

## **ICEC2025-Sicily - Annemie Bogaerts**

### **Title of my lecture: Plasma catalysis: Complex chemical and physical mechanisms**

#### **Short abstract:**

Plasma catalysis is promising for green chemistry, as it combines the high reactivity of plasmas with the selective production of value-added products by catalysis. However, the underlying mechanisms are very complex and far from understood. Indeed, the catalyst affects the plasma behavior and the plasma species affect the catalytic reactions. In this lecture, the important research questions will be discussed, and examples will be given of how modeling can help to answer these questions.

#### **Short CV:**

Annemie Bogaerts was born in 1971 and obtained her PhD in Sciences in 1996 from UAntwerp, where she is full professor in physical chemistry since 2012, and head of the research group PLASMANT, which she founded from scratch and now counts ca. 50 members. Since 2005, she was the supervisor of 62 defended PhD theses. She published over 650 peer-reviewed papers since 1995 (and about 25 invited book chapters), with over 45,000 citations in Google Scholar (h-index = 106), and has about 265 plenary or invited lectures at international conferences or institutes since 1995. She is also co-inventor of 14 patent applications since 2019, and co-founder of 4 spin-off companies of her research group.