CSI Dr. Fanica MUSTATA

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The research interests cover the areas of: (i) natural and synthetic polymers (cellulose, starch, epoxy resins, bismaleimide resins, and formaldehyde resins) modified with derivatives of resin acids or fatty acids obtained from rosin and vegetable oils; (ii) cross-linked polymers based on epoxy resins obtained from natural and synthetic resources; (iii) thermal and photoreticulable polymer composites with improved impact on the environment; (iv) thermal characterization of polymers and composites of natural and synthetic origin; (v) obtaining of the adhesive tapes; (vi) additives for improving of the paper characteristics; (vii) heat transfer in non-Newtonian fluids; (viii) designing the pilot plants for the synthesis of monomers and polymers; (ix) obtaining of synthetic papers.

Scientific record: Articles published in international peer-reviewed journals (ISI ranked and included in international data bases): **109**; Articles published full-text in international conference volumes: **4**; Books: **1**; Book chapters: **3**; Patents (national): **13 patent**; Research and development projects based on **1 international projects** and **3 national research projects**, of which: **4 as member** of the project. **1120 citations** (without self-citation) in international ISI ranked journals, Hirsch index**, H = 22** in Web of Science databases.

SELECTED SCIENTIFIC ARTICLES

1. F. Mustata, N. Tudorachi, Synthesis and thermal characterization of some hardeners for epoxy resins based on castor oil and cyclic anhydrides, *Industrial Crops and Products*, 159, 113087, 2021, *F.I. = 5.645.*
2. L. Rosu, C.D. Varganici, F. Mustata, D. Rosu, I. Rosca, T. Rusu, Epoxy Coatings Based on Modified Vegetable Oils for Wood Surface Protection against Fungal Degradation, *ACS Applied Materials & Interfaces*, 12(12), 14443–14458, 2020; *F.I. = 9.229.*
3. N. Tudorachi, F. Mustata, Curing and thermal degradation of diglycidyl ether of bisphenol A epoxy resin crosslinked with natural hydroxy acids as environmentally friendly hardeners, *Arabian Journal of Chemistry*, 13, 671–682, 2020, *F.I. = 4.762.*
4. F. Mustata, N. Tudorachi, Curing kinetics and thermal characterization of epoxy resin cured with amidodicarboxylic acids, Applied Thermal Engineering, 125, 285–296, 2017, *F.I. = 4.026.*
5. F. Mustata, N. Tudorachi, Thermosets based on castor oil modified with Diels-Alder adduct of levopimaric acid and diglycidyl ether of bisphenol A. The kinetic analysis of the curing reactions and thermal behavior of the cured products, *Composites Part B: Engineering*, 97, 263-273, 2016, *F.I. = 7.635.*
6. I. Bicu, F. Mustata, Optimization of isolation of cellulose from orange peel using sodium hydroxide and chelating agents, *Carbohydrate Polymers*, 98(1), 341-348, 2013, *F.I. = 7.182.*