

A Salute to My Colleague Yves Chauvin, 1930–2015

Yves Chauvin, who received the Nobel Prize in Chemistry in 2005 together with Robert Grubbs and Richard Schrock, passed away on January 27 in Tours, France, at the age of 84 years.

Yves Chauvin was born in 1930 in Belgium, a descendent of a family long-established in the Tours area. His trajectory as a scientist and as a Nobel Prize winner is uncommon and original. He liked to say that he “chose chemistry by chance,” and he obtained a diploma of chemical engineering in Lyon in 1954. For various reasons, including his military service period, Yves Chauvin did not start a PhD at that time and took a job in the industry, in the Progil group (Rhône-Poulenc) in Lyon. He was somewhat disappointed by the limited scientific ambition in the sector and resigned after only two years. He then joined the “Institut Français du Pétrole” (IFP now called IFP Energies Nouvelles) in Rueil-Malmaison near Paris, a public-sector research and training center, at that time focused on the scientific development of petroleum-related processes.

Yves Chauvin then followed his motto, “If you want to find something new, look for something new!” He focused his efforts on homogeneous catalysis, a field not strongly developed at that time in France. Although he regretted that he could not prepare a PhD, he liked to say that this gave him more freedom to address the topics that would pop up. He quickly became the French expert in the domains of coordination chemistry and homogeneous catalysis by transition metals and Director of the “Laboratory of Homogeneous Catalysis” at IFP, a position that he occupied until his retirement in 1995, at the age of 65.

During his time at IFP, Yves Chauvin developed a very balanced research program in “fundamental” and “applied” chemistry with 90 publications and 130 patents. He would not like the previous sentence and used to say, “There is no difference between fundamental research and applied research.” From his “fundamental” work, one would naturally underline the discovery of the mechanism of the olefin metathesis reaction in 1971, a very elegant and simple mechanism that now stands in every textbook. It is for this discovery that he received the Nobel Prize in 2005. One should also underline his pioneering research in the use of ionic liquids as solvents in catalysis. It is interesting to note that this breakthrough came from Yves’ curious and intuitive approach. It was while reading the literature on batteries that he had the idea ionic liquids used as electrolytes there could be very worthy catalyst solvents. On the more “applied” side, Yves Chauvin is the father of two homogeneous catalysis industrial processes used in the petroleum industry: the “Dimersol” process based on a Ni catalyst for the dimerization of olefins (propylene and/or butenes) and the “Alpha-Butol” process, with a Ti-based catalyst, for the selective dimerization of ethylene into 1-butene.

Yves Chauvin was elected correspondent of the French Academy of Science in 1996 and then member in 2005. He received several international awards, including the Carl Engler Medal from the “Deutsche Gesellschaft für Mineralölwissenschaft und Kohlechemie” in 1994.

Although Yves Chauvin was a great scientist, he was also a very nice and modest person. I had the chance to first meet Yves Chauvin in Lyon at the end of the 90s. I was a young theorist at that time, while he was a very active and renowned “retired” scientist in the laboratory led by Jean-Marie Basset at the University of Lyon. I remember from those days a friendly and very open scientist, happy to talk and share his passion for chemistry and mechanisms. Later Jean-Marie Basset and I organized a series of conferences in order to promote chemistry for high school students. The key activity was a round table discussion where students were asking questions to invited Nobel Prize-winner scientists. Yves Chauvin participated several times and was always enthusiastic for this exercise in front of an amphitheater full of students. When asked about the relation between chemistry and our society, he liked to answer: “Some people say that there is too much chemistry in our society. It is in fact the opposite: there is not enough chemistry, not enough understanding, not enough control of chemical reactions. Catalysis is the key for a better chemistry.”

The world of Chemistry and Catalysis has lost a true genius and intuitive scientist, and a very lovable person. Talking about Beaumont-la-Ronce, a small Village near Tours, he wrote, “When I die, I am going to be buried in the village cemetery.” Rest in peace, we will all miss you, Yves.



Photo of Yves Chauvin. Copyright B. Eymann.

Philippe Sautet, Associate Editor

University of Lyon, CNRS and Ecole Normale Supérieure de Lyon

AUTHOR INFORMATION

Notes

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