

## CerPoTech AS, an enterprise aiming at providing high quality ceramic powders in a demanding market

**The possible applications of ceramic materials are numerous ranging from high temperature fuel cells (SOFC) and catalytic active materials, via dielectrics (ferro- and piezo-electric) to oxygen separation membranes and high temperature superconductors, to mention a few. These material systems have all in common that they are oxide based with rather complex compositions and materials processing is usually based on the availability of homogeneous, nano sized powders.**

A particular powerful method to obtain ceramic powders with nano-homogeneity and nano-size combined with a high production rate is spray pyrolysis. The precursors are typically based on water soluble metal salts (e.g. nitrates) mixed in correct proportions and atomized using pressurized air and subsequently fed into a hot rotating chamber where drying and reaction takes place.

A complete pilot plant for powder production based on spray pyrolysis was established at our department in

2004. The production capacity is between 5 and 10 kilos of powder per day and since establishment it has been produced a variety of different compositions and the method has demonstrated its versatility producing high purity, homogeneous powders with particle size less than 100 nm. The powders have shown excellent sintering properties resulting in well defined micro structures even in the sub micron range. The pilot plant has been financed by the Norwegian Research Council (NFR) and is one of only a few production facilities in Europe.

A spin off company, CerPoTech AS (Ceramic powder technology), was established in October 2007 aiming at producing powders by spray pyrolysis and selling high quality ceramic powder in a growing market. The enterprise was initiated by three professors at the department, strongly assisted and supported by the Technology Transfer Office (TTO) at NTNU.

(For more information cf.: <http://www.cerpotech.com>).

*Kjell Wiik*

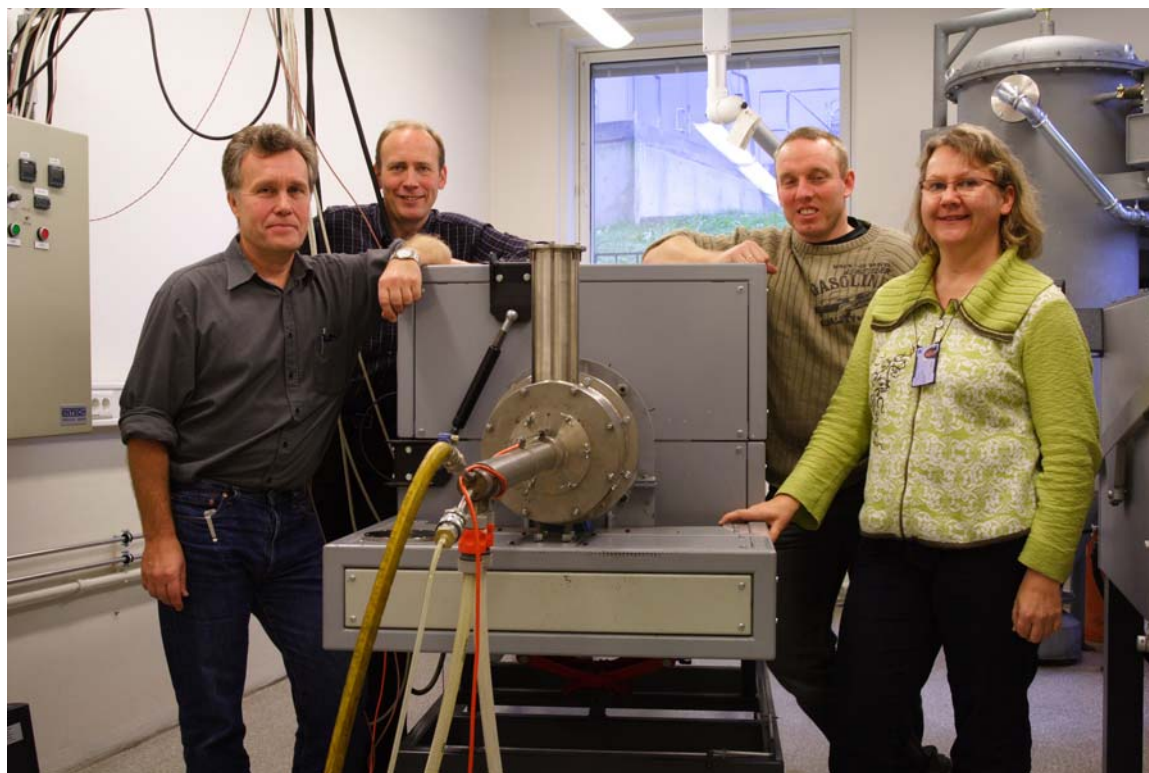


Photo: Julian Tolchard

CerPoTech AS and entrepreneurs in the ceramic powder trade. From left to right: Professor Kjell Wiik, professor Tor Grande, senior engineer Rune T. Barland and professor Mari-Ann Einarsrud.