FELLOWS

SOPHIE GUILLEMET

FRANCE

Dr. Sophie Guillemet-Fritsch (54) is a senior research scientist (Directrice de Recherche), at the French National Center for Scientific Research. She currently works at the Interuniversity Center of Materials Research and Engineering (CIRIMAT) located on the campus of the University of Toulouse 3 - Paul Sabatier, France In 1990, she received her BSc degree in Physics and Applications from the University de Haute-Alsace, Mulhouse, France and she graduated in Metallurgy and Materials Science from the University Paris XI, Orsay, France in 1991. She then moved to Toulouse to get her PhD in Materials Science under the supervision of Pr. Abel Rousset in early 1995. During her PhD, she discovered and enjoyed the world of ceramics, working on the ageing phenomenon of Negative Coefficient Coefficient (NTC) thermistors. In 1995, she had the great opportunity to join the team of Pr. Alexandra Navrotsky at Princeton University (USA) as a post doct fellow, working on the energetics of manganese oxides. In 1996 she got a temporary Assistant Professor position at the University Toulouse 3. In 1997,she got a position of junior researcher at CNRS and got her Habilitation à Diriger les Recherches 10 years later at Toulouse University. Since 2014, she is senior researcher at CNRS. Sophie Guillemet-Fritsch research is mainly focused on the elaboration of functional ceramics based on various oxides and nitrides, that find applications in the fields of Electronics, Power Electronics and Energy. The aim of her work is to enhance the physical properties (mainly electrical, thermal and mechanical) of theses ceramics through the optimization of their elementary composition, as well as structure, and microstructure. She has developed expertise in controlling the nano-structuration of these materials, their oxidation state, the grain boundaries and interfaces qualities. She has always been looking forward for new shaping and sintering methods such as 3D additive manufacturing or spark plasma sintering for more advanced properties of these ceramics. Recently, enthusiast to work in the field of the blue economy, she started a new transdisciplinary project aiming to develop ceramics for sustainable and environment-friendly applications. Sophie Guillemet-Fritsch published 114 papers, 4 book chapters (h-index 33), gave more than 20 invited talks in international and national conferences, 150 communications and is author of 2 patents. She has been the supervisor and co-supervisor of 24 PhD students. She was the PI or has been involved in 19 industrial projects, 6 projects funded by the National Research Agency (ANR) and 1 european project. She has many international and long term collaborations with 13 groups all over the world : Deft University of Technology, Holland; University of Florida, Gainesville, USA; RWTH Aachen University, Germany; UC Davis, USA; University of Monterrey, Mexico; Université Hassan II, Casablanca, Marocco; Kirensky Institute of Physics, Krasnoyarsk, Russia; Stockholm University, Sweden; Université Libanaise, Beyrouth, Lebanon; Penn State University, State College, USA; Institute of Physical Chemistry, Gangwond, Korea; Univ. Politehnics of Bucharest, Romania; University of Johannesburg, South Africa. She received the 1st Price for Research Work awarded by the University of Monterrey (Mexico) in 2012 for her 20 years collaboration with that Mexican university. Her implication in the ceramic community started in 2005 with the ECERS conference hold in Portoroz. Since then she had submitted 15 abstracts in these ECERS conferences. She is also a member of the administrative board of the French Ceramic Society since more than 10 years now.