



ACCADEMIA NAZIONALE DEI LINCEI e FONDAZIONE «GUIDO DONEGANI»

INTERNATIONAL WORKSHOP

## PLASTICS & CIRCULAR ECONOMY

2-3 April 2020

Organizing Committee: Finizia AURIEMMA (Università di Napoli), Sergio CARRÀ (Linceo, Politecnico di Milano), Antonello CIOTTI (CoRePla, Milano), Mario CERIBELLI (Federchimica-PlasticsEurope Italia, Milano), Giancarlo GALLI (AIM e Università di Pisa), Gaetano GUERRA (Chair, Linceo, Università di Salerno), Stefano Valdo MEILLE (Politecnico di Milano), Alberto QUADRIO CURZIO (Linceo, Università Cattolica del Sacro Cuore, Milano), Giovanni SEMINARA (Linceo, Università di Genova)

### PROGRAMME

The idea to organize a polymer-day at Accademia dei Lincei in Rome, comes across the need to honor the memory of Giulio Natta, Piero Pino and Paolo Corradini for the groundbreaking nature of their contribution to Polymer Science. Starting from the invaluable discovery of Ziegler-Natta catalysts and the fundamental intuitions in polymer physics, crystallography and polymerization catalysis, they have inspired in the following 70 years from the discovery paramount innovation involving disciplines spread across industry and academia, which have converged almost immediately to mass production of plastics, while completely revolutionising consumerism in the contemporary and successive generations.

Synthetic polymers are, indeed, extremely versatile materials, with properties encompassing high corrosion resistance, tailored mechanical strength, light weight duty coupled with transparency, low toxicity and high durability. They are used by almost every industry world-wide, including food packaging, medical-tools, space exploration and many others.

The massive production and consumption of plastics today while offering several benefits, represents also one of the greatest environmental problems in the world. Marine litter and microplastics are a source of particular concern nowadays.

This event joining scientists from Accademia and Industry is aimed to highlight the huge progress achieved in Polymer Science, on one hand, and on the other hand to draw attention to the environmental problems generated by misconceptions related to plastic usage, poor end-of-life waste management, incorrect waste disposal rules, insufficient information related to their effective toxicity, degradation chemistry and physics.

The workshop will be also a follow-on meeting of the launch event of the expert group report of EASAC (European Academies Science Advisory Council) on Plastics & Circular Economy, which will be held in Brussels on January 2020.

### Thursday, 2 April

14.00 Welcome address, Accademia Nazionale dei Lincei

14.15 Introduction by the Organizers

#### **First section: Journey in Polymer Science**

Chair: Finizia AURIEMMA, Giovanni SEMINARA

14.30 Vincenzo BUSICO (Università di Napoli Federico II): *The impact of polyolefin industry in a dynamic scenario*

15.05 Eugene Y.-X. CHEN (Colorado State University, Fort Collins, Usa) *Redesign next-generation polymers with tunable properties and chemical circularity*

15.40 Giuseppe SUARIA (ISMAR-CNR, Genova): *Research on the plastic marine litter: occurrence and distribution in the marine environment*

16.15 Coffee break

Chair: Alberto QUADRIO CURZIO

16.45 Marco FAIMALI (ISMAR-CNR, Genova): *Research on the plastic marine litter: effects on the marine ecosystem and cleaning technologies*

17.20 Roberto ZOBOLI (Università Cattolica del Sacro Cuore, Milano): *Circular economy*

17.55 Ricordo di Giuseppe Allegra e Lido Porri

Introduce Sergio CARRÀ (Lincoo, Politecnico di Milano) ed intervengono Valdo MEILLE (Politecnico di Milano), Giovanni RICCI (ISMAR-CNR, Milano) e Giuseppe ZERBI (Politecnico di Milano)

## Friday, 3 April

### Second section: *Circular Economy and Recyclable Plastics*

Chair: Giancarlo GALLI

9.20 Antony RYAN (University of Sheffield & of The Grantham Centre for Sustainable Futures): *What does sustainable mean in the context of plastics?*

9.55 Massimiliano DELFERRO (Argonne National Laboratory, Lemont, Usa): *Chemical recycling and upcycling of single-use plastics*

10.30 Michele LAUS (Università del Piemonte Orientale, Alessandria): *Polymer recycling by depolymerization*

11.05 Coffee break

Chair: Sergio CARRÀ

11.30 Massimo COVEZZI (Federchimica - PlasticsEurope Italia, Milano): *Circular economy: a new challenge for plastics*

12.05 Alexandra Romina ALBUNIA (Innovation and Technology- Borealis, Linz): *Circular economy solutions: discovering new opportunities for sustained growth*

14.00 Antonio PROTOPAPA (CoRePla, Milano): *The new challenges in recycling of plastics packaging*

14.35 Michael NORTON (Environment Programme Director for the EASAC, Halle): *Plastics & circular economy*

15.10 Gaetano GUERRA (Università di Salerno): *Concluding remarks*

In collaboration with Società Chimica Italiana (SCI), Associazione Italiana di Scienza e Tecnologia delle Macromolecole (AIM), Dipartimento di Scienze Chimiche dell'Università di Napoli, Consorzio Nazionale per la Raccolta il Riciclo e il Recupero degli imballaggi in plastica (CoRePla), Plastics Europe Federchimica, The European Academies Science Advisory Council (EASAC)

ROMA - PALAZZO CORSINI - VIA DELLA LUNGARA, 10

Segreteria del convegno: [piemontese@lincei.it](mailto:piemontese@lincei.it)

*La partecipazione al convegno è libera, fino ad esaurimento dei posti disponibili.*

*Si prega di segnalare la presenza*

Fino alle ore 10 è possibile l'accesso anche da Lungotevere della Farnesina, 10