

Dr. CRISTINA-ELIZA BRUNCHI

Researcher

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RESEARCH INTEREST

- Physico-chemical characterization of polymers (uncharged/charged polymers as well as multicomponent polymer systems);
- Study of biopolymers in solution and in gel state from the perspective of their use in cosmetic/pharmaceutical/food formulations or as flocculants for waste water purification;
- Correlation of polymer properties in the solution with those in the solid state evidenced by structural (NMR, FTIR, DRX, SAXS), morphological (SEM, TEM, AFM), optical (turbidimetry, refractometry, electrophoretic measurements, DLS, UV-Vis spectroscopy), dynamic (viscometry, rheology) and of surface tension analyzes (contact angle method).

SCIENTIFIC CONTRIBUTION

- Author/co-author of > 30 published articles (of which 23 are ISI indexed)
- Hirsh index: 12 (according to ISI Web of Science)
- >50 participations at national/international scientific manifestations (oral presentations and posters)
- Sum of the times cited: 350 (without self-citations: 280)

RELEVANT PUBLICATIONS

- Brunchi C.-E., Morariu S., Bercea M., *Impact of ethanol addition on the behaviour of xanthan gum in aqueous media*, Food Hydrocoll. 2021, 120, 106928;
- Brunchi C.-E., Avadanei M., Bercea M., Morariu S., *Chain conformation of xanthan in solution as influenced by temperature and salt addition*, J. Molec. Liq., 2019, 111008;
- Morariu S., Bercea M., Brunchi C.-E., *Phase Separation in Xanthan Solutions*, Cell. Chem. Technol., 2018, 52 (7-8), 569-576;
- Morariu S., Bercea M., Brunchi C.-E., *Influence of Laponite RD on the Properties of Poly(vinyl alcohol) Hydrogels*, J. Appl. Polym. Sci., 2018; 135(35)
- Brunchi C.-E., Bercea M., Morariu S., Avadanei M., *Investigations on the Interactions Between Xanthan Gum and Poly(vinyl alcohol) in Solid State and Aqueous Solutions*, Eur. Polym. J., 2016, 84, 161–172;
- Brunchi C.-E., Bercea M., Morariu S., Dascalu M., *Some Properties of Xanthan Gum in Aqueous Solutions: Effect of Temperature and pH*, J. Polym. Res., 2016, 23, 123;
- Ghimici L., Brunchi C.-E., Diaconu A., *Removal of Some Commercial Pesticides Containing α -Cypermethrin, Deltamethrin and Mancozeb as Active Ingredients by Chitosan Solution*, Cellulose, 2016, 23, 3837–3846
- Morariu S., Bercea M., Brunchi C.-E., *Effect of Cryogenic Treatment on the Rheological Properties of Chitosan/Poly(vinyl alcohol) Hydrogels*, Ind. Eng. Chem. Res. 2015, 54, 11475–11482;
- Brunchi C.-E., Morariu S., Bercea M., *Intrinsic Viscosity and Conformational Parameters of Xanthan in Aqueous Solutions: Salt Addition Effect*, Colloids and Surf. B: Biointerfaces, 2014, 122, 512–519;
- Ghimici L., Brunchi C.-E., *Titanium Dioxide Separation from Water by PEG and Pluronic Type Polymers*, Sep. Purif. Tech., 2013, 103, 306–312;
- Brunchi C.-E., Ghimici L., *PEG in Aqueous Salt Solutions. Viscosity and Separation Ability in a TiO₂ Suspension*, Rev. Roum. Chim., 2013, 58(2-3), 183-188;
- Morariu S., Brunchi C.-E., Bercea M., *The Behavior of Chitosan in Solvents with Different Ionic Strengths*, Ind. Eng. Chem. Res., 2012, 51 (39), 12959–12966.