

Curriculum vitae

PERSONAL INFORMATION

Family name, First name: **Berisio, Rita**

Researcher unique identifier(s) (ORCID): <https://orcid.org/0000-0001-5025-6483>

URL for web site: <http://www.ibb.cnr.it/?command=viewu&id=389>

• EDUCATION

2002-2004 Visiting scientist at the Max Planck Institute, Hamburg, Germany, in the group of Prof. Ada Yonath, Chemistry Nobel Prize 2009.

2000 PhD at the University "Federico II" of Naples, Italy.

1995 Chemistry degree (summa cum laude)
University "Federico II" of Naples, Italy.

• CURRENT POSITION AND RESEARCH ACTIVITIES

2019 – Research Director
Institute of Biostructures and Bioimaging (IBB), Italian Research National Council (CNR), Via Mezzocannone 16, Naples, Italy.

The research activities of Rita Berisio are focused on structural biology of macromolecules of biological interest. Dr. Berisio is co-author of more than 140 publications on international journals, such as Nature Structural Biology, Molecular Cell, PNAS, JACS, Structure, in books and one international patent. She has been reviewer for grants of (e.g.) MRC, Wellcome Trust, Health Research Council of New Zealand and for journals like Plos Pathogens, JBC, JMB, JACS. She has been Guest Editor of a number of journals and is member of the Editorial Board of The Scientific World Journal. Dr. Berisio is Editorial Advisory Board Member of "Current Medicinal Chemistry" and review editor of "Frontiers". RB has long been collaborating with the group of Prof Ada Yonath, Chemistry Nobel Prize 2009. Seven papers by RB on the structure of the ribosome are cited in the Nobel Lecture of Prof. Ada Yonath. RB has been awarded the Prize of Italian Crystallography Association in 2006.

Rita Berisio has more than 20 years of experience with x-ray diffraction methods. She is well integrated in EU research activities in the field of infectious diseases and other human pathogeneses. Currently, she is research coordinator of the EU project BactiVax - Anti-Bacterial Innovative Vaccines, Marie Skłodowska-Curie Actions. <https://www.bactivax.eu/principal-investigators>, which involves 11 partners and 3 industrial partners from 8 European countries, she is part of the ENOVA - European Network of Vaccine Adjuvants <http://www.enova-adjuvant.eu/scientific-missions/Host-Institutions/>.

• PREVIOUS POSITIONS

2002 – Senior researcher
Institute of Biostructures and Bioimaging (IBB), Italian Research National Council (CNR), Via Mezzocannone 16, Naples, Italy.

2001 - Researcher
Institute of Biostructures and Bioimaging (IBB), Italian Research National Council (CNR), Via Mezzocannone 16, Naples, Italy.

• FELLOWSHIPS

1998-1999 Contract of the Department of Chemistry, University of Naples "Federico II"

1998 Contract at the Department of Molecular Biophysics, Oxford, England.

1996-1997 Collaboration contract at EMBL Hamburg Outstation, Germany

• SUPERVISION OF GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS

2020-2023 Tutor of a PhD position, H2020-EU Marie Skłodowska Curie BactiVax, vaccine development in infectious respiratory diseases (2019-2023). Student Eliza Kramarska.

2020-2021 Tutor of a CNR fellowship, funded by the project MIUR, PRIN 2017, GA 2017SFBFER 2019-2023. Student Giovanni Barra.

2016 - 2019 Tutor of a PhD position, EU project "INCIBIT: a novel international PhD programme" co-

- **ORGANISATION OF SCIENTIFIC MEETINGS (if applicable)**

- 2019 Member of the organizing committee "AIC International Crystallography School 2019-CIF Crystallographic Information Fiesta" and MISCA V-International congress between Italian and Spanish association of crystallography (AIC-GE3C), September 2019, Naples, Italy.
- 2016 Chair of the "Indigo Workshop 2016; Molecular Scenarios behind bacterial infections", Imperial College London, UK. May 5th-6th 2016.
- 2015 Member of the organising committee of the Indigo Workshop 2015. Pathogenic infections from the chemistry perspective", at ICGEB di New Delhi, India. November 23th-25th
- 2015. Member of the organising committee of the "First Annual Gathering of Italian Structural Biologists", Vercelli, Italy, September 17th 2015. AIC
- 2014 Member of the organising committee of the training school "1st European Crystallography Training School", Pavia, Italy, August 28th- September 6th 2014.
- 2013 Member of the organising committee of the training school "1st joint SIMP-AIC International School" Camerino, Italy, September 4-9th 2013
- 2012 Member of the organising committee of the training school Structure, Microstructure, Nanostructure exploiting the potential of powder diffraction techniques" Trento, Italy, September 15-20th, 2012.
- 2012 Member of the organising committee of the training school Microbial infection from the chemistry perspective: the bottom-up approach", Facultad de Farmacia, Universidad CEU San Pablo.

- **INSTITUTIONAL RESPONSIBILITIES**

- 2020 – Elected member of the Institute Council of IBB-CNR
- 2021- PhD Student Advisor, University of Munich, Germany
- 2019 - 2023 Research Coordinator of the EU Marie Curie project BactiVax
- 2021 Member of the evaluation committee for the assignment of the PhD prize of the Italian Crystallographic Association.
- 2019 President of the evaluation committee for n° 1 PhD in the framework of the BactiVax – anti-Bacterial Innovative Vaccine Training Network, ETN Horizon 2020/Marie Skłodowska-Curie - Grant Agreement n. 860325. Title of the Research project: "Structural and functional characterization of novel vaccine antigens".
- 2016 President of the evaluation committee n ° 1 PhD INCIPIT-Innovative Life Science PhD Program of South Italy- co-financed by Horizon 2020/Marie Skłodowska-Curie Co-funding of regional, national and international programs (COFUND-DP)-Grant Agreement n 665403.
- 2016 Member of the evaluation committee n ° 1 PhD INCIPIT-Innovative Life Science PhD Program of South Italy- co-financed by Horizon 2020/Marie Skłodowska-Curie Co-funding of regional, national, and international programs (COFUND-DP)-Grant Agreement n 665403. Project entitled: "Generation, functionalization and characterization of monoclonal antibodies of diagnostica and therapeutic interest", under the scientific responsibility of Dr. L. Vitagliano and Dr. R. Menotti.
- 2013-2019 Member of the Teaching Council for the PhD programme in Molecular Biosciences, Vanvitelli University of Naples, Italy.

- **REVIEWING ACTIVITIES (if applicable)**

- 2021 Evaluator of a research project funded by the Swiss National Science Foundation
- 2021 Guest Editor of the issue "Virulence Factors in Mycobacterium tuberculosis Infection: Structural and Functional Studies", Biomolecules, (Editors Berisio/Ruggiero) impact 4.9
- 2005– Reviewer for several journals including of Biochemistry, Scientific Reports, Frontiers, Plos Pathogens, Nature Chem Biol, ACS Chem Biol, Nucleic Acid Research, Acta Crystallographica section D, Biomechanics and Modelling in Mechanobiology, PLOS One, Pure and Applied Chemistry, J Mol Biol etc.
- 2019– Referee Editor of Frontiers in microbiology
- 2019– Editorial Advisory Board Member, Current Medicinal Chemistry
- 2020 Guest Editor of the issue "Molecular Immunology in Bacterial Vaccine Discovery" . Cells.

• **MEMBERSHIPS OF SCIENTIFIC SOCIETIES (if applicable)**

- 1999– Member of the Italian Crystallography Association, Italy.
 2006 – Member of CIRPEB - Centro Interuniversitario di Ricerca sui Peptici Bioattivi, Italy.
 2008 – Member of BITS- Società Italiana di Bioinformatica, Italy.

Appendix: All ongoing and submitted grants and funding of the PI and of the Team Members (Funding ID)

On-going Grants (Please indicate "No funding" when applicable):

| <i>Project Title</i> | <i>Funding source</i> | <i>Amount (Euros)</i> | <i>Period</i> | <i>Role of PI or Team Member</i> | <i>Relation to current proposal</i> |
|---|-----------------------|-----------------------|---------------|----------------------------------|-------------------------------------|
| BactiVax - Anti-Bacterial Innovative Vaccines | EU | 230.000 | 2019-2023 | PI | Infectious diseases |
| An integrated approach to tackle the interplay among adaptation, stressful conditions and antimicrobial resistance of challenging pathogens | MIUR PRIN | 102.009 | 202019-2022 | PI | Infectious diseases |
| Delete-Covid | FISR MUR | 75.000 | 2021-2022 | PI | Covid19 |
| BioMatrix | Consulenza | 30.000 | 2020-2023 | PI | Biochemistry and nanochemistry |
| RECOVER-COVID19 | Regione Campania | 75.000 | 2020-2021 | PI | Covid19 |

Grant applications (Please indicate "No funding" when applicable):

| <i>Project Title</i> | <i>Funding source</i> | <i>Amount (Euros)</i> | <i>Period</i> | <i>Role of PI or Team Member</i> | <i>Relation to current proposal</i> |
|--|-----------------------|-----------------------|---------------|----------------------------------|-------------------------------------|
| VACCINE 2.0 | EU | 300.000 | 2022-2025 | PI | Infectious diseases |
| Structure and function of TRL4-mediated immune modulators against Tuberculosis | CNR | 10.000 | 2022-2024 | Team member | Infectious diseases |
| CARBOCHEM - Carbohydrate chemistry to fight infectious diseases in the post-antibiotic era | MIUR | 50.000 | 2021-224 | Team member | Infectious diseases |

Ten years track-record (max. 2 pages)

Beside the ongoing research projects, RB has been involved, mostly as PI, in the following funded National and International initiatives in the last ten years

- (i) Responsible for CNR-IBB of the project: "Structure and function of Heparin Binding hemagglutinin from *Mycobacterium tuberculosis*", funded by Medical Research Council (MRC), MRC research grant: MR/R000255/1. 2018-2020.
- (ii) Responsible for CNR-IBB of the project Idrice - Laboratorio integrato per il monitoraggio, controllo e gestione ottimale delle risorse idriche e ambientali, funded by 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". 2014-2021
- (iii) Responsible for the project Structure and function of a vaccine candidate against tuberculosis, PI Rita Berisio, Cooperation CNR/NRF (South Korea) 2018-2019
- (iv) Italian Ministry of Research, project PON03PE_00157. Role: PI, 2014-2017, Title: "Smart Generation"
- (v) Indigo Linking programme Italy-India-UK, funded by EU. Role: International Coordinator, 2015-2017. Title: "DRAT- Drugs against Tuberculosis"
- (vi) COST Action (European Cooperation in the field of Scientific and Technical Research) BM1003. role: PI, 2010-2014 and Grant Holder 2010-2012. Title: "Microbial cell surface determinants of virulence as targets for new therapeutics in Cystic Fibrosis"
- (vii) Mizutani Foundation for Glycoscience. Role: International Coordinator, 2011-2012. Title: "Molecular mechanisms of defense response induced by chitin oligosaccharides"
- (viii) Italian Research Council, Cooperation project with Korea. Role: PI, 2018-2019. Title: "Structure and function of a vaccine candidate against tuberculosis"
- (ix) Italian Research Council, Cooperation project with Poland. Role: PI, 2014-2016. Title: "Structure and function of selected enzymes with phage origin"
- (x) Italian Research Council, Cooperation project with Japan. Role: PI, 2016-2017. Title: "Perception of chitin oligosaccharides by pattern recognition receptors in rice as a defense against pathogens"
- (xi) Italian Ministry of Research. Role: PI, 2011-2012. Title: "Structural studies of key proteins in the pathogenesis of *M. tuberculosis*"

Visiting Professorships, Lectures

- 2021 Keynote speaker at the Congress of the Italian Crystallographic Association, Siena, Italy June 8-9th 2021
- 2020 Invited speaker at the Congress of the Italian Chemical Society, Bari, Italy June 30th 2020.
- 2019 Visiting Scientist, University of Dublin. 8-10 December 2019, speaker in the framework of the project H2020 ITN BactiVax.
- 2019 Visiting Scientist, University of Daejeon. 14-8 November 2019, University di Daejeon, South Korea
- 2018 Visiting Scientist, University of Daejeon. 1-6 November 2018, University di Daejeon, South Korea
- 2018 Visiting Scientist, University of Copenhagen. 19-22 January 2019, EU ENOVA – European Network for Vaccine adjuvants
- 2016 Visiting scientist, Meiji University of Tokyo, Japan
- 2016 Visiting Scientist, University of Wroclaw, Wroclaw, Poland
- 2016 Visiting Scientist, Imperial College London, UK
- 2016 Invited lecturer at the University of Kyoto, "Deciphering complex biological processes by structural biology", 02-11-2016, Kyoto, Japan
- 2015 Keynote speaker at the XXVI Congress of the Italian Chemistry Society, Siracuse, Italy 23-25th 2015
- 2015 Invited lecturer at the John Innes Centre, Norwich, UK, February 19-20th 2015
- 2015 Visiting Scientist, ICGEB New Delhi, India

- 2014 Plenary lecture at the XXV Congress of the Italian Chemistry Society, Arcavacata di Rende, Italy, September 7-12th 2014.
- 2014 Visiting Scientist at the Centre of Microbial Host Interactions, ITT Dublin, Ireland
- 2013 Visiting Scientist, Imperial College London, UK
- 2012 Keynote speaker at the "41° Congress of Associazione Italiana di Cristallografia", AIC, September 11-14th 2012, Verona, Italy
<http://www.cristallografia.org/detaileventi.asp?IDSezione=32&IDN=421>
- 2012 Invited lecturer at the congress "Frontiers of Biotechnology - from biomolecules to human diseases", November 15, 2012, 25-406 Kielce, Poland
- 2012 Lecturer at the Training school "Microbial infection from the chemistry perspective: the bottom-up approach", Facultad de Farmacia, Universidad CEU San Pablo. <http://www.cost-bm1003.info/docs/Madrid2012.pdf>
- 2012 Lecturer at the Training school "Structure, Microstructure, Nanostructure exploiting the potential of powder diffraction techniques" Trento, Italy, September 15-20th 2012.
<http://2012.aicschool.org/>
- 2012 Lecturer at the Training school "Insubria International Summer School on Crystallography for Health and Biosciences, Como, Italy, June 19-23th 2012. http://scienze-como.uninsubria.it/iiss2012/ISS2012_file/Page380.htm
- 2011 Invited lecturer at the University of Cambridge, "Key macromolecules in bacterial infections: a structural perspective", 08-06-2011, Cambridge, UK.

