TUAT Fluid Dynamics Seminar

Cellulose fibrils as a building block for the design of membrane and composite materials

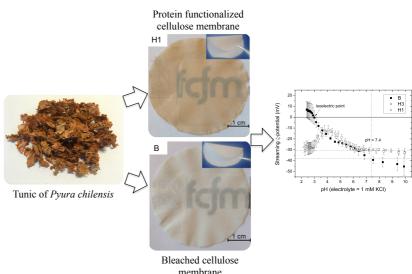


Lecturer: Prof. Dr. Frank Quero Professor of Polymeric Materials, University of Chile, Chile Date: Friday, February 22nd, 2019 Place: Building 6- Room 501 Time: 10:00 am - 11:00 am

Abstract

This talk will deal with cellulose fibrils, a class of materials that can be obtained from various sources, including plants, tunicates and bacteria.

This talk will present the extraction and characterization of cellulose fibrils obtained from a marine resource and how membranes with highly negative surfaces charges at pH < 4 can be obtained.



Potential application of these membranes will be discussed. Also, we will show how cellulose fibrils obtained from bacteria and plants can be used as a reinforcement material for the design of composite materials with improved mechanical properties. Experimental data on the quantification of the interfacial interaction between nanocellulose and various polymer matrices by Raman spectroscopy will be shown.

Biographical Sketch

Frank Quero has received his BSc degree in Polymers and Composites (2006) and MSc in Eco-design in Polymers and Composites (2008) from European University of Brittany in France. He has received his PhD degree in Composite Materials (2012) from University of Manchester in United Kingdom. Dr. Quero is currently a Professor of Polymeric Materials in University of Chile located in Chile.