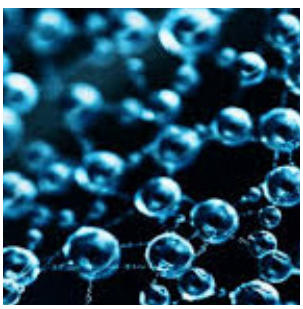
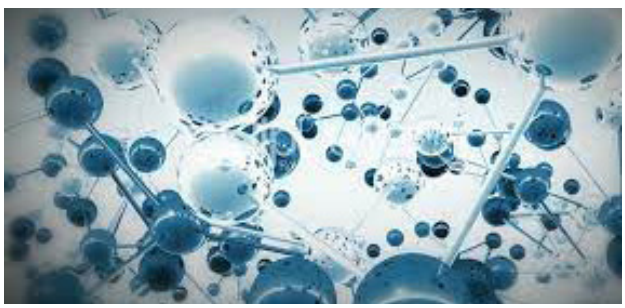
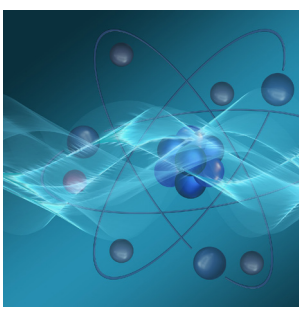
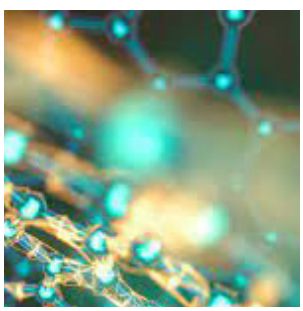
Keynote Forum
September 02, 2021

Polymer Science 2021

2nd International Conference on
Polymer Science and Technology

September 02, 2021 | Webinar

Andrada Serafim

University Politehnica of Bucharest, Romania

Mucin and its methacryloyl derivative in engineering materials with biomedical applications

Mucin is a high weight glycoprotein found in the mucus that covers the wet epithelia, protecting the tissue from the penetration of unwanted molecules (such as viruses or bacteria) or insuring the lubrication or hydration. Its bottle-brush structure presents long polypeptide backbone rich in proline, threonineand serine (PTS domain), on which dense brushes of carbohydrate chains are radially attached. Mucin represents an appealing macromolecule for several applications in the biomedical field, among which carriers for bioactive species, coatings with improved tribological performanceand antifouling properties. Using protocols described for other natural macromolecules, the methacryloyl derivative of mucin was also synthesized and further used to obtain chemically cross-linked stable hydrogels. Our work group used both mucin and its methacryloyl derivative for several applications in the biomedical field. Taking advantage of its complex structure and multitude of functional groups available for cross-linking mucin was used as bio-activator for metallic surfaces and its ability to form stable coatings in the presence of tannic acid was investigated. Methacryloyl mucin (MuMA) form porcine stomach was also used as coting with the aim of improving the biointegration of a polypropylene mesh for abdominal wall repair. Also, either as part of a bicomponent hydrogel, or as primary constituent of a double cross-linked network, MuMA's ability to form stable, robust networks was assessed. Presently, we are aiming the synthesis of a MuMA-based double network hydrogels with adequate mechanical properties, architectural featuresand bioactivity for applications in the articular cartilage tissue engineering.

Biography

Serafim completed her PhD. in 2013 at the university politehnica of bucharest, with the thesis "macromolecular compounds for tissue engineering". Her research interests span from protein modification and nanoparticles' functionalization to the synthesis and characterization of various hydrogels and hydrogel-based nanocomposites with precise biomedical applications. She specialized in different characterization techniques such as rheology, mechanical testing of hydrogels, micro- and nano- computed tomography, QCM-D, spectroscopy (FT-IR, UV-Vis). Continuously searching to improve her research skills and to enlarge her field of expertise, she is welcoming collaborations with researchers with similar or complementary background.

e: andrada.serafim0810@upb.ro

Marc Marín-Genescà

Universitat Rovira I Virgili, Spain

Mechanical and electrical behaivor of polymeric blends with GTR particle application

Ground Tire Rubber Recycling in Applications as Insulators in Polymeric Compounds. Investigate the conceivable outcomes of using ground tire rubber (GTR) particle polymeric blends. Functional applications study. The recycling of end-of-life tires enables the recovery of rubber, steeland fibers, all of which are valid on the market as raw materials to be used for other processes. Crosslink structure cause by VULCANIZATION 2,000,000 tonnes across Europe yearly are used, a third of which will end up in illegal landfills. Some formulas have been sought to give a second life to this waste: Products for making pavements, material for public works or the floor of playgrounds The vast majority: energy recovery plants, through combustion and energy is used to produce steam and electricity.

Biography

Marc Marín has completed his PhD at the age of 34 years from polythecnical uniiversity of catalonia (upc), spain - barcelona. He, actually, is professor of universitat rovira i virgili, tarragona (spain). He has over 25 publications that have been cited over 100 timesand his publication H-index is 7 and has been serving as an editorial board member of reputed journals.

e: marc.marin@urv.cat