Prof. Dr. Nicolas SBIRRAZZUOLI
University Professor of Exceptional Class (Higher grade)
Leader Eco-Friendly Materials and Polymers Team
Institute of Chemistry of Nice (ICN) – UMR CNRS 7272
University Côte d'Azur, 06108 NICE Cedex 2, FRANCE
Tél. : 33 (0)4 89 15 01 27
e-mail : Nicolas.SBIRRAZZUOLI@univ-cotedazur.fr
ORCID : 0000-0002-6031-5448

Keywords: Biobased polymers and composites, polymerization and crystallization mechanisms, thermal analysis, advanced kinetic analysis.

Prof. Dr. Nicolas Sbirrazzuoli received is PhD in 1992 from the University of Nice Sophia Antipolis for the study of polymeric materials and materials for energy storage (solar energy). He started to develop kinetic methods and programs for modeling the temperature profile in a cylinder using calorimetric data. During the years 1992-1933, he worked as a post-doc, on Artificial Neural Network (ANNS) applied to chemistry. These techniques were applied with success to the recognition of chemical functions from FT-IR spectra, to the computation of kinetic parameters from DSC data, and to the deconvolution of calorimetric signals. These pioneering studies have shown the robustness of these methods for missing or noisy data. In 1994, he continued, as Assistant Professor, his researches on polymers and in the development of kinetic methods (polymerization mechanisms, vitrification, gelification, shift from chemical to diffusion control, relaxation and crystallization of polymers, crystallization - melting/re-crystallization, glass transition, physical ageing, thermal and thermo-oxidative degradation of polymers). In 2000, he got a full Professor position at the University Côte d'Azur and developed methods and software for kinetic analysis of thermoanalytical data (including DSC, calorimetry, rheometry, TGA and DMTA). In 2004, he started working on biobased, biodegradable, renewable and non-toxic polymers and composites, resulting from the recovery of plant biomass, by-products of industry and biorefineries. He mainly worked on furanic thermosets, biobased epoxy and semi-crystalline polyesters. Since 2011, he pioneered with his team several studies on poly(ethylene 2,5-furandicarboxylate) (PEF), a promising polyester, which is the biobased counterpart of petrobased PET, in collaboration with Avantium, and on humins, a co-product of sugar conversion from biorefineries. He developed new applications of stochastic temperature modulated DSC and Fast Scanning Calorimetry. He contributed to the development of "Advanced isoconversional kinetic analysis". The method named SbC-Sbirrazzuoli crystallization, was recently implemented in a commercial software. He was actively involved in 6 European projects and several responsibilities functions : Director of the Laboratory of Experimental Thermodynamics, University of Nice Sophia Antipolis, 2001-2004 - Leader of the Eco-friendly Materials and Polymers group, since 2004 - Director of the Federative Research Structure of Chemistry in Nice (now ICN), 2006-2008, Deputy Director of the Institute of Chemistry of Nice (ICN), 2008-2009 - Chairman of the Standing Committee on Human Resources for Chemistry at University Côte d'Azur, 2019-2021 - Co-chair of the Kinetics Committee of the International Confederation for Thermal Analysis and Calorimetry, since 2021. He is ranked top scientist in Chemistry in the mondial ranking of Research.com and ranked in the Stanford University METRICS (top 5% of scientists on that list). Citations Google Scholar (30/03/2024) = 16 929, *h*-index = 57, i10-index = 128.