

Michele Maggini - Curriculum vitae

Born: Padova (IT) 1959

orcid: <https://orcid.org/0000-0001-8149-5903>

researcherID: A-1316-2011

1984 – Master Degree (Laurea) in Chemistry, U. of Padova

1984-1985 - Guest Researcher, Organic Chemistry Dept., U. of Padova

1986-1988 – Res. Associate, The U. of Chicago.

1988-1989 - Senior Res. Chemist - Dow Chemical, Gerenzano, IT 1989-1998 – Res. Chemist, CNR, IT

1998-2000 - Associate Professor of Organic Chemistry, U. of Padova

2000- Full Professor of Organic Chemistry, Chemical Sciences Dept., U. of Padova

Research interests

Michele Maggini's main research interests are the design, synthesis and applications of π -conjugated molecular architectures for solar energy conversion and the development of flow chemistry platforms for the synthesis of pharmaceutical products, the controlled functionalization of carbon nanostructures and the production of micro/nanosystems to encapsulate, carry and deliver active chemical ingredients.

Scientific achievements

M. Maggini obtained his Laurea degree in Chemistry in 1984 in the group of G. Scorrano, working on the reactivity of aromatic nitroderivatives in alkaline-alcoholic media. In 1986, as a research associate with P. Eaton at the U. of Chicago, he isolated the cycloaddition product of 1,2-dehydrocubane (cubene), one of the most pyramidalized olefin yet known (Encyclopædia Britannica, Yearbook of Science and the Future, 1990, page 308, JACS 1988, 110, 7230; JACS 1988, 110, 7232). With M. Prato, in 1989 Maggini tackled the total synthesis of bioactive indolizidine alkaloids and in 1992 began to investigate the chemical reactivity of the fullerenes, specifically through the cycloaddition of azomethine ylides (JACS 1993, 115, 9798; 1195 citations, Acc. Chem. Res. 1998, 31, 519; 818 citations). A wide variety of fullerene derivatives were produced and studied. For instance, those containing a covalently linked TEMPO moiety were investigated to elucidate and understand the peculiar characteristics of fullerene anions or triplet excited states (JACS 1997, 119, 789; JACS 2006, 128, 4734, Angew. Chem., Int. Ed. 2000, 39, 3905). In 1998, Maggini joined the Department of Chemical Sciences as associate professor and, since then, his research interests have focused mainly on the synthesis of molecular organic materials for solar energy conversion (Adv. Mater. 2002, 14, 1735, Energy & Environ. Sci. 2011, 4, 725, Nano Energy 2017, 41, 84) and on the development of flow chemistry methods for the synthesis of active pharmaceutical ingredients of industrial interest (J. Flow. Chem. 2015, 5, 17) or the batch-to-flow transpositions of unsafe chemical syntheses (OPRD 2012, 16, 1146). Fast prototyping techniques are used for the fabrication of microfluidic devices based on soft photolithography (Adv. Synth. & Cat. 2008, 17, 2815) and the study of surface modification of microchannels (Lab Chip, 2012, 12, 4041). Maggini studies the synthesis and functionalisation of nanosystems, such as metal nanoparticles (Chem. Commun. 2013, 49, 84), porphyrins (J. Flow Chem. 2020) or carbon nanostructures (Chem. Commun. 2011, 47, 9092, J. Flow Chem. 2014, 4, 79, Chem. Mater. 2018, 30, 2905). Often the microfluidics toolbox is used to study reaction (Eur. J. Org. Chem. 2011, 28, 5571) or surface-absorption kinetics (Chem. Commun. 2011, 47, 11656).

Bibliometric indicators

Number of scientific papers on peer-reviewed journals: 168 h-index=43 (WoS)

Teaching activities

1998-2020 – Organic Chemistry 1; Advanced Organic Synthesis; Functional Organic Materials; Carbon Nanostructures Chemistry. Since 1999, Maggini supervised the scientific activity of 5 postdocs, 11 PhD students, 26 Master students.

Institutional responsibilities

2004-2012 Member of the Commission for Scientific Research of the U. of Padova
2014-2016 Coordinator of the Undergraduate Program in Materials Science, U. of Padova 2014-2016
Coordinator of the Natural Sciences Class of the Galilean School of Higher Education, U. of Padova
2010-2018 Steering committee member of the PhD program in Science and Engineering of Materials and
Nanostructures, U. of Padova 2016-2017 member of the National Chemistry Panel for University research
evaluation (GEV3- ANVUR) VQR 2011-2014.
From 2016 through 2023: Director of the Department of Chemical Sciences, U. of Padova
From 2020 through 2023: Coordinator of the Board of Department Directors of the U. of Padova.

Collaborative projects

NATO-CRG960099 on fullerene chemistry, coordinator (1996-1999); Steering Committee member of EC
project Brite EuRam III MOLALC, on Molecular Optical Limiting and Light Control
(1997-2000); steering Committee member of EC projects Joule III on Molecular Plastic Solar Cells (1999-
2001); CNR-C00C4BD, Functional Fullerene Derivatives, local PI (2000); U. of Padova, starting grant on
Multiphoton Absorbing Organic Chromophores (2001); Ministry of University and Research, PRIN 2004-
035502, Functional Fullerenes for Materials Science Applications, local PI; PRIN 2006-034372, Oxidation of
Carbon Nanotubes, local coordinator; PRIN 2008- 5M27SS, Carbon Nanostructures in Microfluidic Reactors,
local coordinator; PRIN 2010-N3T9M4 Photosynthetic Artificial Nanostructures, local PI; MISCHA
(Fabrication, Characterization and Modelling of Microfluidic Devices) sponsored by Fondazione CaRiPaRO, PI
(2008- 2011); HELIOS (Highly Efficient Light Interactions with Organized Molecular Systems) sponsored by
the U. of Padova, PI (2009-2013); Ministry of University and Research, FIRB-RBAP11C58Y, NANOSOLAR, local
PI; (2012-2016); InnoGel (Innovative hydrogels for conservation agriculture) sponsored by Fondazione
CaRiPaRO, PI (2018-2020).

Organisation of meetings

San Diego (1998), Seattle (1999), Toronto (2000), Washington (2001) - Fullerenes: Chemistry, Physics and
New Directions, international symposium on the Organic Functionalization of the Fullerenes, The
Electrochemical Society, chairman.
2004 - nano.org: organic chemistry meets nanotechnology, co-chairman, Venezia 2006, 2007, 2008 - Summer
School "A. Corbella", co-chairman, Gargnano, Italy
2011 - 3rd symposium on Continuous Flow Reactor Technology for Industrial Applications, chairman, Como,
Italy 2015, 2016, 2017 – European Winter School on Physical Organic Chemistry, chairman, Bressanone, IT
2016 – EuCheMS Chemistry Congress, topic E4, Carbon-based Nanochemistry Section, convenor, Seville,
Spain.

Commissions of trust

Since 2002 editorial board member of the journal: Fullerenes, Nanotubes, and Carbon Nanostructures 2008-
2012 scientific advisory board member for microreactor technology, Corning Inc., USA
Evaluator for FNRS, Belgium (2009); Fondazione CARITN, Trento (2011); Fondazione Bruno Kessler, Trento;
FRC, Strasbourg; Veneto Region (2012) 2004-2014 advisor for Fabbrica Italiana Sintetici SpA (pharma group),
Italy
2015-2016 advisor for A.M.S.A. SpA (pharma group), Italy 2014-2016 evaluator (ERC ST-grants) for EU

Granted patents

R. Bozio et al. Materiali ibridi organico-inorganici ad alta resistenza al danneggiamento laser, 2004 -
ITPD20040100 A1
A. Castellin et al. Process for the synthesis of 4H-imidazo [1,5-a] [1,4] benzodiazepines, in particular
midazolam and salts thereof, 2013 - US8557981 B2
M. Maggini et al. Method for synthesis of functionalised carbon nanotubes by cycloaddition under
continuous flow conditions and apparatus for the method, 2013 - WO2012156297 A3

Invited lectures

1988 Symposium on pyramidalized olefins, ACS meeting, Los Angeles 1994 185 meeting of the Electrochemical Society (ECS), San Francisco 1995 187 meeting of ECS, Reno
1995 COST Workshop on Selective Synthesis, Budapest 1996 189 meeting of ECS, Los Angeles
1996 13 IUPAC meeting ICPOC-13, Incheon
1997 191 meeting of ECS, Montreal
1998 II Italian-Israeli meeting on Physical Organic Chemistry, Jerusalem 1999 ESOC 11, Göteborg
1999 195 meeting of ECS, Seattle
2000 III Spanish-Italian Symposium on Organic Chemistry, Malaga 2001 199 meeting of ECS, Washington
2002 201 meeting of ECS, Philadelphia 2004 Laboratory for plastic solar cells, Linz
2006 VI Spanish-Italian Symposium on Organic Chemistry, Taormina 2009 216 meeting of ECS, Vienna
2012 Scientific Update, Baveno (IT) 2013 223 meeting of ECS, Toronto
2014 1st China-Italy Bilateral Symposium on Graphene, Dalian
2014 PCC-Anders Ringbom Workshop, Åbo Akademi University, Turku (Fin) 2015 227 meeting of ECS, Chicago
2017 Liebig Kolleg, University of Giessen, DE
2018 Electron Donor-Acceptor Interactions Gordon Research Conference, Newport

Lectures at Universities or Research Centers (host) Merrel Dow Pharmaceuticals Inc., Cincinnati, 1988 ISM-

CNR, Bologna, 1994 (C. Taliani)
CNR Research Area, Padova, 1995 (P. Traldi) Toyama U., 1996 (Y. Higuchi)
Kyoto U., 1996 (K. Komatsu) Osaka U., 1996 (Y. Tobe)
U. of Innsbruck, 1996 (B. Kraeutler)
U. of Notre Dame (USA) 1997 (D. Guldi) ISOF-CNR, Bologna, 2001 (N. Camaioni)
U. of Pavia, 2004 (P. Righetti)
BASF Ludwigshafen, 2005 (T. Gessner)
U. of Strasbourg, 2006 (A. Bianco)
U. of Muenster, 2007 (L. De Cola) ENI-Donegani, 2009 (R. Po)
U. of Erlangen, 2010 (D. Guldi)
U. Milano Bicocca, 2010 (A. Abbotto)
U. FUNDP, Namur, 2011 (D. Bonifazi)
U. of Erlangen, 2012 (D. Guldi)
U. of Graz, 2012 (O. Kappe)
U. of Bari, 2014 (G. Farinola)
ISIS- Strasbourg, 2014 (L. De Cola)
U. of Duisburg, 2018 (S. Barcikowski)

National Acknowledgements

2015 - Angelo Mangini Medal - Organic Chemistry Division of the Italian Chemical Society 2016 - Member of Istituto Veneto di Scienze, Lettere ed Arti, Venezia.

Padova, 6 marzo 2023



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