XTERNAL CONNECT

What interests you most about the work that you've recently been doing for Shell?

The ARC CBBC is a Netherlands-based public–private organisation in which Shell is a founding partner. It investigates novel conversion processes for the chemical building blocks of sustainable energy and materials. I always enjoy working with industry, as it inspires me and the students involved. The best co-operation modes are those in which academia and industry are fully engaged in sharing their knowledge and expertise on a specific topic.

What aspect of that work in particular do you think Shell should learn more about – and why?

There have been breathtaking developments in the study of complex and hierarchically structured materials, including catalysts. The impressive progress made in, for example, time and spatial resolution will ultimately enable the making of a "molecular movie" of industrial-type catalysts under operating conditions. This knowledge will help to rationalise the development of catalysts for converting (renewable) feedstocks to the fuels and materials of the future. This dream, if realised, sets ambitious goals for research in materials science. One day, we will be able to explore fully the so-called materials genome and define upfront the key parameters for designing materials with specific performance properties. It is clear that energy and chemicals companies such as Shell will benefit from such approaches.

In your dealings with Shell, what aspect of the company has surprised you most?

Shell is a large organisation: there are many people, hence different personalities, complicated social dynamics and a wide set of expertise. I love interacting with the people at Shell's Houston and Amsterdam sites. Furthermore, I also believe that complex future challenges will be solved by interdisciplinary teams of people who speak each other's languages. This is something that Shell should further foster.

Bert Weckhuysen is the Professor of Inorganic Chemistry and Catalysis at Utrecht University, the Netherlands, and Scientific Director of the Advanced Research Center Chemical Building Blocks Consortium (ARC CBBC). He works on the development of spectroscopic and microscopic methods for studying catalytic solids under realistic reaction conditions, thereby connecting nano- and microscale events to the macroworld of catalyst activity, selectivity and stability.

Bert has received many awards for his work on catalysis. The most recent are the Robert B. Anderson Award from the Canadian Catalysis Society; and the Kozo Tanabe Prize in Acid-Base Catalysis from the Scientific Advisory Board of the International Acid-Base Catalysis Symposium.

Bert obtained his master's and PhD degrees from Leuven Catholic University, Belgium, and undertook postdoctoral research at Lehigh University and Texas A&M University, both in the USA.