

## Alessia Ruggiero, Ph.D.

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Alessia Ruggiero was born in [REDACTED]. She is graduated in Chemistry at the University of Naples Federico II (Summa cum laude). In 2005, she received her PhD in Molecular Physiology and Structural Biology at University of Padua. Between 2005-2006 she worked at European Molecular Biology Lab in Hamburg, Germany.

Since October 2011 she is permanent researcher at the Institute of Biostructure and Bioimaging of the National Research Council (IBB-CNR) in Naples, Italy.

She was awarded "SCRIVI IL FUTURO" prize for the best research project in the Campania Region. Title of the project: "Study of molecular processes involved in infectious diseases" and reviewed on "Il Denaro" on 20/11/2008.

H-Index Scopus 20. <https://orcid.org/0000-0002-3508-385X>

### FUNDINGS

**2021-2022.** TURBO- Covid-19 test based on turbimetry funded by the Italian Ministry of Research (MIUR). Role responsible for CNR-IBB.

**2022-2025.** PRIN 2020 MOY-FLY (2020WC7R9L). Role participant.

**2020-2021.** RECOVER-COVID19" (RicErCa e sviluppOVERsus COVID19 in Campania). POR FESR CAMPANIA 2014-2020- Asse III Obiettivo Specifico 1.3 - Azione 1.3.1. 2020. Role participant

**2019-2023.** 'BactiVax' Anti-Bacterial Innovative Vaccines against respiratory diseases. Call H2020 ITN Marie Skłodowska-Curie Innovative Training Networks. PI Dr Siobhan McClean, University of Dublin. PI CNR Rita Berisio. Role participant.

**2019-2022.** PON "IMPARA - IMAGING DALLE MOLECOLE ALLA PRECLINICA". PON DD n. 424, 28/02/2018: Avviso per la concessione di finanziamenti finalizzati al potenziamento di infrastrutture di ricerca, in attuazione dell'Azione II.1 del PON Ricerca e Innovazione 2014-2020. Role participant.

**2018-2022.** "CIRO - Campania Imaging Infrastructure for Research in Oncology". P.O.R. Campania POR FESR 2014-2020 – Avviso Pubblico "Realizzazione di progetti di sviluppo/potenziamento del sistema regionale delle infrastrutture di ricerca per la lotta alle patologie oncologiche". Role participant.

**2018-2020.** "Combattere la resistenza tumorale: piattaforma integrate multidisciplinare per un approccio tecnologico innovative alle oncoterapie". Progetto POR CAMPANIA FESR 2014/2020 – ASSE 1 – O.S. 1.2 - AZIONE 1.2.2. Role participant.

**2018-2020.** "Identificazione di nuove biomolecole con potenziale terapeutico per la cura del virus Zika ed altri virus emergenti" Finanziato dal Consorzio "Collezione Nazionale di composti Chimici e Centro Screening" (CNCCS). Period 01/07/2018 – 30/06/2020. Role participant.

**2017-2021.** IDRICA - Laboratorio integrato per il monitoraggio, controllo e gestione ottimale delle risorse idriche e ambientali". POR CAMPANIA FESR 2014/2020 - "DISTRETTI AD ALTA TECNOLOGIA, AGGREGAZIONI E LABORATORI PUBBLICO PRIVATI PER IL RAFFORZAMENTO DEL POTENZIALE SCIENTIFICO E TECNOLOGICO DELLA REGIONE CAMPANIA". Role participant.

**2015-2019.** Bilateral Project CNR-NRF with South Korea Università di Daejeon, "Struttura e funzione immunogenica della proteina Rv2299c, un promettente vaccino contro la Tubercolosi". PI CNR-IBB Dr. R. Berisio. Role participant.

**2014-2016.** Cooperation Project with Poland, CNR / PAS Scientific Cooperation Agreement (Poland). Project titled "Structure and Function of Selected Enzymes with Phage Origin". (2014-2016). Amount of funding per Operating Unit: EUR 14,000. Prot N. 15976 of 27/02/2014. Role: participant.

**2011-2015.** Project selected in under the retrospective research projects with measure 3.5 of FEP Campania: "Using marine plants for renewable energy production" (106.683,22 euro). Role responsible.

**2011-2014.** PON 1426 Project, “Study for development, characterization and efficacy of a new recombinant factor IX for the treatment of hemophilia B” (1.998.482 Eur). Role: participant

**2011-2012.** ‘Mizutani Foundation for Glycobiology’, “Molecular mechanisms of defense response induced by chitin oligosaccharides”. Role: participant

#### **SUMMARY OF THE RESEARCH ACTIVITIES AND TECHNICAL SKILLS**

A. Ruggiero has worked in various foreign labs and at different synchrotron facilities in Europe (ELETTRA Trieste, ESRF Grenoble, DESY Amburgo). The gathered expertise allows her to approach the field of Structural Biology of macromolecules of biological interest with a multidisciplinary approach. Over the years, she has been working on different macromolecular systems (bacterial and virus infection). Her main expertise regards the production of recombinant proteins for structural and functional characterization. In particular, the structural studies are conducted using crystallographic methodologies. These surveys are essential means for understanding the molecular bases of diseases, and the starting point for the design and development of bioactive molecules of diagnostic and pharmaceutical interest. Moreover, the functional analyses are performed using experimental techniques such as spectroscopy (circular dichroism and fluorescence), light scattering technique (SEC-LS, SLS), mass spectrometry (ESI-MS), calorimetric assay (ITC), interferometry and SPR binding assays.

Her scientific results have been reported in more than 80 papers published in international peer-reviewed journals.