

30 May to 2 June 2023

Interview with the President of the Mediterranean Congress of Chemical Engineering

## **Rosa Nomen: “It takes a lot of chemical engineering for a scientific development to reach mankind”**

**After graduating in Chemical Engineering at IQS in 1978 and Industrial Engineering at the Ramon Llull University in 1993 and obtaining her doctorate in Chemical Engineering at IQS in 1982, Rosa Nomen has had a long career in the field of chemistry, particularly in the academic world.**

**Nomen is the President of the Mediterranean Congress of Chemical Engineering, an event that’s set to take place within the framework of the forthcoming Expoquimia, the International Meeting of Chemistry, to be held from 30 May to 2 June at Fira de Barcelona’s Gran Via venue.**

**After the 14th congress was held in a virtual version at the Unprecedented Virtual Forum in 2020, the Mediterranean Congress of Chemical Engineering will return in 2023 in an in-person format. What goals have been set for next year’s event?**

The 2023 Congress will face a challenge and have lots of goals. To recover the enthusiasm, networking and participation witnessed at the 2017 World Chemical Engineering Congress on a scale that befits it, and, in turn, to demonstrate that the academic world and industry can meet as equals at a chemical engineering congress, as they do in other countries. This is a symbiosis that’s vital because it’s really enriching for both parties.

**Can you tell us what topics will be covered in 2023?**

Of course. We need to find immediate sustainable solutions for the pressing challenges facing

1. circularity, ranging from recycling, biomaterials and carbon dioxide to artificial photosynthesis and
2. decarbonisation, including photocatalysis and the capture-storage-use of carbon dioxide, hydrogen and synthetic fuels,
3. new materials and critical raw materials,
4. functional surfaces and
5. digital disruption.

They will all be discussed from a chemical engineering standpoint, in other words, unit operations, separation processes and chemical reaction, process and product engineering, without neglecting health, safety and environmental protection.

We’re committed to sharing, discussing and popularising the solutions that chemical engineering can provide for society’s global challenges.

**What role can chemical engineering play in overcoming the challenges currently facing society, such as the climate emergency, the energy transition and food?**

Allow me answer with two examples we discussed with Dr Moisès Graells, the President of the last congress in 2020.

The first dates back to the last century, in 1928, when Alexander Fleming discovered penicillin, regarded as the first “true” antibiotic. There’s no doubt that Fleming established a before and after in defeating the diseases endemic to humanity that were impossible to cure. However, only after six years (from 1939 to 1945) of joint chemical engineering studies, tests and development by Lederle Laboratories, Merck & Co. Inc., Chas. Pfizer & Co. Inc. (now Pfizer Inc.), E.R. Squibb & Sons (currently the Bristol-Myers Squibb Company) and Abbott Laboratories was it possible to supply the world’s entire population and it wouldn’t have been one of the most important milestones of the last century in the pharmaceutical industry without them.

The second is much more recent and fresh in everyone’s mind. The vaccine to combat the SARS-CoV-2 Coronavirus or Covid-19. It takes a lot of chemical engineering for an “invention” or scientific development to reach mankind.

Without engineering, science would continue to be a curiosity and only a few people would benefit from its progress.

**Is the fact that the Congress is going to be held within the framework of a trade fair an advantage or a drawback?**

Definitely an advantage. But, like everything else, you have to know how to channel things, and this is one of the challenges facing the organising committee, which is made up of, in addition to myself on behalf of AIQS, Jeroni Farnós for AEIC, Lluís Martínez for SEQUI and Carles Navarro for Expoquimia.

How can we bring the engineers and scientists at our stands closer to our congress? Each of them should present at least one scientific paper. I’m convinced, as is Professor Ricard Garcia, President of the Scientific Committee, that this is possible.

**In this regard, do you think that the advances developed at research centres reach the market via companies in time?**

Unfortunately, not always. Or perhaps I should say hardly ever or very rarely. But I always like to see the glass half full, so I’ll go for the former.

Too many people in our industry have little faith in what we do at universities, we’re labelled as slow and not innovative enough or we’re accused of working just to pad out our CVs. But they’re unaware that, in order to find really useful solutions, it’s essential to get to the root of the problem and this requires time, and, above all, there’s an element of risk that must be calculated and valued so as to assume it, and they’re not always willing to do so.

The countries where there’s a real symbiosis between industry and the academic world make the major breakthroughs and obtain the greatest rewards.

**What do you think should be done to bridge the gap between the research and business worlds?**

First of all, we should reach out to each other to build trust and then create spaces in which we can meet. For example, the industrial doctorate programme is one of the best governmental tools at our disposal, but there are still very few applications for it. Another example is, of course, Expoquimia and its Chemical Engineering Congress. It couldn’t be better.

**Finally, in addition to the previous Mediterranean Congresses of Chemical Engineering, the 10th World Chemical Engineering Congress was held in tandem with Expoquimia in 2017; could Barcelona be said to be one of the main capitals of chemistry in both theoretical and business terms?**

These statements are always a bit difficult for me to make freely, as I need data and irrefutable facts to endorse them. I'll try.

We have Expoquimia, the second largest chemistry fair in Europe, and we held the World Congress, which has only been held nine other times, together with our own 2017 congress, which was the largest chemical engineering event in the world, with more than 3,000 participants. It was highly rated by all its attendees and the European Chemical Engineering Federation and it was also the event at which the World Chemical Engineering Council signed the Barcelona Declaration. Of course, we should also mention that 50% of Spain's chemical industry is based in Catalonia, that Tarragona has the largest chemical plant in southern Europe and that there are very good universities that do excellent work.

With these data, why not? I think we can say that Barcelona is one of the Capitals of Chemistry.

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