Jean-Luc Blin

Born 1971/02/06 (46 years old), male
1997, PhD, Laboratoire de Spectroscopie Infrarouge et Raman, University Lille 1
January 1999, Assistant Professor, Laboratory of Inorganic Materials, Namur University (Belgium), study of adsorption on zeolites, studies on porous materials
September 2002, Assistant Professor in Physical Chemistry (31st section of the National Council of Universities, CNU), Physicochimie des Colloïdes Group, University Henri Poincaré-Nancy 1
2005, Habilitation to lead investigations, University Henri Poincaré-Nancy 1
2006, Professor in Physical Chemistry (31st section of CNU), Université Henri Poincaré-Nancy 1 (Lorraine University since 2012)
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Research interests: preparation of inorganic and/or hybrid materials

Mesoporous silica materials: The aim is to investigate the mechanism of formation of mesoporous materials. Correlations have been established between the physicochemical features of the surfactant (phase behaviour, surface properties, solubilisation of water/oil, study of the molecular systems) and structural parameters of the porous materials (pore arrangement, pore diameter, specific surface area, morphology). New catalytic systems have been developed based on binary oxides (Co_3O_4-MeO, Me=Mn, Ce) supported on hierarchical macro-mesoporous and meso-mesoporous silica.

Preparation and characterisation of mesoporous titania: The aim is to design pure titania mesoporous materials. A new method has been developed, which is based on the liquid crystal mechanism and evaporation induced self-assembly, which is usually used to prepare porous films. Ordered mesoporous titania with a 370 m^2/g specific area and having a pore diameter equal to 10 nm has been obtained. These materials are used for photocatalysis or as supports for hydrotreatment reactions.

Enzymatic catalysis: Silica porous materials are used as supports to prepare supported biocatalysts. Biomolecule immobilisation is realised through a direct one-step immobilisation process by chemisorption or by physisorption. It has been evidenced that immobilised enzymes as glucose oxidase, lipase, and acylase maintain their activity.

Publications and presentations: 110 articles in peer review journals, one patent, 9 proceedings; 11 invited seminars, 8 invited communications, and 52 oral communications at national and international conferences.