, Gelatin Hydrogels with PAMAM Nanostructured Surface and High Density Surface-Localized Amino Groups, *Reactive and Functional Polymers*, 70, 314-324, 2010, http://dx.doi.org/10.1016/j.reactfunctpolym.2010.02.005, IF **2.505**
- Zecheru T., Rotariu T., Rusen E., Marculescu B., Miculescu F., Alexandrescu L., Antoniac I., **Stancu I.C.**, Poly(2-hydroxyethyl methacrylate-co-dodecyl methacrylate-co-acrylic acid): synthesis, physico-chemical characterisation and nafcillin carrier, *Journal of Materials Science: Materials in Medicine*, 21(10), 2793-2804, 2010, 10.1007/s10856-010-4129-y, IF **2.141**
- Mabilleau, G., Aguado, E., **Stancu, I.C.**, Cincu, C., Basle, M.F., Chappard, D., Effects of FGF-release from a hydrogel polymer on bone mass and microarchitecture, *Biomaterials*, 29(11), 1596-1600, 2008, doi: 10.1016/j.biomaterials.2007.12.018, IF **7.604**
- Mabilleau, G., **Stancu, I.C.,** Honoré, T., Legeay, G., Cincu, C., Baslé, M.F., Chappard, D., Effects of the chain length off cross-linkers on poly(2-hydroxyetheyl methacrylate) (pHEMA) swelling and biomechanical properties, *Journal of Biomedical Materials Research*, A, 77(1), 35-42, 2006, IF **2.834**
- **Stancu, I.C.**, Filmon, R., Grizon, F., Zaharia, C., Cincu, C., Basle, M. F., Chappard, D., The in vivo calcification of methacryloyloxyethyl phosphate copolymers does not favour osteoconduction, *Journal of Biomedical Materials Research*, 69 A, 584-589, 2004, DOI: 10.1002/jbm.a.30036, IF **2.834**
- **Stancu, I.C.,** Filmon, R., Cincu, C., Marculescu, B., Zaharia, C., Tourmen, Y., Basle, M. F., Chappard, D., Synthesis of methacryloyloxyethyl phosphate copolymers and in vitro calcification capacity, *Biomaterials*, 25(2), 205-213, 2004, http://dx.doi.org/10.1016/S0142-9612(03)00485-X, IF **7.604**

Capitole in cărţi (selectie)

1. **Stancu I.C.**, Lungu A., Iovu H. Hydrogels for Bone Regeneration, in Biomaterials for Bone Regeneration. Novel Techniques and Applications, Edited by Dubruel P. and Van Vlierberghe S., Woodhead Publishing Series in Biomaterials: Number 75, 2014, Woodhead Publishing Limited (Imprint of Elsevier) **DOI:** 10.1533/9780857098104.1.62, ISBN 978-0-85709-804-7
2. **Stancu I.C.**, Lungu A., Albu M., Iovu H., Chapter 2 – Concept and design of polymer scaffolds with controlled biodegradability and porosity for tissue engineering applications in Advanced biocompatible structures for prospective bioengineering: concepts and strategies. Coordinators Marieta Costache, Maya Simionescu, The Publishing House of the Romanian Academy, Bucharest, 2013, ISBN 978-973-27-2317-3
3. **Stancu, I.C.**, SPR Imaging label-free control of biomineral nucleation!?, in *Intelligent and Biosensors*, Editor: Vernon S. Somerset, IN TECH, 2010, Croatia, ISBN 978-953-7619-58-9

Conferinţe ştiinţifice (selectie)

Lucrari invitate

1. **NANOCOMPOSITE BONE REGENERATION SCAFFOLDS,**
autori: Daniela Geta Petre, Sergiu Cecoltan, Adriana Lungu, Andrada Serafim, Eugeniu Vasile, Catalin Tucureanu, Aurora Salageanu, Izabela-Cristina Stancu, ***AMBA 2014: Advanced Materials for Biomedical Applications Ghent (Belgia), 18-21 noiembrie 2014***

2. BIOCONJUGATION OF BIOPOLYMERS WITH THIOL-TERMINATED PEPTIDES,
autori: Izabela-Cristina Stancu, Etienne Schacht, ***AMBA 2014: Advanced Materials for Biomedical Applications Ghent (Belgia), 18-21 noiembrie 2014***

3. BIO-INSPIRED FEATURES FOR THE DESIGN OF BIOPOLYMERS-BASED BONE REGENERATION SCAFFOLDS,
autori: Izabela-Cristina Stancu, ***BIOMMEDD 2014, Constanta (Romania), 17-20 septembrie 2014***

4. **SURFACE FUNCTIONALITY AND THE CALCIFICATION OF PHEMA**
autori: Dragusin D.M., **Stancu I.C.**, BIOFUTURE ***2011: Young European Biomaterials Scientists Designing a View for the Future***, Ghent, Belgia