Virtual DCMIC Seminar Series 2021

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Karine Ballerat-Busserolles (K.B-B.) is a Research Engineer (IRHC) at CNRS (Centre National de la Recherche Scientifique).
She is working in the ICCF (Institut de Chimie de Clermont-Ferrand, UMR CNRS 6296). She is part of the team TIM (Thermodynamic and Molecular Interaction) and her main research topic is on the development of experimental apparatuses for thermodynamic characterisation of solutions containing gases mainly for CO_2 capture and sequestration. She is also Associate Researcher at Mines Paristech' since 2018 (CTP, Centre Thermodynamique et Procédés, Fontainebleau, France).
She obtained her PhD in experimental chemical thermodynamics from the Blaise Pascal University, Clermont-Ferrand (11/1995). Then she spent 18 months at the Brigham Young University, in Provo Utah, as a post-doc fellow developing a new nano-calorimeter for the determination of heat capacities of dilute aqueous solutions. After a post-doc at CNRS in Mulhouse, where she was working on the understanding of the interactions between organic solvents and cosmetic pigments (L'Oréal financial Support, confidential work), she integrated the University of Technology of Compiègne where she was working as assistant professor till her recruitment to CNRS in December 2000. During that last period, she was mainly working on calorimetric developments for understanding the methane hydrates in petroleum emulsions.
K.B-B. is currently Research Engineer at CNRS-ICCF, UMR6296 where she works on the experimental development of different thermodynamic methods for studying molecular interactions in aqueous solutions, over wide range of temperatures and pressures. She participated in various project devoted to the dissolution of CO_2 in aqueous solutions of amines of interest for capture processes. She was leader of a joint project with Canada on demixing amines for CO_2 capture. She was also leading a second program with Canada on understanding CO_2 capture processes using a combination of reactive molecular simulation, thermodynamic modelling and experiments. She is nowadays leader of a work-package of H2020 project GEOPRO, "Accurate Geofluid Properties as key to Geothermal Process Optimisation" dealing with CO_2 dissolution in brines.
Karine Ballerat-Busserolles is Co-author of 56 publications and more than 30 proceedings and she is also co-author of several book chapters in the topic of CO_2 capture (statistics from Scopus: 602 citations, h-index 17). She was co-editor of a book untitled "Cutting edge technology for Carbon Capture Utilization and Storage" in 2017. She was invited to give Lectures in international conferences on the topic of thermodynamic understanding of CO_2 absorption for CO_2 capture.