


## ANTONIA NOSTRO

### GENERAL INFORMATION

Associate Professor of Microbiology and Clinical Microbiology (SSD MED/07, AREA 06/A3)  
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### EDUCATION

- 1986 Degree in Biology Faculty of Science, University of Messina
- 1990 Specialization in Applied Microbiology, University of Messina
- 1995 Ph.D. degree in Biopharmaceutical Microbiology
- 1998 Researcher SSD MED/07 Microbiology and Clinical Microbiology, University of Messina
- 2016 National Scientific Certification to the functions of Associated Professor SSD MED07, AREA06/A3 (ASN, D.D. 222/2012)
- 2017 National Scientific Certification to the functions of Full Professor SSD MED07, AREA06/A3 (ASN, D.D. 1532/2016)
- 2019 Associated Professor SSD MED/07 Microbiology and Clinical Microbiology, University of Messina

### ACADEMIC ACTIVITIES AND ORGANIZATION

- Member of Joint Commission of the Department of Chemical, Biological, Pharmaceutical and Environmental Science - University of Messina, from 2016/present.
- Member of the Academic Board of the PhD in:  
Pharmacognosy, University of Messina from 2006 to 2010;  
Toxicology, University of Messina 2012-13;  
Applied Biology and Experimental Medicine, University of Messina from 2013/present.
- Member of Commissions for selective procedures for RTI, RTDA - SSD MED/07.
- Member of the Board of the Italian Society for Research on Essential Oils (SIROE).
- Member of the Italian Society of Microbiology (SIM).
- Member of the Italian Society of Pharmaceutical Microbiology (SIMIF).

### TEACHING ACTIVITY

- Microbiology in Master Degree in Pharmaceutical Chemistry and Technology from 2012/present.
- Microbiology in Master Degree in Pharmacy from 2018/present.
- Microbiology in Degree in Applied Pharmaceutical Sciences to Health Products 2009-10 and 2011-12; Degree in Herbal Science and Technology from 2001 to 2008 and Degree in Environmental Toxicology from 2001 to 2003.
- Applied Microbiology in Postgraduate Course Hospital Pharmacy from 2001 to 2003 and from 2018/present.
- Hygiene in Master Degree in Pharmaceutical Chemistry and Technology from 2006 to 2008; Degree in Herbal Science and Technology from 2001 to 2009.
- Teaching in the School of Science and Technologies of Materials - Materials science and technologies approaches to biomedical challenges - "New perspectives on the use of essential oils: development of polymeric systems for the control of bacterial growth and biofilm". INSTM, Ischia 2017.

- Teaching in the Postgraduate Course in Herbal Medicine of Essential Oils (advanced level) "Essential Oils and Gram-Positive Infections" 29/11/2020 and 28/11/2021. Università Cattolica del Sacro Cuore, Roma;

#### SCIENTIFIC ACTIVITY

- Main research topics: Antimicrobial and anti-virulence activity of conventional and natural molecules against microorganisms of particular relevance for pathogenesis and drug resistance - Effects of conventional and non-conventional molecules on the characteristics of microbial pathogenicity and virulence factors - Study of the dynamics of biofilm formation on surfaces and materials in different growing conditions - New approaches and systems for the surveillance of biofilm development and its eradication - Study of micro- and nano-structured antimicrobial delivery systems for the control of microorganisms in biomedical and food fields.
- Bibliometric indicators (Scopus): h-index: 31; Total citations: 3453; Articles: 76
- Scientific Coordinator Research projects University of Messina (PRA) 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006-07, 2008-09
- Scientific Responsible of Research Project "Valutazione delle proprietà antimicrobiche di una soluzione per uso oftalmico a base di argento colloidale nei confronti di stipiti isolati da infezioni oculari antibiotico-resistenti e/o abili a formare biofilm" Alfa Intes, Industria Terapeutica Splendore S.r.l. Casoria (NA) - 2018.
- FFABR-ANVUR Funding of basic research activities 2017 e 2020.
- Collaborator in the following granted projects:  
HORIZON-MSCA-2021-PF-01 (MSCA Postdoctoral Fellowships 2021) Polymeric Cyclodextrin-Based Supramolecular Constructs Photoreleasing Nitric Oxide for Combating Antibiotic Resistance (SUPREME);  
MIUR 2016 PNRA16\_00020 Unità Ricerca "Batteri produttori di biofilm associati a Poriferi Antartici e valutazione delle potenzialità biotecnologiche";  
MIUR - PRIN 2007 "Ruolo del biofilm di *Helicobacter pylori* nella esaltazione della variabilità genetica e sviluppo di sistemi innovativi eradicanti";  
MIUR - PRIN 2005 "Aspetti fenotipici e genotipici della resistenza ai macrolidi e ai lincosamidi nei generi *Streptococcus*, *Mycoplasma* e *Ureaplasma*";  
Agrivet - PO FESR 2007-2013 Linea 412° - "Centro per l'innovazione dei sistemi di Qualità, Tracciabilità e Certificazione dell'Agroalimentare";  
Research & Mobility 2016 "Chemical characterization by means of advanced analytical techniques of compounds of nutraceutical interest in different food real-world samples and evaluation of their biological activity"

#### ORGANIZATION OF SCIENTIFIC MEETINGS

- 2021 Member of Scientific and Organizing Committee of 13th National Congress of Pharmaceutical Microbiology 28/29 June 2021 XIII Congress of the Italian Society of Pharmaceutical Microbiology SIMiF – Napoli.

#### INVITED PUBLICATIONS

- Review. Scaffaro R, Maio A, Nostro A. Poly(lactic acid)/carvacrol-based materials: preparation, physicochemical properties, and antimicrobial activity. *Applied Microbiology and Biotechnology*, 2020, p. 1-13, ISSN: 0175-7598.
- Review. Scaffaro R, Lopresti F, Marino A, Nostro A. Antimicrobial additives for poly(lactic acid) materials and their applications: current state and perspectives. *Applied Microbiology and Biotechnology*, 2018, vol. 102, p. 7739-7756, ISSN: 0175-7598.
- Review. Nostro A, Papalia T. Antimicrobial Activity of Carvacrol: Current Progress and Future Perspectives. *Recent Patents of Anti-Infective Drug Discovery* 2012; 7, 28-35.

- Book Chapter In: Modern Phytomedicine. Turning Medicinal Plants into Drugs. Ed. Ahmad I., Aqil F., Owais M. "Activity of Plant Extracts and Plant-Derived Compounds against Drug-Resistant Microorganisms". 2006, 10, 199-231. WEINHEIM: WILEY-VCH V Verlag GmbH & Co. KGaA GERMANY. ISBN: 3-527-31530-6.
- Book Chapter In: *Citrus bergamia*: Bergamot and its Derivatives. Ed. Dugo G., Bonaccorsi I. "Antimicrobial Activity of *Citrus bergamia* Risso & Poiteau". 2013, 20, 491-498, CRC Press ISBN: 9781439862278

#### EDITORIAL ACTIVITY

- Member of Editorial Board of "Recent Patents on Anti-Infective Drug Discovery", Bentham Science Publishers Ltd 2006/present.
- Member of Editorial Board of "Coatings", Sections: Surface Coatings for Biomedicine and Bioengineering and Bioactive Coatings and Biointerfaces; MDPI Basel, Switzerland Science Publishers Ltd, 2018/present.
- Member of Editorial Board of "ISRN Microbiology" Publishing Corporation from 2011 to 2017.
- Guest Editor Special Issue in Antibiotics "Development and Application of Plant Antimicrobial Substance" - Team: G. Tempera, C. Genovese, A. Nostro. In progress 2021.
- Guest Editor Special Issue in Front Bioeng Biotechnol - "Combating bacterial infections through biomimetic or bioinspired materials design and enabling technologies" - Team: G. Ciardelli - Politecnico di Torino, I. Roy - University of Westminster UK, J. Salber - Universitätsklinikum Knappschaftskrankenhaus Bochum - Germany, A. Nostro - Università di Messina, A. Boccaccini, University of Erlangen-Nuremberg, Germany, 2018-2020.
- Referee "AD HOC" for several international scientific journals.

#### AWARD

- Marini E, Magi G, Cimarelli ME, Piersimoni C, **Nostro A**, Ginestra G, Di Giulio M, Cellini L, Facinelli B. 2016. Attività antimicrobica di oli essenziali e principi attivi vegetali nei confronti di un ceppo clinico di *Mycobacterium abscessus* multi-resistente e produttore di biofilm. Poster, IV Congresso Nazionale SIROE, Roma.
- **Nostro A**, Scaffaro R, Botta L, Filocamo A, Marino A, Bisignano G. 2014. Sustained release of carvacrol and cinnamaldehyde from polymeric films to control the monospecies and dual-species biofilm development by *E. coli* and *S. aureus*". Poster, 42° Congress of National Society of Microbiology SIM. Torino.
- Marino A, **Nostro A**, Mandras N, Ginestra G, Ruberto G, Mancuso A, Bisignano G, Tullio V. 2014. Attività antimicrobica dell'idrolato di *Coridothymus capitatus* L. Richb. F. (Lamiaceae) di Sicilia. Poster, II Congresso Nazionale SIROE, Terni.

Messina, 06 June 2022