



PERSONAL INFORMATION

<i>Name, Surname</i>	Maria Antonietta Dettori
<i>Address</i>	CNR Institute of Biomolecular Chemistry Traversa la Crucca 3, 07100 Sassari-Italy
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<i>E-mail</i>	antonella.dettori@cnr.it
<i>Nationality</i>	Italian
<i>Place and Date of birth</i>	Sassari February 22 nd , 1966

WORK EXPERIENCE

From March 2001 to date

Researcher at C.N.R. Institute of Biomolecular Chemistry
3, Trav. La Crucca, 07100 Sassari, Italy.

2009 - 2011

Head of Unit's Activities of the National Research Council of institutional research activity of CNR: PM.P01.011.002: "Design, synthesis and characterization of chiral non racemic compounds to be employed in biological field using high symmetry molecules". Co-partecipant to Unit's Activities of the National Research Council" of institutional research activity of CNR: PM.P01.011.004: "Synthesis of multifunctional molecules with controlled conformational stability for the treatment of neurodegenerative diseases

2009

Visitor researcher at the University of Ankara (Turkey), "Antifeedant and toxic effect of encapsulated Humulus lupulus L. (Cannabaceae) extract to some insect pests". (Bilateral project CNR-TUBITAK).

2006

Short Term Scientific Mission at the University of Angers (France). "Synthesis beyond the redox-active tetrathiafulvalene (TTF) molecule: from a topological control in TTF-based macrocycles, towards functional chemical systems". (European Project COST D31-WG0014-05).

2005

Visitor researcher at the University of Angers (France, Galileo Program)

2004

Visitor researcher at University of Angers (France, Galileo Program)

2000

Post-doc at the University Joseph Fourier in Grenoble (France), "Synthesis of peptide mimetics of gonadotropin receptors".

1999

Post-doc at the University Joseph Fourier in Grenoble (France) "Design and synthesis of new pyrazole derivatives to be employed in agrobiological field".

1997 - 1999

Research contract at CNR Institute for the Application of Advanced Chemical Techniques to Agrobiological Problems of Sassari.

EDUCATION AND TRAINING

Name and type of organization
providing education and training
Principal subjects occupational skills
covered

March 1996

Degree in Chemistry obtained at Sassari University 110/110
"Synthesis of biologically active substances using chiral atropisomeric auxiliaries".

RESEARCH ACTIVITIES

Sectors:

Chim06_Organic Chemistry
New drug discovery.
Natural products synthesis.
Small molecules synthesis.

Recent Scientific Activities

- Design, synthesis, characterization and study of multifunctional phenols and hydroxylated biphenyls for direct applications in agriculture, phytochemistry, biology and medicine.
- Selection of natural occurring compounds, mainly phenols and polyphenols able to effectively inhibit the development of *Fusarium* spp.
- Preparation of natural and natural-like biphenols with antioxidant activity.
- Preparation, characterization and resolution of new hydroxylated biphenyls and their biological evaluation as tyrosinase inhibitors.
- Synthesis and resolution of new biphenyl molecules as new potential insecticide for agrobiological purposes.
- Development of new cyclodextrine-diarilic molecules inclusion complexes as antifungal species in the post-harvest treatment of fruits.
- Synthesis of new biphenylic atropisomeric structures for "multiple targeting" treatment of neurodegenerative pathologies as Alzheimer and Parkinson disease.
- Preparation, characterization and resolution of conformationally stable biphenyls and their biological evaluation as selective anticancer agents against human melanoma cell lines.

Projects

Last 5 years

Partner in the following projects:

2019-2021 Title: Innovative approaches in crops protection: silico studies, selection and synthesis of sustainable compounds for the control of phytopathogens. Funds: Sardinia Region. P.I. University of Sassari

2017-2019 title: Edible insect repellents in 'push & pull' strategy. Funds: Sardinia Region. Operative units: CNR-ICB, UNICA, AGRIS-UNISS.

2017-2018 CNR-code: SAC.AD002.001.014 title: Innovative strategies with sustainable fungicides of new composition towards mycotoxin *Fusarium* control in cereals. CNR-CONACIT bilateral project. Argentina responsible: Dr. Ismael Malbran.

2016-2018 CNR code: SAC.AD002.004.015 title: Studies on the antioxidant activity of natural and natural-like phenol mixtures in the development of phytochemical therapies. CNR-BAS bilateral project. Bulgarian responsible: prof. Ass. V. Kancheva.

2014-2016 Green Chemistry Cluster Project BIT3G. Funds: MIUR (D.D. n. 257/Ric del 30/05/2012). P.I. Federchimica (Novamont).

2014-2015 title: Synthesis and characterization of compounds of antiproliferative activity. Funds: FASE 1- Sardinia Region

2012-2014 title: Design, preparation and study of sustainable inhibitors of phenol and polyphenoloxidase of melanin synthesis to be applied in cosmetics and phytoiatric sectors. Funds: Sardinia Region. Operative units: CNR-ICB, UNISS and CNR-ISE.

PUBLICATIONS

The last 5 years

43 Articles on International referencing journals, 123 communications to national and international congresses.
<http://orcid.org/0000-0002-8776-9271>
h-index. 14 (ISI WEB, 2019).

Giovanna Pani, Barbara Scherm, Emanuela Azara, Virgilio Balmas, Zahra Jahanshiri, Paola Carta, Davide Fabbri, **Maria Antonietta Dettori**, Angela Fadda, Alessandro Dessi, Roberto Dallochio, Quirico Migheli and Giovanna Delogu "Natural and Natural-like Phenolic Inhibitors of Type B Trichothecene in Vitro Production by the Wheat (*Triticum* sp.) Pathogen *Fusarium*

culmorum". *Journal of Agricultural and Food Chemistry*, 2014, 62 (22), 4969.

Maria Antonietta Dettori, Davide Fabbri, Giovanna Delogu, Marina Pisano, Alessandro Dessi, Roberto Dallochio and Carla Rozzo "4-Substituted-2-Methoxyphenol: Suitable Building Block to Prepare New Bioactive Natural-like Hydroxylated Biphenyls". *Letters in Drug Design & Discovery*, 2015 12, 131.

Giammaria Calia, Patrizia Monti, Salvatore Marceddu, **Maria Antonietta Dettori**, Davide Fabbri, Samir Jaoua, Robert D. O'Neill, Pier Andrea Serra, Giovanna Delogu and Quirico Migheli "Electropolymerized phenol derivatives as permselective polymers for biosensor applications" *Analyst*, 2015, 140, 3607.

Adriana K. Slavova-Kazakova, Silvia E. Angelova, Timur L. Veprintsev, Petko Denev, Davide Fabbri, **Maria Antonietta Dettori**, Maria Kratchanova, Vladimir V. Naumov, Aleksei V. Trofimov, Rostislav F. Vasil'ev, Giovanna Delogu and Vessela D. Kancheva "Antioxidant potential of curcumin-related compounds studied by chemiluminescence kinetics, chain-breaking efficiencies, scavenging activity (ORAC) and DFT calculations". *Belstein Journal of Organic Chemistry*, 2015, 1,1398.

Marina Pisano, Antonio Palomba, Alessandro Tanca, Daniela Pagnozzi, Sergio Uzzau, Filippa M Addis, **Maria Antonietta Dettori**, Davide Fabbri, Giuseppe Palmieri and Carla Rozzo "Protein expression changes induced in a malignant melanoma cell line by the curcumin analogue compound D6". *BMC Cancer*, 2016, 16:317.

Elisabetta Profumo, Brigitta Buttari, Daniela D'Arcangelo, Lavinia Tinaburri, **Maria Antonietta Dettori**, Davide Fabbri, Giovanna Delogu and Rachele Riganò "The Nutraceutical Dehydrozingerone and Its Dimer Counteract Inflammation- and Oxidative Stress-induced Dysfunction of In Vitro Cultured Human Endothelial Cells: a Novel Perspective for the Prevention and Therapy of Atherosclerosis". *Oxidative Medicine and Cellular Longevity*, 2016, 2016:1246485.

Sonia Pedotti, Angela Patti, Sonia Dedola, Antonio Barberis, Davide Fabbri, **Maria Antonietta Dettori**, Pier Andrea Serra and Giovanna Delogu "Synthesis of new ferrocenyl dehydrozingerone derivatives and their effects on viability of PC12 cells". *Polyhedron*, 2016, 117, 15, 80.

Patrizia Monti, Giammaria Calia, Salvatore Marceddu, **Maria Antonietta Dettori**, Davide Fabbri, Samir Jaoua, Robert D O'Neill, Quirico Migheli, Giovanna Delogu and Pier Andrea Serra "Low electro-synthesis potentials improve permselectivity of polymerized natural phenols in biosensor applications". *Talanta*, 2016, 8, 151.

Paolo Ruzza, Pier Andrea Serra, Davide Fabbri, **Maria Antonietta Dettori**, Gaia Rocchitta and Giovanna Delogu "Hydroxylated biphenyls as tyrosinase inhibitor: a spectrophotometric and electrochemical study". *European Journal of Medicinal Chemistry*, 2017, 126, 1034.

Margherita Maioli, Valentina Basoli, Paola Carta, Davide Fabbri, **Maria Antonietta Dettori**, Sara Cruciani, Pier Andrea Serra and Giovanna Delogu "Synthesis of magnolol and honokiol derivatives and their effect against hepatocarcinoma cells". *PLoS ONE*, 2018, 13(2): e0192178.

Patrizia Monti, Gaia Rocchitta, Salvatore Marceddu, **Maria Antonietta Dettori**, Davide Fabbri, Samir Jaoua, Quirico Migheli, Giovanna Delogu and Pier Andrea Serra "Use of beta-cyclodextrin as enhancer of ascorbic acid rejection in permselective films for amperometric biosensor applications". *Talanta*, 2018, 186, 53.

Lidia Koleva, Silvia E. Angelova, **Maria Antonietta Dettori**, Davide Fabbri, Giovanna Delogu and Vessela D. Kancheva "Antioxidant activity of selected o-methoxyphenols and biphenols: theoretical and experimental studies". *Bulgarian Chemical Communications*, 2018, 50, 238.

Lidia Koleva, Silvia Angelova, **Maria Antonietta Dettori**, Davide Fabbri, Giovanna Delogu and Vessela D. Kancheva "Antioxidant activity of 3-hydroxyphenol, 2,2'-biphenol, 4,4'-biphenol and 2,2',6,6'-biphenyltetrol: theoretical and experimental studies". *Bulgarian Chemical Communications*, 2018, 50, 247.

Safa Oufensou, Barbara Scherm, Giovanna Pani, Virgilio Balmas, Davide Fabbri, **Maria**

Antonietta Dettori, Paola Carta, Ismael Malbrán, Quirico Migheli, and Giovanna Delogu
“Honokiol, Magnolol and its Monoacetyl Derivative Show Strong Anti-Fungal Effect on Fusarium
Isolates of Clinical Relevance”. *PLoS ONE*, 2019, 14(9):e0221249.

Languages

Mother Italian

Other languages English, French

Sassari, 18 September 2019

Dott.ssa Maria Antonietta Dettori

