



### Feringa Building

The future teaching and research building for science and technology will be named the Feringa Building. This successor to 'Nijenborgh 4', the outdated physics and chemistry building, will be built on the Zernike Campus in two construction phases between 2017 and 2022. Together with the Stratingh Institute for Chemistry (to which Feringa belongs), the 62,000 m<sup>2</sup> building will house the Engineering and Technology Institute Groningen, the Zernike Institute for Advanced Materials (ZIAM), the Groningen Biomolecular Sciences and Biotechnology Institute (GBB), the Van Swinderen Institute, the Kapteyn Astronomical Institute and SRON. Ben Feringa: 'It is a unique gesture by the University and an enormous honour for me that, in a few years' time, I'll be able to go to work every day in a building that bears my name.' Information about the construction project can be found at [WWW.RUG.NL/GROUNDBREAKINGWORK](http://WWW.RUG.NL/GROUNDBREAKINGWORK).

### Royal decoration



PHOTO ELMER SPAARGAREN

On 23 November Ben Feringa was appointed Commander in the Order of the Netherlands Lion. He received this royal decoration, an extremely rare honour, from Jet Bussemaker, Minister of Education, Culture and Science, in the Maurits-huis in The Hague. Earlier,

in 2008, he had been appointed Knight in the Order of the Netherlands Lion. The news article describes Feringa as 'one of the most influential leaders in his field who may rightfully be called the figurehead of Dutch chemistry. His top-level research excellence and inspiring leadership have led to vitally important breakthroughs in chemistry, putting Dutch chemical research at the centre of scientific attention.'

### What is a nanometre?

The nanocar that Ben Feringa and his team built in the lab is a fine example of nanotechnology. This chemical construction process involving molecules takes place on the nanometric scale of the building blocks themselves – the atoms. A nanometre (nm) is one billionth of a metre (10<sup>-9</sup>), or one millionth of a millimetre. The word derives from *nanos*, the Ancient Greek word for 'dwarf'.

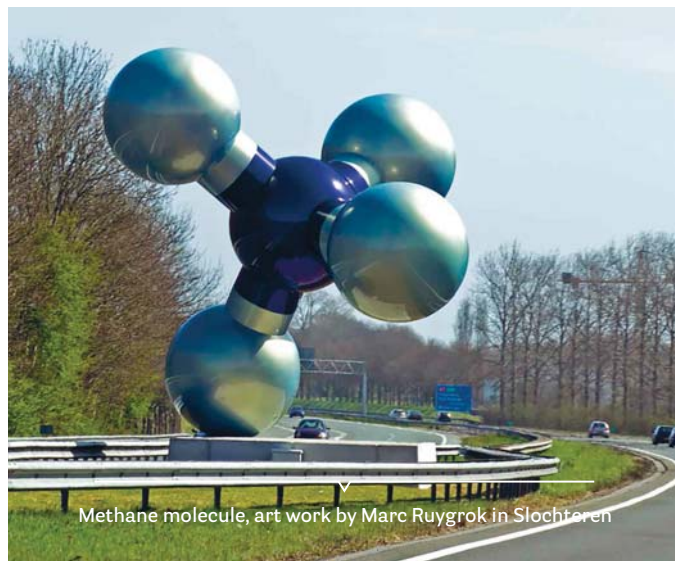


The smallest atom, the hydrogen atom, has a diameter of 0.1 nanometres, a human hair is 80,000 nm thick, and the film around a bubble – made up of two soap layers with water between them – can range from just a few to more than 1000 nanometres in thickness.

### What is organic chemistry?

All the chemists in this *Broerstraat 5* who speak so affectionately about their discipline have organic chemistry as their focus. This is sometimes called carbon chemistry because all organic molecules have a carbon atom base. Most carbon (C) compounds contain hydrogen (H). Methane (CH<sub>4</sub>) is the simplest molecule, but sugar and starch are other well-known hydrocarbons. Oxygen atoms can also be attached to hydrocarbon skeletons, as is the case with fats, as well as other atoms such as nitrogen or sulphur.

Living organisms build their organic molecules from carbon taken from the air (as CO<sub>2</sub>) or their food. The carbon eventually ends up back in the atmosphere as carbon dioxide through decomposition or combustion (fossil fuels).



Methane molecule, art work by Marc Ruygrok in Slochteren