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Alexandra Montembault

Dr. Alexandra Montembault is a professor at University *Claude Bernard Lyon 1* since 2021. She obtained in 2001 an engineering degree, and a master's degree in biotechnological and food processes. She then obtained her PhD in polymer materials from the University of Lyon 1 in 2004. During her thesis in collaboration with the company Laboratoires Genévrier, she worked on a formulation for cartilage regeneration, associating chitosan physical microgels and chondrocytes. Then she obtained in 2005 a position as an associate professor at the University Claude Bernard Lyon 1.

Today, she works in the Polymer Materials Engineering laboratory (IMP, UMR CNRS 5223), as a group leader of the “Polymer Materials at the Interface with Life Science” research department. Her research activities are focused on the design and development of natural polymer-based materials (in particular, chitosan-based physical hydrogels, solutions, fibers, etc.) for various applications in tissue engineering and delivery of active molecules or macromolecules. She is the co-author of 70 publications published in peer-reviewed journals and 16 patents.

Talk: Rheology of chitosan solutions and gels for material development

Rheology is the science that studies the flow and deformation of matter (liquids, gels, pastes, soft solids, etc.), under the influence of applied forces. In the context of developing chitosan-based materials, this tool can help us, for example, to evaluate the stiffness of gels, to measure the viscosity of solutions to assess their spinnability, and not only. It is also a powerful tool for comparing hydrogel networks and understanding their formation, particularly by determining the gel point.

