The Chemical Industry in the 3rd Industrial Revolution, the ‘sustainable one’

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Synopsis

Discussing the technological supremacy of the chemical industry, including pharmaceuticals, and how it will adopt a leading position to solve some of the largest global challenges humans have even seen, in his book ‘The Future of the Chemical Industry by 2050’ the author, Rafael Cayuela, details how the industry will address climate change, aging populations, resource scarcity, globality, networks speed, pandemics, and massive growth and demand.

In this presentation Rafael Cayuela will examine some of the megatrends shaping our world over the forthcoming decades, and discuss some of the scenarios of how the world could look by 2050, including ‘business as usual’ and ‘sustainable’ scenarios.

His book gives a comprehensive overview of the current status, while providing a short historical review of the chemical industry, its origins, achievements and fundamentals. It reviews the potential impact of each of the selected megatrends on the industry, and proposes how it could look by 2050.

Several features of the chemical industry are presented and discussed, including the industrial relevance from an economical, technological and profitability point of view. The largest chemicals markets in absolute and per capita bases and the areas and countries with largest growth potential for chemicals, pharmaceuticals and feedstock.

The author also reviews the impact of climate change on the chemical industry from a feedstocks and products point of view and, more specifically, the potential costs in reducing CO2 emissions.

Rafael will attempt to give us a vision of the forthcoming megatrends and potential challenges, opportunities and the outlook for the industry as a whole.
About Rafael Cayuela Valencia

**Rafael Cayuela Valencia** – Dow Europe, Switzerland
Corporate Strategy & Int. Gov. Affairs
Author & Corporate Chief Economist
**The Dow Chemical Company**

*Rafael Cayuela* is the Corporate Chief Economist at The Dow Chemical Company. In this position he is member of the Dow global corporate strategy team, as well as member of the International Governments Affairs Team - IGA. In this role Cayuela translates the various macro-economic and industry trends into Dow corporate strategy, working closely with key stakeholders, especially regulators, governments and international organizations.

In his capacity Rafael actively engages with global chemical associations, such as the European Chemical Association (CEFIC) or the American Chemical Council (ACC), as well as with international organizations - the International Monetary Fund (IMF), the World Bank, the G20, OECD, European Commission, IEA and others.

Cayuela is an economist by education and has more than fifteen years of experience within the chemical industry. During his career in the chemical industry, Rafael has held several global and regional business and management positions from Feedstock Commercial Director to Global Business Director for the Synthetic Rubber business. In his former capacity Rafael was global chairman of the Economic Committee of the International Institute for Synthetic Rubber Producers (IISRP), Chairman of the Industry Panel for the International Rubber Study Group (IRSG) and Vice-Chairman of the CEFIC Styrene Committee. During his tenure Cayuela was proposed to the position of Secretary General of both the International Rubber Study Group – UN Agency – as well as General Manager of the International Institute of Synthetic Rubber producers; Cayuela is recognized as one of the world experts in this field.

Cayuela started his career for Dow Chemical in Madrid, Spain, while moving early in his career in Dow global headquarters in Midland, Michigan. Currently he is based at Dow European headquarters in Horgen, Switzerland since 2007.

He holds a Masters degree in European Economics from the College of Europe, Brugge, Belgium and an Executive MBA from the University of Chicago USA. Cayuela is also the author of the book “The Future of the Chemical Industry by 2050”, published by Wiley in May 2013. He is an active international speaker on issues pertaining to the Chemical Industry, Bio-economy, Sustainability, and Climate Change, as major business opportunities and with a long term outlook of the Industry.

**Finding the venue...**
See Map in PDF format attached.

**Registration:**
Please email annette.karydis@sydney.edu.au or ring 02 9351 2455

This presentation is a collaborative effort between the School of Chemistry and the Chemical and Biomolecular Engineering Foundation, of the University of Sydney, and other organisations key players in the chemical industry in NSW and Australia. We express our gratitude to Dr Susan Pond who was kind enough to inform us of Rafael Cayuela’s visit to the university, and his availability to address lecturers, researchers and students of chemistry related courses, as well as representatives of the chemical industry.