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Background and experience

Dr Cathala is currently senior researcher at the "Biopolymer, Interaction and Assemblies" (BIA) laboratory of the French National Institute for Agricultural Research (INRA) in Nantes. He is deputy director of BIA lab and head the INRA/CNRS GDR Symbiose.

He received his Ph. D in 1995 in organic chemistry and physical chemistry from the University of Toulouse. His research works are focused on of biopolymers organization at nanoscale to elaborate new biobased materials. More precisely, his current research interests are the chemistry and physical chemistry of nanocelluloses (both cellulose nanocrystals and nanofibrillated cellulose) dedicated to the fabrication of smart coatings and biomimetic assemblies. He has fulfilled six patent applications.

Selected Publications

Coloured Semi-reflective Thin Films for Biomass-hydrolyzing Enzyme Detection. Cerclier C., Lack-Guyomard A., Moreau C., Cousin F., Beury N., Bonnin E, Jean B., Cathala B. **Advanced Materials** 23: 3791–3795, (2011).

New Pickering Emulsions Stabilized by Bacterial Cellulose Nanocrystals (BCN). Kalashnikova, I.; Bizot, H.; Cathala, B.; Capron, I. **Langmuir**, 27, 7471–7479 (2011)

Microfluidic generation and selective degradation of biopolymer-based Janus microbeads, Marquis, M.; Renard, D.; Cathala, B; **Biomacromolecules**, 13 (4), pp 1197-1203, (2012)

Cellulose Nanocrystals assisted Dispersion of Luminescent Single Walled Carbon Nanotube for Layer-by-Layer Assembled Hybrid Thin Films. Christophe Olivier, Céline Moreau, Patricia Bertoncini, Hervé Bizot, Olivier Chauvet and Bernard Cathala, **Langmuir**, 28 (34), pp 12463–12471, (2012)

Xyloglucan-cellulose nanocrystal multilayered films: effect of film architecture on enzymatic hydrolysis. Cerclier, C; Guyomard-Lack, A.; Cousin, F.; Jean, B.; Bonnin, E.; Moreau, C., Cathala, . **Biomacromolecules**, 14 (10), pp 3599–3609, (2013)

Chitin Nanocrystal-Xyloglucan Multilayer Thin Films, Villares, A. ; Moreau, C. ; Capron, I.; Cathala, B. **Biomacromolecules**, 15 (1), pp 188–194, 2014

Reversible modification of structure and properties of cellulose nanofibrils-based multilayered thin films induced by postassembly acid treatment, Azzam, F.; Moreau, C.; Cousin, F.; Menelle, A.; Bizot, H.; Cathala, B. **Langmuir** 31, 9, pp 2800-2807, (2015)

Kinetic aspects of the adsorption of xyloglucan onto cellulose nanocrystals Villares, A.; Moreau, C.; Dammak, A; Capron, I.; Cathala, B. **Soft Matter**. 11 (32), pp 6472-6481, (2015)