

## PERSONAL INFORMATION

Family name, First name: Vacca, Rosa Anna

Researcher unique identifier(s): ORCID <https://orcid.org/0000-0003-2438-6449>, Scopus ID 6701582913

Date of birth: [REDACTED]

Nationality: Italian

Civil status: [REDACTED]

Titles: Dr., PhD

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## EDUCATION AND TRAINING

1987 -Degree in Biological Sciences Biochemistry and Molecular Biology oriented, Faculty of Sciences, University of Bari, Italy.

1998 -PhD in Biochemistry and Molecular Biology, Department of Biosciences, University of Bari, Italy

2017-2023 -Scientific qualification of Associate Professor of Biochemistry

## CURRENT POSITION

2021 -to date - Senior CNR researcher (II Level), CNR-Institute of Biomembranes Bioenergetic and Molecular Biotechnology, Bari, Italy

## PREVIOUS POSITIONS

1998-2020 - CNR research (III Level) CNR-Institute of Biomembranes Bioenergetic and Molecular Biotechnology, Bari, Italy

1994 – 1998 -Temporary CNR research (III Level) - Centre for the Study of Mitochondria and Bioenergetics Metabolism, Trani, Italy

## BIBLIOMETRIC INDICATORS

Dr. Vacca's research activity is documented by the following bibliometric indicators:

H-index: 27 (Scopus); 30 (Google scholar)

Last 10 years H-index: 21 (Scopus); 23 (Google scholar)

Total citations: 2556 (Scopus); 2904 (Google scholar)

Total publications: N° 70

Publications with impact factor: N° 62 (88%)

Last Author (o Joint Last Author): N°20

First Author (o Joint First Author): N° 20

Corresponding Author (o Joint Corresponding): N° 21

Publications on Q1 journals: 52

## **HONORS, PROFESSIONAL MEMBERSHIPS, SCIENTIFIC NETWORKS AND AWARDS**

1988-1990 - Research fellowship from Comune di Trani to attend the scientific organization to the CNR CSMME molecular biology laboratory of Trani (BA), Italy.

1991-1993 - Research fellowship from CNR Centro di Studio sui Mitocondri e Metabolismo Energetico (CSMME) Bari, Italy

1993-1994 - Doctoral fellow from the Department of Biochemistry and Molecular Biology, Faculty of Sciences, University of Bari, Italy.

1998-2013 - Member of Italian Society of Biochemistry and Molecular Biology

2019 -to date - Member of the Society for Redox Biology Medicine (SfRBM)

2022 – to date Member of Trisomy 21 Research Society (T21RS)

2017-2023 - Scientific qualification of Associate Professor of Biochemistry

2017-2021 - Member of the Scientific Board of Foundation Jerome Lejeune, Paris, France

2017-to date -Member of Teacher Board of Doctoral in Genomics and Functional and Applied Proteomics. Department of Biosciences, Biotechnologies and Biopharmaceuticals, University of Bari Aldo Moro

2021- to date - Member of Teacher Board of Doctoral in Biosciences and Biotechnology

2018-to date - Member of Director Board of International Natural Product Sciences Taskforce (INPST)

2020- to date - Member of the Down syndrome Italian Task Force

2018-to date - Member of work table for Down syndrome PDTA (piano diagnostico, terapeutico e assistenziale) for Regione Puglia

2019-to date CNR-IBIOM contact person for the implementation of the research network “CNR-NEURONET”

2019-to date CNR-IBIOM Contact person for the “European Pediatric Translational Research Infrastructure (EPTRI) within the Roadmap ESFTRI 2021

2013-2016 Member of CNR-IBBE Institute Council

2019-to date Member of CNR-IBIOM Institute Council

2010-to date Responsible for IBIOM research activities:

- Energy metabolism in Down syndrome: a causal link between oxidative stress and mitochondria alteration
- Mitochondrial alterations in neurological disorders and cancer
- Molecular basis of degenerative syndromes related to ageing
- Identification of natural bioactive compounds targeting mitochondria as therapeutic tools in intellectual disability-related diseases
- Non-pharmacological therapies for managing neuropsychiatric symptoms in older patients with dementia

## **RESEARCH FUNDINGS**

### Obtained Grants: PI/Responsible of Research Unit

2021-2023: Responsible of the CNR IBIOM Research Unit for the project « SMILER » - Serious gaMes as emerging e-health Interventions for young people with neurological or rEspiratory disoRders, granted by the CNR within "PROGETTI DI RICERCA @CNR" (1/2020)

2020-2023 Responsible of Research Unit for the project “Biomarcatori clinici, biochimici, immunologici e microbiologici nei bambini con disturbo di spettro autistico: basi per un

assessment coerente con un modello patogenetico complesso” granted by Fondazione Italiana Autismo (FIA).

2018-2022- PI for the project “Nutraceuticals for Down syndrome” granted by Fondation “A.M.A.R. Down” Martina Franca Italy

2008-2010 - PI for the project: (615-VRI-2008A) “Molecular determinants and mitochondrial bioenergetics in Down syndrome” granted by Jérôme Lejeune Foundation, Paris.

2010-2012 Responsible of Research Unit for the project MIUR-PRIN (2008FHM37R\_002) “Genetic and metabolic regulation of the cell redox state in Down syndrome: role of the ubiquitin-proteasome system, of mitochondrial metabolism, of miRNAs, and protective effect of natural anti-oxidant compounds”.

2013-2015 PI for the project (1093-VR2012B) “Oxidative stress and mitochondrial dysfunctions in Down Syndrome” granted by Jérôme Lejeune Foundation (Paris).

#### Selected Grants: Co-investigator for Research Projects (last 5 years)

2021-2023 Project “TITAN”- Nanotecnologie per l'immunoterapia dei tumori (ARS01\_00906) granted by Programma PON «R&I» 201-2020

2018-2021 Project “IDF SHARID – Innovative Devices For SHAPing the Risk of Diabetes” (ARS01\_01270) granted by PON «R&I» 2015-2020

2011-2014 CNR Project FaReBio di Qualità (FBdQ) “Farmaci Innovativi - Modelli cellulari e murini e studi funzionali”

-2011-2015 Project FIRB-MERIT (1-RBNE08HWLZ-012) “Molecular basis of ageing-related syndromes”

#### **EVALUATION COMMITTEES AND EDITORIAL ACTIVITY**

2016-2017 Reviewer for ANVUR 2011-2014

2016-to date Member of Reviewer Board for the following grant agencies:

- French Funding Organization (FRC, Fédération pour la Recherche sur le Cerveau), Paris, France;
- InBev-Baillet Latour Grants for Medical Research, Belgium;
- Reprise panel for scientific experts, Italian Ministry MIUR;
- Caixa Foundation, Barcelona, Spain;
- Marsden Fund, New Zeland
- The French National Research Agency (ANR)
- Association RETINA France
- Italian Ministry Sviluppo Economico (MISE)

2018 External examiner for PhD thesis in Medicina Molecolare e Biotecnologie Mediche, University Federico II, Naples

2019 External examiner for PhD thesis in Neurosciences Scuola Normale Superiore di Pisa

2020 External examiner for PhD thesis in Scienze Biomediche e Neuromotorie University Alma Mater Studiorum, Bologna

2018 Guest Editor for the Journal International Journal of Geriatric Psychiatry, ISSN 0885-6230, Q1 Geriatrics & Gerontology (SJR), Impact factor 2.675, Special Issue "Treating Neuropsychiatric Symptoms of Alzheimer's disease: un update"

2019-2020 Guest Editor for the Journal Antioxidants, ISSN 20763921, Q1 Clinical Biochemistry (SJR), Impact factor 5.014, Special Issue "Oxidative Stress and Mitochondrial Dysfunction in Neurological diseases, Preventive effects of Bioactive Natural Compounds

2018-to date Review Editor for the Journal Current Medicinal Chemistry, ISSN 09298673, Q1 Drug Discovery (SJR), Impact factor 4.184

2019-to date Review Editor for the Journal Frontiers in Neurosciences, ISSN 1662453X, Q1 Neurosciences (SJR), Impact factor 3.707

-2013-to date Reviewer certification for many premier Journals, such as:

Science; Cellular Signaling; Free Radical Biology and Medicine; Biochemical Pharmacology; Neurotoxicity Research; Neuroscience and Biobehavioral Reviews; Molecules; Molecular Genetics and Metabolism; Medicinal Research Review; Neurobiology of aging; Genetics in Medicine; Journal of Cellular and Molecular Medicine; Clinical Nutrition; Neurosciences Letter; Plos One

## **TEACHING AND TRAINING ACTIVITY**

- Teacher in several theoretical and practical scientific training courses in Italy.

- Supervisor of PhD students and post-doctoral fellows

- Teacher as expert in Biochemistry and Molecular Biology in European projects (PON) for high schools.

- Mentored Trainees of Undergraduate Students for experimental thesis in Biochemistry at the Department of Biosciences, Biotechnologies and Biopharmaceuticals, University of Bari

## **CONGRESS AND OUTREACH ACTIVITIES**

Session Chair for the following scientific meetings:

2017 Neuroimmunoptologia dell'età evolutiva: attuali conoscenze, Gravina di Puglia (Bari)

2017 I Convegno Sindrome di Down dalla diagnosi alla terapia, Napoli

2019 III Convegno Sindrome di Down dalla diagnosi alla terapia, Napoli

Invited speakers in the following international and national scientific meeting:

2016 Down syndrome Innovation Conference", Little Rock Arkansas, USA

2016 International Congress of ANFFAS, Rimini, Italy

2018 Amélioration des performances cognitives des personnes atteintes de T21, Losanna, Switzerland

2018 II Convegno Sindrome di Down, dalla diagnosi alla terapia

2019 Webinar for the Humanized Reception Center T21(CHAT21), Brasile

2019 3rd International Conference Trisomy 21 Research Society, Barcellona, Spagna

2020 III Convegno Sindrome di Down, dalla diagnosi alla terapia

2020 Conference of CNR Department of Biomedical Sciences

Outreach activities:

- Organization of research dissemination events for students within the European Biotech Weeks, the CNR event “Scenziati e Studenti” for high schools and the national “Festival della Scienza” di Genova.
- Research dissemination for Down syndrome family’s associations: 13 conferences between 2016-2019
- Video Interview for national radio and TV, and websites

Bari, March 28th, 2022

Dr.ssa Rosa Anna Vacca

