

## CURRICULUM OF SCIENTIFIC AND EDUCATIONAL ACTIVITY

### PERSONAL INFORMATIONS

Name MICHELINO DANIELE ANTONIO DI ROSA

Email mdirosa@unict.it; [chitotriosidase@gmail.com](mailto:chitotriosidase@gmail.com)

### 1. CURRENT ACADEMIC POSITION

- From 04/06/2018 - to 03/06/2021  
Fixed-term researcher (pursuant to art.24, paragraph 3, letter a, Law 240/2010), SSD BIO/17, SC 05/H2 - Histology, at the Department of Biomedical Sciences e Biotechnological (BIOMETEC), Section of Anatomy, Histology and Sciences of Movement, University of Catania.
- From 04/06/2021- to 03/06/2024  
Fixed-term researcher (pursuant to art.24, paragraph 3, letter b, Law 240/2010), SSD BIO/17, SC 05/H2 - Histology, at the Department of Biomedical Sciences e Biotechnological (BIOMETEC), Section of Anatomy, Histology and Sciences of Movement, University of Catania.

### 2. EDUCATION AND TRAINING

- 01/01/2007–31/10/2010  
Ph.D. University of Catania, Catania (Italy). Sector Medicine and Surgery - PhD in PATHOPHYSIOLOGY OF SENESCENCE XXII° CYCLE. Thesis dissertation: "Role of the enzyme Chitotriosidase in Degenerative Processes and Incidence of the Mutated Allele in the Elderly" (January 22 2010). Related article:  
o Malaguarnera L, Ohazuruike LN, Tsianaka C, Antic T, Di Rosa M, Malaguarnera M. Human chitotriosidase polymorphism is associated with human longevity in Mediterranean nonagenarians and centenarians. J Hum Genet. 2010 Jan; 55(1):8-12. doi: 10.1038/jhg.2009.111. Epub 2009 Oct 30. PubMed PMID: 19881466.
- 02/22/2005  
Degree in Biological Sciences - Biomolecular Address. Faculty of Sciences Natural, Physics and Mathematics - University of Catania, Catania (Italy). Thesis title: "Action of prolactin, IFN-gamma, TNF-alpha and LPS on heme oxygenase 1 expression and VEGF release in human monocytes/macrophages". Score: 110/110. Related article:  
o Malaguarnera L, Imbesi R, Di Rosa M, Scuto A, Castrogiovanni P, Messina A, Sanfilippo S. Action of prolactin, IFN-gamma, TNF-alpha and LPS on heme oxygenase-1 expression and VEGF release in human monocytes/macrophages. Int Immunopharmacol. 2005 Aug;5(9):1458-69. PubMed PMID: 15953572.

### 3. NATIONAL SCIENTIFIC LICENSE (ASN)

- From 18/09/2019 to 18/09/2028  
National Scientific Qualification for the role of associate professor in the SSD BIO/17, SC 05/H2 - Histology.

### 4. TRAINING AND RESEARCH ACTIVITIES

- 11/2015 - 02/2016  
Visiting Research in Neuroimmunology. Responsible: Prof. Henrik Zetterberg and Prof Kaj Blennow - University of Gothenburg, The Sahlgrenska Academy, Sweden. Institute of Neuroscience and Physiology Department of Psychiatry and

Neurochemistry, Gothenburg (Sweden).

- 02/03/2015–01/03/2018  
Research Fellow in Pathology and Immunology (Pursuant to and by effect of article 22, paragraph 1, Law 240/2010). Department of Biomedical Sciences e Biotechnological - University of Catania, Catania (Italy). Responsible executive of the project: "Analysis of chitinase expression in Celiac disease and gluten associated disorder". Related article:  
o Catrogiovanni P, Musumeci G, Giunta S, Imbesi R, Di Rosa M. The expression levels of CHI3L1 and IL15R $\alpha$  correlate with TGM2 in duodenum biopsies of patients with celiac disease. *Inflamm Res*. 2020 Sep;69(9):925-935. doi: 10.1007/s00011-020-01371-9. Epub 2020 Jun 4. PMID: 32500186
  - 06/05/2013 - 06/22/2013  
Visiting Research – Head: Prof. Fabrizio Condorelli, DiSCAFF & DFB Center, University of Eastern Piedmont A. Avogadro, Novara, Italy. Executive responsible for the project: "Characterization and pharmacological targeting of the molecular machinery responsible for HIV integration in host genome".
  - 02/11/2010 - 01/11/2014  
Research Fellow in Infectious Diseases (Pursuant to and by effect of article 51, paragraph 6 of Law 449/97). Faculty of Medicine and Surgery - University of Catania, Catania (Italy). Executive Project Manager: "The role of the new immune pattern T-helper 17 in the infection by human immunodeficiency virus (HIV)". Related article:  
o Nunnari G. , Malaguarnera L. , Lazzara F. , Cambria D. , Distefano G. , Longo A. , Palumbo M. , Fagone P. , Di Rosa M. Th17 common genes in CD4 T-cells of HIV-1-infected naïve patients and elite controllers. *Infect Dis Trop Med* 2015; 1 (2): e121
  - 25.05.2010  
Qualification to the profession of Biologist. University of Catania
  - 06/10/2005-15/12/2005  
Fellowship at the Sbarro Institute Cancer Research and Molecular Medicine, Philadelphia (USA) - Mentor: Eva Surmacz; Dean: Antonio Giordano.
5. SPEAKER AT NATIONAL AND INTERNATIONAL CONGRESSES AND CONFERENCES
- From 09/22/2019 to 09/24/2019  
Speaker at the 73th National Conference of Anatomy, SIAI. Dates and places: 22 to 24 September 2019, Naples, Italy. Report: "Brain biopsies transcriptome deconvolution: a new approach to define the sexual differences in brain cells architecture during aging and Alzheimer's disease"
  - From the 20/09/2018 to 22/09/2018  
Speaker at the 72th National Conference of Anatomy, SIAI – 38th National Conference of Histology, SII. Date and place: 20 to 22 September 2018, Parma, Italy. Report: The Chitinases role in osteoclast activity.
  - From 20/09/2017 to 23/09/2017  
Speaker at the 71th National Conference of Anatomy, SIAI – 37th National Conference of Histology, SII. Date and place: 20 to 23 September 2017, Taormina (ME), SAN DOMENICO HOTEL, Italy. Relationship: Chitotriosidase expression in monocyte-derived dendritic cells.
  - 20/09/2017 to 23/09/2017  
Presentation of the following poster at the 71th National Conference of Anatomy, SIAI – 37th National Conference of Histology, SII, Taormina (ME), SAN DOMENICO HOTEL, Italy. Title: Expression and localization of CHI3L1 in monocyte derived dendritic cells.
  - 22/02/2016-25/02/2016  
Presentation of the following poster at the CROI (Conference of Retroviruses and

Opportunistic Infections) - Boston, Massachusetts, (USA). Title: "Sirtuins modulate HIV integration and replication: new cellular anti-HIV targets".

- 05/05/2015  
Speaker for the specialization course in "New aspects of clinical pathology in haematological diseases" – SIBA (Italian Society of Applied Biology) - ONB National Order of Biologists.
- From 17/09/2014 to 20/09/2014  
Speaker at the 64th National Congress of Pathology and Laboratory Diagnostics, PAIPaCMeM - 32nd National Congress SIPMeT. Dates and place: 17 to 20 September 2014, Palermo, ASTORIA PALACE HOTEL, Italy. Report: "Determination of Chitinases family during osteoclastogenesis".
- 17/09/2014 to 20/09/2014  
Presentation of the following poster at the 64th National Congress of Pathology and Laboratory Diagnostic, PAIPaCMeM - 32nd National Congress SIPMeT, Palermo, ASTORIA PALACE HOTEL, Italy. Title: "Potential role of Chitinases in osteo degenerative disease". The American journal of pathology, issn: 0002-9440.
- 06/12/2014  
Speaker for the specialization course in "Autoimmune diseases: current events and prospects" - SIBA (Italian Society of Applied Biology) - ONB, Order National Biologists.
- 11/29/2013  
Speaker for the specialization course in "Molecular Diagnostics" (29/11/2013) - SIBA (Italian Society of Applied Biology) - ONB, National Order of Biologists.

## 6. PARTICIPATION IN INTERNATIONAL BOARDS OF SCIENTIFIC JOURNALS

- Editorial board
  - From 01.10.2015 to today  
Associate Editor Journal of Functional Morphology and Kinesiology  
Reviewed by databases: Scopus.
  - From 11.29.2016 to today  
Associate Editor at Frontiers in Physiology. IF 3.394 - Reviewed by databases: PubMed, ISI-WoS, Scopus.
  - From 03.01.2019 to today  
Editorial board member in Experimental Pharmacology and Drug Discovery, part of the journal Frontiers in Pharmacology. IF 3.831 - Reviewed by databases: PubMed, ISI-WoS, Scopus.
  - From 07.05.2020 to today  
Editorial board member in Osteology.
  - From 14.06.2019 to today  
Editorial board member Experimental and Therapeutic Medicine - Reviewed by databases: PubMed, ISI-WoS, Scopus. IF: 1.78.
  - From 2015 to today  
Associate Editor in Infectious Diseases and Tropical Medicine.
- Guest editors
  - From 08.05.2020 to 31.12.2020  
Guest Editor, for the Special Issue "Innate Immunity Paroxysm in Neurodegenerative Diseases". International Journal of Molecular Sciences - Reviewed by databases: PubMed, ISI-WoS, Scopus. IF:4.556 .
  - From 22.10.2020 to 30.06.2021  
Guest Editor, for the Special Issue "Histo-Immunology In Exercise". Magazine Journal of Functional Morphology and Kinesiology - Bank Reviewed data: PubMed, and Scopus.
  - From 06.30.2021 to 12.31.2021

Guest Editor, for the Special Issue " Biomarkers in HIV Associated Neurocognitive Disorders". Neurology International Journal - Reviewed by databases: PubMed, and Scopus.

#### 7. PERSONAL SKILLS

- Techniques of isolation, culture and proliferation of cells from peripheral blood, spleen and lymph nodes.
- Viral infections in vitro
- Culture and differentiation of dendritic cells, osteoclasts, microglia, macrophages M1, M2a, M2b, M2c and M4
- Cell cultures: isolation, maintenance and gene manipulation
- Binder ligand assays: ELISA, ELISPOT, Western blot.
- Flow Cytometry: BD LSRII and FACS Calibur; Cell Cycle Analysis, Surface Staining, CFSE Proliferation Assay, Intracellular Cytokine Staining, Apoptosis and other Cell Death Analysis.
- DNA/RNA extraction
- RT-PCR
- Protein extraction, western blotting, immuno-precipitation, immunofluorescence, immunohistochemistry.
- Eukaryotic cell transfection techniques (lipid-based transfection; electroporation)
- Statistical data analysis: SPSS and GraphPad PRISM software.
- Programming: JAVA.
- Microarray analysis: pre-processing, normalization, statistical analysis, Gene Ontology analysis.