

Michele Aresta



Born in Bari-IT, 1940. Doctor of Industrial Chemistry, University of Milan, Milan-IT 1964. Honorary Professor University of Tianjin, Tianjin-China 2003. PhD of Engineering Honoris Causa, University of Bath, Bath-UK 2016.

Present positions: President of the Scientific Council of the Interuniversity Consortium on Chemical Reactivity and Catalysis, Italy; Honorary Chair at the Chemical Engineering Faculty, University of Tianjin, Tianjin, China; Honorary Chair of the International Conference on Carbon Dioxide Utilization-ICCDU; Member of the SAPEA Working Group on CCU; Member of the MERCK Committee for Innovation; Member of the Evaluation Committee of the Agence Nationale de la Recherche-FR; Expert for several International Programmes (Japan, USA, Finland, Norway); Member of the EU CO₂ Value Group; CEO of the Innovative Catalysis for Carbon Recycling.

Scientific interests: Chemistry of small molecules (N₂, H₂, O₂, CO, CO₂, ethene, allene, propene, butadiene); Metals in low oxidation state (also negative); Co-ordination chemistry; Reactivity of co-ordinated molecules; Reaction mechanisms; Catalysis: homogeneous, heterogeneous, enzymatic; Selective catalysts; CO₂ chemistry; CO₂ as building block for chemicals and carbon source for fuels; Photocatalysis; Utilization of biomass; Conversion of polyols; Conversion of long chain acids and esters; Polyunsaturated compounds; Valorization of polyols; New bio-sourced monomers for polymeric materials.

Academic career: Research Assistant Faculty of Engineering, University of Bari, Bari-IT 1964-1968. Researcher University College-London with Prof. R.S. Nyholm 1968-1970. Lecturer of Inorganic Chemistry, Faculty of Engineering, University of Bari, Bari, IT 1970-1973; Reader of Inorganic Chemistry, Faculty of Engineering, University of Bari, Bari-IT 1973-1975; Associate Professor of Inorganic Chemistry, University of Bari, Faculty of Sciences, Bari-IT 1975-1985; Professor of Chemistry, University of Lecce, Lecce-IT 1979-1985; Professor of Chemistry University of Bari, Bari-IT 1985-2012; IMM Chair at NUS Department of Chemical and Biomolecular Engineering, Singapore-SG 2012-2015; David Parkin Professor, University of Bath, Bath-UK 2015-2017; Professor at the Universidade Federal de Rio de Janeiro-UFRJ, 2018.

Visiting Professor: Northwestern University-Evanston-USA; University of Rennes-Rennes-FR; University of Bourgogne-Dijon-FR; University of Bordeaux, Bordeaux-FR; University of Toulouse, Toulouse-FR; IRC Lyon, Lyon-FR; Ural State Technical University, Ekaterinburg-RU; Tsukuba Research Centre, Tsukuba-J; Nagoya University, Nagoya-J; Tokyo University, Tokyo-JP; Kyoto University, Kyoto-J; University of Wroclaw, Wroclaw-PL; University of Krakow, Krakow-PL; University of Poznan, Poznan-PL; University of Bratislava, Bratislava-SK; Sao Paulo Estadual University, Campus of Sao Carlos-BR; Ouro Preto University, Ouro Preto-BR; Rio Preto University, Rio Preto-BR; University of Araraquara, Araraquara-BR; University of Rio de Janeiro, Rio de Janeiro-BR; Zaragoza University, Zaragoza-ES; Sevilla University, Sevilla-ES; Research Centre Pune, Pune-IN; IIT Chennai, Chennai-IN; National University Singapore, Singapore; University of Bath, Bath-GB; IIT Kanpur, Kanpur-IN; ANNA University, Chennai-IN.

Other local-national-international organizational duties: Director of the Institute of Inorganic Chemistry, University of Bari, Bari-IT 1974-1976; Director of the Department of Chemistry, University of Bari, Bari-IT 1986-1990; Delegate of the Rector of the University of Bari for Internationalization 1986-2002; Italy Delegate in the TEMPUS Programme 1990-2002; Italy Delegate in the IEA-Paris Programme of GHG Abatement 1991-2002; Italy Delegate in the IPCC Committee for GHG Control 2002-2003; Dean of the Faculty of Environmental Sciences University of Bari 1990-2002; Chair of the Italian Group for CO₂ Valorization 1990-2000; Director of the CNR Institute on Marine Environments Talassografico-TA, 2000-2008; Founder and Director of

the Interdepartmental Centre on Environmental Methodologies and Technologies-METEA University of Bari 2000-2010; Director of the National Interuniversity Consortium on Chemical Reactivity and Catalysis-CIRCC 2003-2010; Chair of the Scientific Committee of CIRCC 2012 to date; Founder and Chair of the International Conference on Carbon Dioxide Utilization-ICCDU 2001-2012; President of the Inorganic Chemistry Division of the Società Chimica Italiana 2006-2009; Chair of the Inorganic Chemistry Division of EuCheMS 2006-2013; Founder of the EuCheMS Inorganic Chemistry Conference and Chair 2008-2013.

Member of the ISC of ICOMC, EICC, ICCDU.

Referee for all major Journals in Chemistry. *Evaluator* of EU, USA, CN, J, BR Research Projects.

Advisor of the Italian Ministry of Research and University 1990-2000. *Expert* for the: EU 1990-to date; Italian Ministry of Research 1990-to date.

Invited Speaker at over 120 International major Conferences.

Invited speaker by: University of Strasbourg-FR; University of Rennes-FR; University of Dijon-FR; University of Toulouse-FR; University of Nice-FR; TOTAL-FR; University of Saint Andrews-GB; University of Zaragoza-ES; REPSOL-ES; Academy of Sciences Budapest-HU; University of Moscow-RU; RC Aachen-DE; ETH Zurich-CH; RC Mulheim-DE; BAYER-DE; Lund University-SE; Linz University-AT; University of Oxford-GB; University of Krakow-PL; University of Poznan-PL; University of Wroclaw-PL; Technical University of Warsaw-PL; Chemical Research Institute of Warsaw-PL; Technical University Bratislava-SK; KACST-SA; University of Rio de Janeiro-BR; Petrobras-BR; Braschem-BR; Canterbury University-NZ; Brisbane University-AU; Texas AM-USA; OHIO State University-USA; Northwestern University, Evanston-USA; Dupont-USA; Princeton University-USA; Rochester University-USA; NREL, Golden-USA; Alberta University-CA; University of British Columbia-CA; UoC San Diego-USA; Purdue University-USA; Iowa State University-USA; Nagoya University-JP; Kyoto University-JP; Tokyo University-JP; Okazaki University-JP; Tsukuba RC, Tsukuba-JP; Tianjin University-CN; Hangzhou University-CN; Dalian University-CN; Chinese Academy of Sciences, Shanghai-CN; INHA University, Incheon-KR; Saudi Aramco-SA; National University-Singapore; PETRONAS-MY; ENI-IT; IIT Kanpur, Kanpur-IN; ANNA University, Chennai-IN.

Author of over **290 papers** in international Journals, among which the first paper describing a “Coordinated CO₂ molecule” Chem Comm 1975 and of **10 books** on CO₂ and Biomass valorization, among which the first Book on CO₂ valorisation “CO₂ as source of carbon” 1987, and the most recent “An Economy Based on Carbon Dioxide and Water” Springer 2019, and the first book on “Biorefinery” 2010 (New Ed. 2015).

Patents: Co-owner of more than 15 National, European, and World Patents on new Catalysts and innovative, sustainable Chemical Processes based on the recycling of carbon (CO₂, biomass, oil chemistry).

Awards: Award of the **Italian Chemical Society** for the “Pioneering work on Carbon Dioxide Activation (and Utilization)” 1990; **MRSC** 1990; **Renoir Award** for the *Dissemination of Science*, 1990; Award of the **Société Française de Chimie**, 1995 for *Inventions in Inorganic Chemistry*; Award of the **Tianjin University**, Tianjin China, for *Green Chemistry* 2002; Award of the **Brazilian Chemical Society** for encouraging *Bilateral Programmes and Dissemination of Scientific Culture*; Several certificates of recognitions from the **American Chemical Society** for *Dissemination of “CO₂ Utilization” concept*; **Gold medal** of the Inorganic Chemistry Division of the Italian Chemical Society, 2016 for the “*Academic and Scientific Career*”; **Doctor of Engineering Honoris Causa**,

University of Bath, Bath-UK, 2016 for “*Pre-eminent Scientific Achievements and Distinguished Academic Career*”, ***International Award delivered in Shanghai in 2017 for the “Contribution to the CO₂ Chemistry”***.

Founder and CEO of the Start-up Innovative Catalysis for Carbon Recycling-IC²R srl, 2013