Curriculum Vitae

Prof. Dr. Horia Iovu

Afiliations:

1. Professor, Department of Bioresources and Polymer Science, University Politehnica of Bucharest, 011061, Bucharest, Romania;
2. Academy of Romanian Scientists, 050094 Bucharest, Romania;
3. Fellow member at Royal Society of Chemistry;

Executive summary

- 180 journal articles, 5 invited and more than 20 plenary talks, 10 book chapters, attendance at more than 15 prestigious international conferences organized by Elsevier, American Chemical Society or Royal Society of Chemistry and more than 5 patents
- Doctor Honoris Causa at Oil and Gas University of Ploiești, Romania (2019).
- Editor in Chief: Materiale plastice (Plastic Materials Journal)
- Guest Editor of a Special Issue in Polymers Journal –Special Issue Hybrid Materials Based on Thermosets (2018)
- Award "BUNEA DANIEL" - Romanian Society of Biomaterials (2011)
- Referee reviewer for more than 10 scientific journals (European Polymer Journal, Composites Part B, Polymer, etc.)
- External reviewer (grant applications): - 1 (Czech Republic).
- Member of the "Scientific Committee" and "Session Chair" at different conferences
- Figures of merit @ 14/10/2019: (1) ISI Thomson: 2143 citations/257 documents, H-index: 30 (Researcher ID: C-3644-2011); (2) SCOPUS: 2150 citations/263 documents, H-index: 31 (Author ID: 55134881500) (3) Google Scholar: 2633 citations/272 documents, H-index: 32; ORCID https://orcid.org/0000-0003-1028-2198

Prof. Dr. Horia Iovu graduated from Chemistry and Technology of Macromolecular Compounds at the Faculty of Industrial Chemistry, UPB. **Prof. Iovu is the founder and director of the Advanced Polymer Materials Group (APMG).** He was awarded his PhD in Chemistry and Technology of Polymers in 1995 and became a full professor of Chemical Engineering in 1999. Prof. Iovu`s research activity generated original scientific results recognized at both national and international level. During his career, Prof. Iovu was directly involved and coordinated more than 25 research projects. Prof. Iovu founded in 2008 the Advanced Polymer Materials Group (APMG www.apmg.pub.ro) inside UPB and since then he is coordinating the research team. **The basic research interest** of Prof. Iovu is related to **chemical engineering and material science**, regarding synthesis and characterization of hybrid materials based on (bio)polymers reinforced with various organic/inorganic nano-compounds (nanofillers) with application in hard tissue engineering; synthesis and characterization of composite materials based on natural/synthetic polymers with fibrous architecture; polymer/carbon-based nanocomposites for biosensors; synthesis and characterization of biopolymer composites for biomedical applications and synthesis; **characterization of hybrid materials as potential drug delivery systems and the design and construction of 3D structures for biomedical applications using the modern, non-invasive techniques: 3D-bioprinting, electrospinning.** Dr. Iovu has also expertise in the field of carbon nanostructures by modifying the surface of the graphene and carbon nanotubes in order to functionalize them with biopolymers.

Most relevant publications:

1. Ghitman, J., Stan, R., Vlasceanu, G., Vasile, E., **Iovu, H.** (2019). Predicting the drug loading efficiency into hybrid nanocarriers based on PLGA-vegetable oil using molecular dynamic simulation approach and Flory-Huggins theory. **Journal of Drug Delivery Science and Technology**, 53, 101203.

2. Ghitman, J., Stan, R., Ghebaur, A., Cecoltan, S., Vasile, E., **Iovu, H**. (2018). Novel PEG-Modified Hybrid PLGA-Vegetable Oils Nanostructured Carriers for Improving Performances of Indomethacin Delivery. **Polymers**, 10(6), 579.
3. Ghitman, J., Stan, R., Cecoltan, S., Chifiriuc, M. C., **Iovu, H.** (2018). Hybrid nanocarriers based on PLGA-vegetable oil: A novel approach for high lipophilic drug delivery. **Journal of Drug Delivery Science and Technology**, 46, 162-172.
4. Radu, I. C., Hudita, A., Zaharia, C., Galateanu, B., **Iovu, H**., Tanasa, E., Velonia, K. (2019). Poly (3-hydroxybutyrate-CO-3-hydroxyvalerate) PHBHV biocompatible nanocarriers for 5-FU delivery targeting colorectal cancer. **Drug delivery,** 26(1), 318-327.
5. Pandele, A., Andronescu, C., Ghebaur, A., Garea, S., **Iovu, H.** (2019). New biocompatible mesoporous silica/polysaccharide hybrid materials as possible drug delivery systems. **Materials**, 12(1), 15.
6. Radu, I. C., Hudita, A., Zaharia, C., Stanescu, P. O., Vasile, E., **Iovu, H**., Langguth, P. (2017). Poly (hydroxybutyrate-co-hydroxyvalerate)(PHBHV) nanocarriers for silymarin release as adjuvant therapy in colo-rectal cancer. **Frontiers in pharmacology**, 8, 508.
7. Ghitman, J., Stan, R., **Iovu, H**. (2017). Experimental contributions in the synthesis of PLGA nanoparticles with excellent properties for drug delivery: Investigation of key parameters. **UPB Sci. Bull. Ser. B**, 79, 101-112.
8. Galateanu, B., Bunea, M. C., Stanescu, P., Vasile, E., Casarica, A., **Iovu, H**., Costache, M. (2015). In vitro studies of bacterial cellulose and magnetic nanoparticles smart nanocomposites for efficient chronic wounds healing. **Stem cells international,** 2015.
9. Ghebaur, A., Garea, S. A., **Iovu, H.** (2012). New polymer–halloysite hybrid materials—potential controlled drug release system. **International journal of pharmaceutics**, 436(1-2), 568-573.
10. Serafim, A., Cecoltan, S., Lungu, A., Vasile, E., **Iovu, H.,** Stancu, I. C. (2015). Electrospun fish gelatin fibrous scaffolds with improved bio-interactions due to carboxylated nanodiamond loading. **Rsc Advances,** 5(116), 95467-95477.
11. Ioniţă, M., Vlăsceanu, G. M., Watzlawek, A. A., Voicu, S. I., Burns, J. S., **Iovu, H.** (2017). Graphene and functionalized graphene: Extraordinary prospects for nanobiocomposite materials. **Composites Part B: Engineering**, 121, 34-57.
12. Vasile, E., Serafim, A., Dragusin, D. M., Petrea, C., **Iovu, H.,** Stancu, I. C. (2012). Apatite formation on active nanostructured coating based on functionalized gold nanoparticles. **Journal of Nanoparticle Research**, 14(6), 918.
13. Covaliu, C. I., Berger, D., Matei, C., Diamandescu, L., Vasile, E., Cristea, C., **Iovu, H.** (2011). Magnetic nanoparticles coated with polysaccharide polymers for potential biomedical applications. **Journal of Nanoparticle Research,** 13(11), 6169-6180.
14. Prodana, M., Voiculet, A., Garea, S., Radu, M., **Iovu, H.,** Demetrescu, I., Dinischiotu, A. (2014). Synthesis, characterization and controlled toxicity of a novel hybrid material based on cisplatin and docetaxel. **Open Chemistry**, 12(10), 1008-1015.
15. Covaliu, C. I., Jitaru, I., Paraschiv, G., Vasile, E., Biriş, S. Ş., Diamandescu, L., **Iovu, H.** (2013). Core–shell hybrid nanomaterials based on CoFe2O4 particles coated with PVP or PEG biopolymers for applications in biomedicine. **Powder technology,** 237, 415-426.
16. Covaliu, C. I., Paraschiv, G., Biriş, S. Ş., Jitaru, I., Vasile, E., Diamandescu, L., **Iovu**, **H.,** Matei, E. (2013). Maghemite and poly-dl-alanine based core–shell multifunctional nanohybrids for environmental protection and biomedicine applications. **Applied Surface Science**, 285, 86-95.
17. Dinescu, S., Galateanu, B., Lungu, A., Radu, E., Nae, S., **Iovu, H.,**Costache, M. (2014). Perilipin expression reveals adipogenic potential of hADSCs inside superporous polymeric cellular delivery systems. **BioMed research international**, 2014.
18. Ioniță, M., Crică, L. E., Voicu, S. I., Dinescu, S., Miculescu, F., Costache, M., **Iovu, H.** (2018). Synergistic effect of carbon nanotubes and graphene for high performance cellulose acetate membranes in biomedical applications. **Carbohydrate polymers**, 183, 50-61.
19. Pandele, A. M., Ionita, M., Crica, L., Dinescu, S., Costache, M., **Iovu, H.** (2014). Synthesis, characterization, and in vitro studies of graphene oxide/chitosan–polyvinyl alcohol films. **Carbohydrate polymers,** 102, 813-820.

20. Ionita, M., Crica, L. E., Tiainen, H., Haugen, H. J., Vasile, E., Dinescu, S., **Iovu, H.** (2016). Gelatin–poly (vinyl alcohol) porous biocomposites reinforced with graphene oxide as biomaterials. **Journal of Materials Chemistry B,** 4(2), 282-291.
21. Pandele, A. M., Ionita, M., Lungu, A., Vasile, E., Zaharia, C**., Iovu, H.** (2017). Porous chitosan/graphene oxide biocomposites for tissue engineering. **Polymer Composites,** 38(2), 363-370.
22. Ghebaur, A., Balanuca, B., Garea, S. A., **Iovu, H**. (2016). pH-Sensitive Clays as Drug Delivery Carriers for Controlled Release of Hydrocortisone. **Materiale plastice**, 53(3), 419-423.
23. Serafim, A., Vasile, E., **Iovu, H.,** Stancu, I. C. (2013). Self-assembled gold-dendrimer composite nanoparticles as surface nanostructuring features. **Digest Journal of Nanomaterials & Biostructures (DJNB),** 8(2).
24. Ţolescu, C., Neamţu, C., Ghiurea, M., **Iovu, H**. (2010). Preparation and characterization of encapsulated fertilizer. **Environmental Engineering & Management Journal (EEMJ),** 9(4).
25. Balanuca, B., Lungu, A., Hanganu, A. M., Stan, L. R., Vasile, E., **Iovu, H.** (2014). Hybrid nanocomposites based on POSS and networks of methacrylated camelina oil and various PEG derivatives. **European journal of lipid science and technology**, 116(4), 458-469.
26. Balanuca, B., Stan, R., Hanganu, A., Lungu, A., **Iovu, H.** (2015). Design of new camelina oil-based hydrophilic monomers for novel polymeric materials. **Journal of the American Oil Chemists' Society**, 92(6), 881-891.
27. Pandele, A. M., Ionita, M., Crica, L., Vasile, E., **Iovu, H.** (2017). Novel Chitosan-poly (vinyl alcohol)/graphene oxide biocomposites 3D porous scaffolds. **Composites Part B: Engineering,** 126, 81-87.

Book Chapters:

1. S.A. Gârea, **H. Iovu**, A.Ghebaur: Hybrid Materials Based on Polymer Matrix and Layered Silicates, publicat în cartea Nanotechnology In Polymers, Editori Vijay Kumar Thakur şi A. S. Singha, ISBN: 1-933699-90-6; Editura **Studium Press LLC U.S.A**, 2012.
2. S.A. Gârea, **H. Iovu**: Drug Delivery Systems, Polymer and Layered Silicate-Based, Encyclopedia of Biomedical Polymers and Polymeric Biomaterials, Editura **Taylor and Francis**, 2014, DOI: 10.1081/E-EBPP-120049946.
3. Garea, SA; Voicu, AI; **Iovu, H**: Clay-Polymer Nanocomposites for Controlled Drug Release, publicat in: CLAY-POLYMER NANOCOMPOSITES, ISBN:978-0-323-46161-0; 978-0-323-46153-5, Elsevier, Amsterdam, 2017.
4. M. Ionita, L. E. Crica, G. Vlasceanu, **H. Iovu**: An Introduction to Computer Simulation Methods for Biomaterials Design, publicat in cartea: Biomedical Engineering; Introduction to current approaches, ISBN 978-606-23-0582-6, Editura PRINTECH, Bucuresti, 2016.