"***The major role of manufacturing processes on the use and properties of carbon fibre-reinforced composites",*** by Professor Dr. **Christophe BINÉTRUY**

In many industries, carbon composites are identified as a key technology to develop energy efficient, cost-effective and robust solutions. For many applications, new approaches in manufacturing composite materials and structures are needed to meet technical challenges and cost/performance targets. In contrast to the manufacturing of elements by deforming or joining an already existing material into a final shape, composite material structures are characterized by the fact that both the material and the structure are created simultaneously during the manufacturing process. Therefore, the quality of the final part depends on the manufacturing method used to produce it, sometimes as much as the constitutive materials. This is why manufacturing is a crucial step in the development of products made of carbon composites. This talk will show how a thorough understanding of fundamental mechanisms involved in composite processing can help to develop robust composite manufacturing processes to get high-quality carbon composites.

Since 2011, Chistophe BINÉTRUY is Professor of Mechanical Engineering at the Institute of Mechanical and Civil Engineering of the "Ecole Centrale de Nantes", FAURECIA Chair Professor of "Structural Composites for Automotive Applications", Group Leader for Materials, Processes and Composite Technologies, and Head of the OpenLab COMPINNOV. He gained a Master in Textile Engineering at the ENSAIT/University of Lille, a Master in Mechanical Engineering at the ENSIMEV/University of Valenciennes, (1992) and a Ph.D. at the University of Lille (1996). He has been successively Assistant Professor at the Ecole des Mines de Douai, visiting scientist at the University of Delaware (USA), Deputy Head and Professor at the Polymers, Composites and Mechanical Engineering Department of the Ecole des Mines de Douai, and Visiting Professor at the University of Munich, Institute of Carbon Composites (Germany). His scientific production consists of 2 books and 4 book chapters, 55 papers in peer-reviewed international journals, 140 contributions in conference proceedings, 10 keynotes or plenary lectures in national and international conferences and workshops, etc.