

## Dr. Benoît LOUIS

Born on September 27<sup>th</sup>, 1975 in Strasbourg; French citizen, married, one child.

**CNRS Research Director**, Institute of Chemistry and Processes for Energy, Environment and Health (ICPEES), 25 rue Becquerel, F-67087 Strasbourg Cedex 2, France

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## Biography

### Career

**2016** CNRS Research Director at Institute of Chemistry and Processes for Energy, Environment and Health (ICPEES – UMR7515), CNRS, University of Strasbourg (UdS), France

**2010-2016** CNRS Permanent Senior Researcher at the Institute of Chemistry Strasbourg (UMR7177), UdS

**2004-2009** CNRS Permanent Junior Researcher at the Institute of Chemistry and Processes for Energy Environment and Health (ICPEES), UdS

**2003-2004** Temporary Lecturer (ATER) at Ecole de Chimie Polymères et Matériaux, UdS

**2002-2003** Postdoctoral Associate with Prof. J. Sommer (UdS) and Prof. W. Kantlehner (University of Stuttgart, Germany)

### Education

**2008** Habilitation à Diriger des Recherches (HDR), University of Strasbourg (UdS)

**2002** PhD in Heterogeneous Catalysis (Prof. A. Renken, Prof. L. Kiwi-Minsker), Ecole Polytechnique Fédérale de Lausanne, EPFL (Switzerland)

**1998** Master in Inorganic Chemistry (DEA Chimie des Métaux de Transition), UdS

**1996** Bachelor in Physical Chemistry (Maîtrise), UdS

### Project Coordination

- Supervision of 16 PhD Theses (10 defended), 6 PostDocs, 1 Engineer
- Since 2012, Coordinator of 6 industrial projects: Adisséo, St Gobain, Petrobras Brazil
- Since 2014, management of 8 academic projects: SATT-Conectus Alsace (2 industrial maturation, University of Strasbourg, Ministry of Foreign Affairs (4 bilateral programs)

### Awards

- TOR laureate 2017 (France-Sweden), French Ministry of Foreign Affairs (MFA)
- Åsgard ‘Recherche +’ laureate 2017 (France-Norway), MFA
- **Guy Ourisson Prize 2015** (sponsor Prof. Jean-Marie Lehn, *cf. attached letter*)
- **Young Talent University of Strasbourg 2015**
- ‘Découverte Chine’ laureate 2014, MFA
- **Société Chimique de France, Catalysis Division Prize 2013**
- **1<sup>st</sup> Laureate of the Young Scientist Award in Acid-Base Catalysis 2013** (Tokyo, Japan)
- Sampo laureate 2013 (France-Finland), MFA
- Åsgard laureate 2012 (France-Norway), MFA
- Vltava laureate 2011 (France-Czech Republic), MFA
- **CNRS Bronze Medalist 2009**

## Scientific achievements (*h-index* = 34)

- 140 Publications, 5 Book Chapters, 4 Patents
- 55 Oral Communications (28 invited, 1 Plenary, 4 Keynotes)
- Guest Editor: *Appl. Catal A* 2008, *Catal. Today* 2008, *Adv. Chem. Lett.* 2013, *Comptes Rendus Chimie* 2014, 2016 and 2017, *Catalysts* 2016, 2017 and 2019
- Member of the Editorial Board “Catalysts” (2018-)
- Member of the Société Chimique de France (SCF) – Catalysis Division (treasurer, 2019-)
- Member of the French Catalysis Congress (GeCat) board (2012-2016)
- Member of the French Zeolite Association (GFZ) board (2018-)
- Academic collaborations: *CSIR Pretoria*, *ETH Zürich*, *UFRJ Brazil*, *ICPF Czech Republic*, *Beijing Forestry University*, *University Oslo*
- Visiting Professor at Federal University of Rio de Janeiro, Brazil (2012-2017)
- Visiting Professor at Beijing Forestry University, China (2016, 2018-2019)

## Languages

French (native), English, German and Portuguese (fluent)

## Research Interests

Benoît Louis graduated from the University of Strasbourg (1998) and completed his PhD at the Swiss Federal Institute of Technology (EPFL, 2002). He is currently CNRS Research Director at the Institute of Chemical and Processes for Energy, Environment and Health (UMR 7515).

Since twenty years, Benoît is struggling to design zeolites mainly for acid-catalyzed reactions. The originality of his research relies on the combination of molecular and microscopic design of microporous solids along with a suitable macro-scale (shaping, coating) for a use in real reactors.

The two main highlights of his studies remain the development of a new technique to determine the Brønsted acidity of solid acids using H/D isotope labeling and the synthesis of a zeolite catalyst able to convert methanol into propylene at high yields and outstanding stability. The later catalyst is currently at the scale-up stage in the frame of an industrial maturation project (SATT - Conectus Alsace).

His current research interests encompass heterogeneous catalysis, zeolites and related porous materials like MOFs or COFs, biomass valorization, alkane activation chemistry, CO<sub>2</sub> capture and conversion and more generally C<sub>1</sub> chemistry.

He co-authored 140 peer-reviewed papers, 5 book chapters and 4 patents. Besides, Benoît acted as guest Professor at the Federal University of Rio de Janeiro (2013-2018) and at the Beijing Forestry University (2017-2019). He was awarded by the Guy Ourisson Prize (University of Strasbourg, 2015). In 2013, he was the first laureate of the Young Scientist Award in Acid-Base Catalysis (Tokyo) and awarded by the French Chemical Society SCF Catalysis Division Prize. He also received the CNRS Bronze medal in 2009.