## An introduction to cellular plastics: materials, applications and challenges

**Michel Cloitre** 

Laboratoire Matière Molle et Chimie ESPCI 10, rue Vauquelin 75231 Paris Cedex, France

Polymer foams constitute an extraordinarily broad family of cellular materials with outstanding combinations of properties, which make them attractive in many applications. The final properties of foams depend on the bulk polymer forming the matrix, on the morphology and structure of the cells, and on the foam production process itself. Polymer science provides a unique conceptual and practical framework to master the complexity of foam formation.