

## **Curriculum vitae Valeria Naponelli**

### **PERSONAL INFORMATION**

Name: VALERIA NAPONELLI, PhD

Associate Professor of Biochemistry at the University of Parma

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### **WORKING EXPERIENCE**

- Dec2021-now: Associate Professor of Biochemistry at the University of Parma, Department of Medicine and Surgery.
- Dec2018- Dec2021: Assistant Professor (RTDb) of Biochemistry at the University of Parma, Department of Medicine and Surgery.
- Achievement of the National Qualification (Abilitazione Scientifica Nazionale) for Associate Professor in General Biochemistry, SSD Bio/10, 05/E1, fascia II (validity 28/03/2018 al 28/03/2024, art. 16, comma 1, Legge 240/10).
- Feb2018 – Dec 2018: Postdoctoral research fellowship-Year 2017 funded by Fondazione Umberto Veronesi. Department of Medicine and Surgery (DiMeC), University of Parma, Italy. Research project: "FOLATE AND POLYAMINE METABOLISM: RELEVANT TARGETS FOR PROSTATE CANCER DEVELOPMENT AND PROGRESSION"; Tutor: Prof. Saverio Bettuzzi.
- Feb2017-Jan2018: Postdoctoral research fellowship-Year 2017 funded by Fondazione Umberto Veronesi. Department of Medicine and Surgery (DiMeC), University of Parma, Italy. Research project: "FOLATE AND POLYAMINE METABOLISM: RELEVANT TARGETS FOR PROSTATE CANCER DEVELOPMENT AND PROGRESSION"; Tutor: Prof. Saverio Bettuzzi.
- Feb2016-Jan2017: Postdoctoral research fellowship-Year 2016 funded by Fondazione Umberto Veronesi. Department of Biomedical, Biotechnological and Traslational Sciences (S.Bi.Bi.T), University of Parma, Parma, Italy. Research project: "FOLATE AND POLYAMINE METABOLISM: RELEVANT TARGETS FOR PROSTATE CANCER DEVELOPMENT AND PROGRESSION"; Tutor: Prof. Saverio Bettuzzi.

- Sep2015-Jan2016: Postdoctoral fellowship, funded by “Istituto Nazionale di Biostrutture e Biosistemi – I.N.B.B.”, supported by Epitome Pharmaceutical Ltd. Department of Biomedical, Biotechnological and Traslational Sciences (S.Bi.Bi.T), University of Parma, Parma, Italy.  
Research project: “DEVELOPING AND TESTING OF A NOVEL BIOPSY NEEDLE”; Supervisor: Prof. Saverio Bettuzzi
- Jan2012-Dec2014 (extended Aug2015): Postdoctoral fellowship, (L. n° 240/10), S.S.D. BIO/10 (Biochemistry); Department of Biomedical, Biotechnological and Traslational Sciences (S.Bi.Bi.T) and Centre for Molecular and Translational Oncology (COMT), University of Parma, Parma, Italy.  
Research project: “NOVEL BIOMARKERS, MOLECULAR DIAGNOSIS AND MOLECULAR PROGNOSIS OF PROSTATE CANCER”; Supervisor: Prof. Saverio Bettuzzi.  
Maternity leave: 20-12-2014 to 18-08-2015.
- Feb2011-Dec2011: Postdoctoral fellowship. Department of Clinical Medicine, University of Bologna, Bologna, Italy.  
Research project: “RUOLO DEL JC VIRUS NELLE ALTERAZIONI FUNZIONALI SEVERE DEL TRATTO GASTROINTESTINALE”; Supervisor: Prof. Roberto De Giorgio.  
Maternity leave:25-07-2011 to 24-12-2011
- May2010-Jan2011: Postdoctoral fellowship. Department of Clinical Medicine, University of Bologna, Bologna, Italy.  
Research project: “MECCANISMI PATOGENETICI NELLE NEUROPATIE ENTERICHE: RUOLO DELLA GLIA ENTERICA E DEL JC VIRUS”; Supervisor: Prof. Roberto De Giorgio.
- May2009-Apr2010: Postdoctoral fellowship. Department of Clinical Medicine, University of Bologna, Bologna, Italy.  
Research project: “ENTERIC NEUROPATHIES RESPONSIBLE FOR CHRONIC SYMPTOMS: ROLE OF NEUROTROPIC VIRUSES”; Supervisor: Prof. Roberto De Giorgio.
- Jun2005-Sep2008: Postdoctoral fellowship. Food Science and Human Nutrition Department, Institute of Food and Agriculture Sciences, University of Florida, Gainesville, USA. Advisor: Dr. Jesse F. Gregory III, PhD. Research program in collaboration with Dr. Andrew D. Hanson, PhD at the Horticultural Sciences Department, University of Florida, Gainesville, USA.

## **EDUCATION AND TRAINING**

- November 2006-December 2006: Experimental Training Department of Biology, University of Pennsylvania, Philadelphia, USA.

Research training: Vacuolar membrane vesicles isolation from red beet and yeast; measurement of primary and secondary active transport by plant membrane vesicles. Supervisor: Dr. Philip A. Rea, PhD

- 24 January 2004: Ph.D. In Biomedical Biotechnologies; Institute of Biochemical Biotechnologies, Polytechnic University of Marche, Ancona, Italy.

Title of Ph.D. thesis: "STUDIO DELLA PIRIMIDINA 5' NUCLEOTIDASI UMANA, ENZIMA COINVOLTO NEL METABOLISMO DEI NUCLEOTIDI, DELLA SUA ASSOCIAZIONE A SINDROMI EMOLITICHE, DELLE PROPRIETÀ CINETICHE E DEL SUO RUOLO FISIOPATOLOGICO". Supervisor: Dott. Adolfo Amici.

- 09 November 1999: Graduating with honors in Biology (marks: 110/110 cum laude) Institute of Biochemical Biotechnologies, University of Ancona, Ancona, Italy. Supervisor: Prof. Giulio Magni.

#### **BIBLIOMETRIC INDICATORS RELATED TO PUBLICATIONS AND CITATIONS:**

36 scientific contributions in the fields of oncology, cell biology, urology, 1 book chapter, and more than 30 contributions in International Congresses.

Scopus query on 7 July 2025 [ORCID number 0000-0001-5210-1522; Scopus Author ID: 15035981800]: h-index 20; 37 documents; total citations 1264.

#### **RESEARCH AWARDS AND FELLOWSHIPS**

Nov2000 – Dec2003: Ministerial Fund Scholarship for Doctorate Studies, Il ciclo, nuova serie;

May2005 – Sep2008: Postdoctoral Fellowship. Food Science and Human Nutrition Department, Institute of Food and Agricultural Sciences, University of Florida, USA.

Oct 2012: INBB (Istituto Nazionale di Biostrutture e Biosistemi) award for young researcher. X Convegno Nazionale INBB. Roma, 22-23 Ottobre 2012.

Feb2016: Research fund "Post- Doctoral Fellowship - Anno 2016" from Fondazione Umberto Veronesi

Feb2017: Research fund "Post- Doctoral Fellowship - Anno 2017" from Fondazione Umberto Veronesi

Feb2018: Research fund "Post- Doctoral Fellowship - Anno 2018" from Fondazione Umberto Veronesi

## **RESEARCH GRANT**

As participant:

1. PRIN 2009. Research project: “ANALISI CLINICA E NEUROPATHOLOGICA DELLA STIPSI CRONICA NEI PAZIENTI CON MALATTIA DI PARKINSON”; Scientific coordinator: CORRADO BLANDIZZI, Research Unit of Bologna, Scientific Unit Responsible: ROBERTO DE GIORGIO.
2. National Research Initiative of the U.S. Department of Agriculture Cooperative State Research, Education, and Extension Service (grant no. 2005–35318–15228)
3. U.S. National Science Foundation (grant no. MCB–0443709) and National Science Foundation (grant no. DBI–0501778)
4. U.S. Department of Energy (grant no. DE–FG02–07ER64498)
5. U.S. National Institutes of Health grant R01 GM071382
6. PRIN 2004. Research project: “POLINUCLEOTIDI, NUCLEOTIDI, NUCLEOSIDI E ANALOGHI STRUTTURALI, QUALI REGOLATORI METABOLICI, SEGNALI CHIMICI E POTENZIALI FARMACI”; Scientific coordinator: PIERO LUIGI IPATA; Research Unit of Ancona, Scientific Unit Responsible: GIULIO MAGNI.

## **ACADEMIC AND TEACHING APPOINTMENTS**

- Professor of the course BIOCHIMICA DINAMICA E SISTEMATICA UMANA, S.S.D. BIO/10, Medicine and Surgery, Università degli Studi di Parma, year 2019/2020, 2020/2021, 2021/2022.
- Professor of the course BIOCHIMICA E BIOLOGIA MOLECOLARE, S.S.D. BIO/10, Medicine and Surgery, Università degli Studi di Parma, year 2018/2019, 2019/2020, 2020/2021, 2021/2022, 2022/2023, 2023/2024.
- Professor and coordinator of the course BIOCHIMICA, NUTRIZIONE E METABOLISMO NELLO SPORT, S.S.D. BIO/10, Medicine and Surgery, Università degli Studi di Parma, year 2019/2020, 2020/2021, 2021/2022.
- Professor of the course BIOCHIMICA, NUTRIZIONE E METABOLISMO NELLO SPORT, holder of the Biochimica della nutrizione module (SSD BIO/10, 1 CFU) S.S.D. BIO/10, Medicine and Surgery, Università degli Studi di Parma, year 2022/2023, 2023/2024, 2024/2025.
- Professor of the course BIOCHIMICA DELL'ESERCIZIO FISICO, S.S.D. BIO/10, Medicine and Surgery, Università degli Studi di Parma, year 2020/2021, 2021/2022.
- Coordinator of the Integrated Course in BIOCHIMICA UMANA E DELLA NUTRIZIONE, holder of the Biochemistry module (SSD BIO/10, 7 CFU), Degree Course in Medicine and Surgery (A.A. 2022/2023, 2023/2024, 2024/2025)

- Professor of the course BIOCHIMICA DELLA NUTRIZIONE, 1 CFU in the course STILI DI VITA E BENESSERE, S.S.D. BIO/10, Master's Degree Course in Medicine and Surgery, University of Parma, 2021/2022, 2022/2023.
- Professor of the course BIOCHIMICA, 2 CFU in the course FONDAMENTI DELLE SCIENZE BIOLOGICHE, Degree Course in Health Care, University of Modena and Reggio Emilia, year 2022/2023, 2023/2024, 2024/2025.

## LIST OF PUBLICATIONS

1. Nelen J, **Naponelli V**, Villalgorido-Soto JM, Falasca M, Pérez-Sánchez H. Targeting Drug Resistance in Cancer: Dimethoxycurcumin as a Functional Antioxidant Targeting ABCB3. *Antioxidants (Basel)*. 2025 May 16;14(5):599. doi: 10.3390/antiox14050599. PMID: 40427480; PMCID: PMC12108423.
2. Barbetti M, Bilotti I, Ielpo D, Vilella R, Frati C, **Naponelli V**, Andolina D, Lo Iacono L, Sgoifo A, Savi M, Carnevali L. Sex Differences in the Adverse Electromechanical Remodeling of the Heart after Repeated Witness Stress in Adult Rats: Relationship with a Specific miRNA Signature. *Biopsychosoc Sci Med*. 2025 May 23. doi: 10.1097/PSY.0000000000001406. Epub ahead of print. PMID: 40471959.
3. **\*Naponelli V**, Rocchetti MT, Mangieri D. Apigenin: Molecular Mechanisms and Therapeutic Potential against Cancer Spreading. *Int J Mol Sci*. 2024 May 20;25(10):5569. doi: 10.3390/ijms25105569. PMID: 38791608; PMCID: PMC11122459 **\*Corresponding Author**.
4. **\*Naponelli V**, Rocchetti MT, Mangieri D. Apigenin: Molecular Mechanisms and Therapeutic Potential against Cancer Spreading. *Int J Mol Sci*. 2024 May 20;25(10):5569. doi: 10.3390/ijms25105569. PMID: 38791608; PMCID: PMC11122459 **\*Corresponding Author**.
5. Barbetti M, Vilella R, **Naponelli V**, Bilotti I, Magistrati M, Dallabona C, Ielpo D, Andolina D, Sgoifo A, Savi M, Carnevali L. Repeated witness social stress causes cardiomyocyte contractile impairment and intracellular Ca<sup>2+</sup> derangement in female rats. *Physiol Behav*. 2023 Nov 1;271:114339. doi: 10.1016/j.physbeh.2023.114339. Epub 2023 Aug 23. PMID: 37625474.
6. **Naponelli V**, Bettuzzi S, Venerando A. Editorial: Challenges in the prevention of prostate cancer. *Front Oncol*. 2023 Dec 5;13:1342733. doi: 10.3389/fonc.2023.1342733. PMID: 38125941; PMCID: PMC10731738.
7. Vilella R, Izzo S, **Naponelli V**, Savi M, Bocchi L, Dallabona C, Gerra MC, Stilli D, Bettuzzi S. In Vivo Treatment with a Standardized Green Tea Extract Restores Cardiomyocyte Contractility in Diabetic Rats by Improving Mitochondrial Function through SIRT1 Activation. *Pharmaceuticals (Basel)*. 2022 Oct 28;15(11):1337. doi: 10.3390/ph15111337.
8. Ferrari E, Bettuzzi S, **Naponelli V**. The Potential of Epigallocatechin Gallate (EGCG) in Targeting Autophagy for Cancer Treatment: A Narrative Review. *Int J Mol Sci*. 2022 May 28;23(11):6075. doi: 10.3390/ijms23116075.

9. Ferrari E<sup>#</sup>, **Naponelli V<sup>#</sup>**, Bettuzzi S. Lemur Tyrosine Kinases and Prostate Cancer: A Literature Review. *Int J Mol Sci.* 2021 May 21;22(11):5453. doi: 10.3390/ijms22115453. PMID: 34064250. **#Equal contribution of the two authors.**
10. Izzo S, Naponelli V<sup>\*</sup>, Bettuzzi S. Flavonoids as Epigenetic Modulators for Prostate Cancer Prevention. *Nutrients.* 2020 Apr 6;12(4):1010. doi: 10.3390/nu12041010. **\*Corresponding Author.**
11. Vilella R, Sgarbi G, **Naponelli V**, Savi M, Bocchi L, Liuzzi F, Righetti R, Quaini F, Frati C, Bettuzzi S, Solaini G, Stilli D, Rizzi F, Baracca A. Effects of Standardized Green Tea Extract and Its Main Component, EGCG, on Mitochondrial Function and Contractile Performance of Healthy Rat Cardiomyocytes. *Nutrients.* 2020 Sep 25;12(10):2949. doi: 10.3390/nu12102949.
12. Bonacini M, Negri A, Davalli P, **Naponelli V**, Ramazzina I, Lenzi C, Bettuzzi S, Rizzi F. Clusterin Silencing in Prostate Cancer Induces Matrix Metalloproteinases by an NF- $\kappa$ B-Dependent Mechanism. *J Oncol.* 2019 Dec 6;2019:4081624. doi: 10.1155/2019/4081624.
13. Mazzera L, Abeltino M, Lombardi G, Cantoni AM, Ria R, Ricca M, Saltarella I, **Naponelli V**, Rizzi FMA, Perris R, Corradi A, Vacca A, Bonati A, Lunghi P. Functional interplay between NF- $\kappa$ B-inducing kinase and c-Abl kinases limits response to Aurora inhibitors in multiple myeloma. *Haematologica.* 2019;104(12):2465-2481. doi: 10.3324/haematol.2018.208280.
14. Negri A<sup>#</sup>, **Naponelli V<sup>\*\*</sup>**, Rizzi F, Bettuzzi S. Molecular Targets of Epigallocatechin-Gallate (EGCG): A Special Focus on Signal Transduction and Cancer. *Nutrients.* 2018 Dec 6;10(12):1936. doi: 10.3390/nu10121936. **#Equal contribution of the two authors; \*Corresponding Author.**
15. Bocchi L, Savi M, **Naponelli V**, Vilella R, Sgarbi G, Baracca A, Solaini G, Bettuzzi S, Rizzi F, Stilli D. Long-Term Oral Administration of Theaphenon-E Improves Cardiomyocyte Mechanics and Calcium Dynamics by Affecting Phospholamban Phosphorylation and ATP Production. *Cell Physiol Biochem.* 2018;47(3):1230-1243. doi: 10.1159/000490219.
16. **Naponelli V**, Bettuzzi, S. Clusterin (Book Chapter), 2017; The Complement FactsBook: Second Edition pp. 341-349.
17. **Naponelli V**, Ramazzina I, Lenzi C, Bettuzzi S, Rizzi F. Green Tea Catechins for Prostate Cancer Prevention: Present Achievements and Future Challenges. *Antioxidants* (Basel). 2017 Apr 5;6(2):26. doi: 10.3390/antiox6020026.
18. Modernelli A<sup>#</sup>, **Naponelli V<sup>#</sup>**, Troglio MG, Bonacini M, Ramazzina I, Bettuzzi S, Rizzi F. EGCG antagonizes Bortezomib cytotoxicity in prostate cancer cells by an autophagic mechanism. *Sci Rep.* 2015 Oct 16;5:15270. doi: 10.1038/srep15270. **#Equal contribution of the two authors.**
19. **Naponelli V**, Modernelli A, Bettuzzi S, Rizzi F. Roles of autophagy induced by natural compounds in prostate cancer. *Biomed Res Int.* 2015;2015:121826. doi: 10.1155/2015/121826.
20. Bonacini M, Coletta M, Ramazzina I, **Naponelli V**, Modernelli A, Davalli P, Bettuzzi S, Rizzi F. Distinct promoters, subjected to epigenetic regulation, drive the expression of two clusterin mRNAs in prostate cancer cells. *Biochim Biophys Acta.* 2015 Jan;1849(1):44-54. doi: 10.1016/j.bbagr.2014.11.003.

21. Rizzi F, **Naponelli V**, Silva A, Modernelli A, Ramazzina I, Bonacini M, Tardito S, Gatti R, Uggeri J, Bettuzzi S. Polyphenon E(R), a standardized green tea extract, induces endoplasmic reticulum stress, leading to death of immortalized PNT1a cells by anoikis and tumorigenic PC3 by necroptosis. *Carcinogenesis*. 2014 Apr;35(4):828-39. doi: 10.1093/carcin/bgt481.
22. Stanghellini V, Cogliandro RF, De Giorgio R, Barbara G, Cremon C, Antonucci A, Fronzoni L, Cogliandro L, **Naponelli V**, Serra M, Corinaldesi R. Natural History of Intestinal Failure Induced by Chronic Idiopathic Intestinal Pseudo-Obstruction. *Transplant Proc*. 2010;42(1):15-18.
23. De Giorgio R, Ricciardiello L, **Naponelli V**, Selgrad M, Piazzini G, Felicani C, Serra M, Fronzoni L, Antonucci A, Cogliandro RF, Barbara G, Corinaldesi R, Tonini M, Knowles CH, Stanghellini V. Chronic Intestinal Pseudo-Obstruction Related to Viral Infections. *Transplant Proc*. 2010;42(1):9-14.
24. Waller JC, Alvarez S, **Naponelli V**, Lara-Nuñez A, Blaby IK, Da Silva V, Ziemak MJ, Vickers TJ, Beverley SM, Edison AS, Rocca JR, Gregory JF 3rd, de Crécy-Lagard V, Hanson AD. A role for tetrahydrofolates in the metabolism of iron-sulfur clusters in all domains of life. *Proc Natl Acad Sci U S A*. 2010 Jun 8;107(23):10412-7. doi: 10.1073/pnas.0911586107.
25. Raichaudhuri A, Peng M, **Naponelli V**, Chen S, Sánchez-Fernández R, Gu H, Gregory JF 3rd, Hanson AD, Rea PA. Plant Vacuolar ATP-binding Cassette Transporters That Translocate Folates and Antifolates in Vitro and Contribute to Antifolate Tolerance in Vivo. *J Biol Chem*. 2009 Mar 27;284(13):8449-60. doi: 10.1074/jbc.M808632200.
26. Eudes A, Erkens GB, Slotboom DJ, Rodionov DA, **Naponelli V**, Hanson AD. Identification of Genes Encoding the Folate- and Thiamine-binding Membrane Proteins in Firmicutes. *J Bacteriol*. 2008;190(22):7591-7594.
27. Collakova E, Goyer A, **Naponelli V**, Krassovskaya I, Gregory JF 3rd, Hanson AD, Shachar-Hill Y. Arabidopsis 10-formyl tetrahydrofolate deformylases are essential for photorespiration. *Plant Cell*. 2008 Jul;20(7):1818-32. doi: 10.1105/tpc.108.058701. Epub 2008 Jul 15.
28. Akhtar TA, McQuinn RP, **Naponelli V**, Gregory JF 3rd, Giovannoni JJ, Hanson AD. Tomato gamma-glutamylhydrolases: expression, characterization, and evidence for heterodimer formation. *Plant Physiol*. 2008 Oct;148(2):775-85. doi: 10.1104/pp.108.124479.
29. Eudes A, Bozzo GG, Waller JC, **Naponelli V**, Lim EK, Bowles DJ, Gregory JF 3rd, Hanson AD. Metabolism of the folate precursor p-aminobenzoate in plants: Glucose ester formation and vacuolar storage. *J Biol Chem*. 2008; 283(22):15451-15459. (IF 5.520)
30. **Naponelli V**, Noiriel A, Ziemak MJ, Beverley SM, Lye LF, Plume AM, Botella JR, Loizeau K, Ravanel S, Rébeillé F, de Crécy-Lagard V, Hanson AD. Phylogenomic and functional analysis of pterin-4a-carbinolamine dehydratase family (COG2154) proteins in plants and microorganisms. *Plant Physiol*. 2008 Apr;146(4):1515-27. doi: 10.1104/pp.107.114090.
31. Bozzo GG, Basset GJ, **Naponelli V**, Noiriel A, Gregory JF 3rd, Hanson AD. Characterization of the folate salvage enzyme p-aminobenzoylglutamate hydrolase in plants. *Phytochemistry* 2008;69(1):29-37.

32. Noiriél A, **Naponelli V**, Gregory JF 3rd, Hanson AD. Pterin and folate salvage. Plants and *Escherichia coli* lack capacity to reduce oxidized pterins. *Plant Physiol.* 2007 Mar;143(3):1101-9. doi: 10.1104/pp.106.093633.
33. Noiriél A, **Naponelli V**, Bozzo GG, Gregory JF 3rd, Hanson AD. Folate salvage in plants: pterin aldehyde reduction is mediated by multiple non-specific aldehyde reductases. *Plant J.* 2007 Aug;51(3):378-89. doi: 10.1111/j.1365-313X.2007.03143.x.
34. **Naponelli V**, Hanson AD, Gregory JF 3rd. Improved methods for the preparation of [<sup>3</sup>H]folate polyglutamates: biosynthesis with *Lactobacillus casei* and enzymatic synthesis with *Escherichia coli* folylpolyglutamate synthetase. *Anal Biochem.* 2007 Dec 15;371(2):127-34. doi: 10.1016/j.ab.2007.08.026.
35. Orsomando G, Bozzo GG, de la Garza RD, Basset GJ, Quinlivan EP, **Naponelli V**, Rebeille F, Ravanel S, Gregory JF 3rd, Hanson AD. Evidence for folate-salvage reactions in plants. *Plant J.* 2006;46(3):426-35
36. Amici A, Ciccioli K, **Naponelli V**, Raffaelli N, Magni G. Evidence for essential catalytic determinants for human erythrocyte pyrimidine 5'-nucleotidase. *Cell Mol Life Sci.* 2005;62(14):1613-20.
37. Marinaki AM, Escuredo E, Duley JA, Simmonds HA, Amici A, **Naponelli V**, Magni G, Seip M, Ben-Bassat I, Harley EH, Thein SL, Rees DC. Genetic basis of hemolytic anemia caused by pyrimidine 5' nucleotidase deficiency. *Blood.* 2001 Jun 1;97(11):3327-32. doi: 10.1182/blood.v97.11.3327.

Parma, 8 Luglio 2025

Valeria Naponelli

