

# CURRICULUM VITAE IN EUROPEAN FORMAT

## PERSONAL INFORMATION



Name, Last Name **Giuseppe PERUGINO**  
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e-mail [giuseppe.perugino@ibbr.cnr.it](mailto:giuseppe.perugino@ibbr.cnr.it)  
[glycosynthase.gp@gmail.com](mailto:glycosynthase.gp@gmail.com)  
Web site <http://ibbr.cnr.it/ibbr/info/people/giuseppe-perugino>  
Nationality **ITALIAN**  
Place and date of birth **Naples, September the 2<sup>nd</sup> 1971**  
Marital status **married to Mariagrazia REGA and father of two twins  
(Elena and Elisa, born in 2009)**

## OCCUPATION

POSITION **STAFF RESEARCHER AT INSTITUTE OF BIOSCIENCES AND BIORESOURCES – CNR, NAPLES**  
DATE **01/01/2014 – PRESENT**  
NO. **10727**  
LEVEL **III**  
ORCID AUTHOR ID **0000-0003-3266-4744**

## GENERAL SCIENTIFIC INFORMATION (UPDATED AT JULY 2021)

During his scientific experience, since 1998 Dr. Perugino produced:

- **59** publications among articles, contributions and book chapters on international *peer-reviewed* journals, leading to a total Impact Factor (IF) as **255.75** and an **average IF** as **5.11** (the average IF in S.S.D. BIO/10-Biochemistry and BIO/11-Molecular Biology is 3.22);
- **28** publications in the last 10 years (2011-2020);
- **1117** citations and a *h-index* value as **18** on the Scopus site (ID: 6603308840);
- **1045** citations and a *h-index* value as **18** on the ISI-Web of Science site (ID: P-8147-2016);
- **1420** citations and a *h-index* value as **20** on the Google Scholar site (ID: SPk09-wAAAAJ&hl=it);
- **20** deposited protein and enzyme 3D structures on the Protein Data Bank international site (PDB, [www.rcsb.org/pdb](http://www.rcsb.org/pdb));
- **> 45** participations at International and National Meetings and Congresses, as **invited** and **selected speaker**.  
As part of these events, Dr. Perugino presented numerous posters concerning results of his research and that of his group activity.

## RESEARCH FIELDS

Biochemistry, Enzymology, Molecular Biology, Microbiology and Biotechnology; enzymes involved in the maintenance and repair of DNA; enzymes involved in the modification and synthesis of carbohydrates; physiology and metabolism of (hyper)thermophilic organisms; studies on thermostable enzymes in modern biotechnologies, with particular potential applications in bio-sensors and enzymatic immobilization.

## EDUCATION AND TRAINING

date	June the 16 <sup>th</sup> 2014
Education and Training Institute	<b>Abilitazione Scientifica Nazionale for Professore Associato (second level)</b>
Main subjects and professional skills learned	Ministero dell'Istruzione, Università e Ricerca (MIUR) Competition Sector "05/E1" ( <i>General and Clinic Biochemistry</i> ); Scientific Disciplinary Sector "BIO/10" ( <i>Biochemistry</i> ).
Expiring	June the 16 <sup>th</sup> 2023
date	February the 28 <sup>th</sup> 2003
Education and Training Institute	<b>PhD in Biological Chemistry and Molecular Biology</b>
Main subjects and professional skills learned	Università degli Studi di Napoli "Federico II" - C.so Umberto I, 40 - Naples beta-Glycosidases from hyperthermophilic archaeon: analysis and modification of the reaction mechanism for the synthesis of oligosaccharides.
Certificate or diploma obtained	Italian Research Doctorate
National or International level	Ph. D.

date	July the 21 <sup>st</sup> 1997
Education and Training Institute	<b>Degree in Biological Sciences</b> Università degli Studi di Napoli "Federico II" - C.so Umberto I, 40 - Naples
Main subjects and professional skills learned	beta-glycosidase from the extreme thermophile <i>Sulfolobus solfataricus</i> : analysis of the reaction mechanism by site-directed mutagenesis.
Certificate or diploma obtained	Italian Graduation Grade: 110/110 <i>cum laude</i>

## PERSONAL, ORGANIZATIONAL AND MANAGEMENT SKILLS

native language	<b>ITALIAN</b>			
other language	<b>ENGLISH</b>	understanding	speaking	written production
		<b>B2</b>	<b>C1</b>	<b>C1</b>
communication	Good communication skills acquired throughout the research experience			
management and organization	<b>Group Leader</b> in research laboratories in Biochemistry, Microbiology, Molecular Biology and Biotechnology			
digital skills	Good knowledge of Windows and iOS Office operating system			

## AWARDS



February the 20<sup>th</sup> 2007  
The President of the Italian Republic Hon. Giorgio Napolitano, making use of art. 2 of the Statute of the "Ordine al Merito della Repubblica Italiana", conferred *motu proprio* the honor of **KNIGHT** to **Dr PERUGINO Giuseppe** (registered in the Order's Register under no.14840, series V), countersigned by the Prime Minister, Hon. Romano Prodi.

## PROFESSIONAL EXPERIENCE

May 2020	<b>CNR - Short Term Mobility (STM 2019) winner</b> Guest Researcher at the Professor Stephen G. WITHERS' laboratory, Faculty of Science – Department of Chemistry, University of British Columbia (UBC), Vancouver Campus, 2036 Main Mall Vancouver, BC V6T 1Z1, CANADA Title: " <i>Improving enzyme-cascade reactions by new in vivo immobilizing methods</i> ".
07/04/2018 - 21/04/2018	<b>CNR - Short Term Mobility (STM 2017) winner</b> Guest Researcher at the Professor Barbara SACCA's laboratory, Center of Medical Biotechnology (ZMB), University of Duisburg-Essen, Universitätsstraße 2, 45117 Essen, GERMANY. Title: " <i>A thermostable protein-tag for the DNA-origami 3D structures immobilization of protein of interest</i> ".
01/01/2008 - 31/12/2013	<b>CNR Staff Researcher (III level)</b> Institute of Protein Biochemistry (IBP) - Via P. Castellino 111, 80131 Naples
20/05/2013 - 10/06/2013	<b>CNR - Short Term Mobility (STM 2012) winner</b> Guest Researcher at the Professor José BERENQUER's laboratory, Centro De Biología Molecular "Severo Ochoa" (CBMSO), Nicolás Cabrera 1, Cantoblanco 28049, Madrid, SPAGNA. Title: " <i>Thermus thermophilus as model organism for the development of new thermostable protein-tags for specific labelling of proteins</i> ".
01/05/2006 - 31/12/2007	<b>GeFI Research Grant extension</b> Institute of Protein Biochemistry (IBP) - Via P. Castellino 111, 80131 Naples
12/06/2004 - 21/06/2004	<b>Guest Researcher</b> at the Professor Ikuo MATSUI's laboratory, National Institute of Advanced Industrial Science and Technology (AIST) - Molecular Function Team, Tsukuba / Biological Information Research Center (MFT,T/BIIRC) Tsukuba Central 2, Tsukuba 305-8568, GIAPPONE. Title: " <i>Generation of a new glycosynthase</i> ".
01/02/2003 - 28/02/2006	<b>GeFI Research Grant</b> Institute of Protein Biochemistry (IBP) - Via P. Castellino 111, 80131 Naples Title: " <i>Functional Genomics of insects for the development of innovative strategies for plant protection (GeFI)</i> "
01/06/2000 - 31/05/2001	<b>WUR Fellowship</b> at the Professor John VAN DER OOST's laboratory, Wageningen University - Laboratory of Microbiology, Hesselink van Suchtelenweg 4, 6703CT, Wageningen, PAESI BASSI. Title: " <i>A directed evolution approach to optimize sugar-converting enzymes from Hyperthermophiles</i> ".
01/11/1998 - 31/10/2002	<b>PhD in Biological Chemistry and Molecular Biology (XIV cycle)</b> Università degli Studi di Napoli "Federico II" – Organic and Biological Chemistry Department Title: " <i>beta-Glycosidases from hyperthermophilic archaeon: analysis and modification of the reaction mechanism for the synthesis of oligosaccharides</i> ".
15/06/1998 - 31/10/1998	<b>CNR Fellowship– "Comitato Naz. per le Biotecnologie e la Biologia Molecolare"</b> Institute of Protein Biochemistry (IBP) - Via P. Castellino 111, 80131 Naples Title: " <i>Enzymes for the lactose valorisation</i> ".

## RECENT SCIENTIFIC ACTIVITIES

(LAST 5 YEARS)

a.a. 2020-2021

**Co-supervisor** of the Experimental Thesis in General Chemistry of candidate Antonella Di Donato (Supervisor: Prof. Stefania Galdiero) in the context of the Degree Course in Pharmaceutical Biotechnologies of the University of Naples "Federico II". Title: "Development of new thermostable protein-tags to apply SNAP-tag® technology at high temperatures".

April 2021 - present

**Topic Editor** of the International Journal "MDPI Catalysts" (IF 4.146) - Section "Biocatalysis".

03/09/2020

**Commission Member** for IBBR-CNR POST DOCTORAL RESEARCH ASSIGNMENT, within the Project "Study of the inhibitory effects determined by self-DNA and the molecular mechanisms connected to them, using *Caenorhabditis elegans* as a model organism" (IBBR-AR-003-2020).

01/06/2020

**Commission Member** for IBBR-CNR Scholarships, as part of the "Study of DNA-protein interaction and repair mechanisms of alkylation damage" project (IBBR-BS-001-2020-NA).

01/04/2020

**Commission Member** for IBBR-CNR Internship, as part of the Project "Study of methods and mechanisms for the prevention of neurodegeneration in the nematode *C. elegans*" (IBBR-TF-002-2020-NA).

05/03/2020

**Commission Member** for IBBR-CNR Scholarships, within the project "Life in space - origin, presence, persistence of life in space, from molecules to extremophiles - OPPS - project DBA.AD006.024 - CUP F86C16000000006" (IBBR-AR-001-2020-NA).

08/04/2020

**Guest Editor in chief** for the International Journal "MDPI Catalysts" (IF 3.520) for the "Special Issue - Biocatalysis and Biotransformation of Extremozymes".

04/12/2019

**Teacher** in the "School of Enzyme Discovery and Engineering for Biotechnological Applications - SIB, Biotechnology Group". Title: "New frontiers in biotechnology through the SNAP-tag technology".

25/11/2019

**Invited Speaker** in "Enterprise 4.0: the impact of new enabling technologies on SMEs in the Industry and Construction sector", an event organized by the Naples Chamber of Commerce. Title: "New technologies for the Agri-food Industry from the CNR".

25/11/2019

**Invited Speaker** in "Enterprise 4.0: the impact of new enabling technologies on SMEs in the agriculture sector", an event organized by the Naples Chamber of Commerce. Title: "New technologies for agriculture from the CNR".

28/10/2019

**Invited Speaker** at the "II Industrial Biotechnology Congress - BioID&EA", held in Naples. Title: "A journey down to hell: new thermostable protein-tags for biotechnology at high temperatures".

18-20 / 09/2019

**Selected Speaker** in the "60th Congress of the Italian Society of Biochemistry and Molecular Biology - SIB", held in Lecce. Title: "A journey down to hell: new thermostable protein-tags for biotechnology at high temperatures".

a.a. 2018-2020

**Co-supervisor** of the Industrial Doctoral Thesis in Biotechnology of the candidate Rosanna Mattosovich (Supervisor: Prof. Marco Moracci), of the University of Naples "Federico II". Title: "Development of a new enzymatic biosensor for the determination of DNA damage through the thermoSNAP-display technology".

a.a. 2018-2020

**Co-supervisor** of the PhD thesis in Biology of candidate Rosa Merlo (Supervisor: Prof. Ezio Ricca), of the University of Naples "Federico II". Title: "Improvement of SNAP-tag technology through the use of enzymes from hyperthermophilic sources".

16-20 / 09/2018

**Organizing Committee Member** of the "12th International Congress of Extremophiles" (President, Prof. Moracci of the University of Naples "Federico II"), held in Ischia (Naples), which was attended by more than 330 scientists, industrial partners and young researchers from 40 nations.

09/11/2017

**Selected Speaker** in the "Italy-Japan Joint Symposium: New Trends in Enzyme and Microbial Science in the Translational Biology Era", held in Naples. Title: "An archaeal DNA-alkyl-transferase to expand the new frontiers of biotechnology to extreme environments".

16/12/2016

**Selected Speaker** at the Meeting "Bioinformatics and Computational Biology in Campania 2016 - ISA, CNR", held in Avellino. Title: "Understanding of the activity of a protein involved in DNA repair by biochemical, structural and in silico approaches".

24/10/2016

**Selected Speaker** at the "Annual Conference of the Department of Bio-Agri-Food Sciences - CNR", held in Florence. Title: "An archaeal model system to shed light on evolutionary conserved DNA repair mechanisms".

26/09/2016 and 13/10/2015

**Invited Speaker** at the "European Biotech Week", as part of the "Research: Science in Action", held at the IBBR-CNR in Naples. Title: "Life in technicolor: the use of fluorescence in the world of the infinitely small".

15/09/2016

**Selected speaker** at the "11th International Congress on Extremophiles", held in Kyoto, (JAPAN). Title: "Structure-function relationships governing activity and stability of a DNA alkylation damage repair thermostable protein".

07/04/2016

**Commission Member** for IBBR-CNR Scholarships, as part of the Project "N-acetyl cysteine as an allosteric chaperone of alpha-glucosidase" (IBBR-BS-002-2016-NA).

26/09/2016

**Invited Lecturer** to the theoretical-practical course "Training Pathway School-Work 2015-2016", within the framework of "The School goes to CNR", held at IBBR-CNR in Naples. Title: "Heterologous expression and purification of enzymes of biotechnological interest".

## APPROVED PROJECTS (LAST 5 YEARS)

**Head of Project** "Innovative biosensors for the protection of humans and the environment", in the context of Industrial PhD School, XXXV and XXXVI cycles, in agreement with CNR-Confindustria.

**Head of Project** "Improving enzyme-cascade reactions by new *in vivo* immobilizing methods", in the context of the CNR - Short Term Mobility (STM 2019), in collaboration with the Faculty of Science - Department of Chemistry, University of British Columbia (UBC), CANADA.

**Head of Unit** at the POR Campania Project "Technology transfer and first industrialization project for innovative companies with high potential for the fight against oncological diseases - Campania land of good, Good Water Project", head of the CNR Unit Dr Ivo Rendina (ISASI - CNR).

**Head of Unit:** "Fondazione CARIPLO" Project Ref. 2016-0604: "Deciphering molecular aspects of Mycobacterium tuberculosis DNA repair to disclose its role in the pathogenesis tuberculosis in humans". PI: Dr Riccardo Miggiano (University of Eastern Piedmont, Novara).

**Head of Project** "A thermostable protein-tag for the DNA-origami 3D structures immobilization of protein of interest", in the context of the CNR - Short Term Mobility (STM 2017), in collaboration with the Center of Medical Biotechnology (ZMB), University of Duisburg-Essen, Universitätsstraße 2, 45117 Essen, GERMANY.

**Unit Participant** in the MIUR-FIRB Project RBF12001G\_002: "Nanoporous materials: self-assembly blackboards for the study of DNA structure and interactions (NEMATIC)", head of Unit Dr Anna Valenti (IBP - CNR).

**Unit participant** in the AIRC Project: "Cisplatin sensitivity / tolerance / resistance genetic pathways in hereditary cancer predisposition", coordinator Dr La Volpe Adriana (IGB - CNR).

**Unit participant** in the TELETHON Project: "New pharmacological targets in Fanconi Anemia", coordinator Dr La Volpe Adriana (IGB - CNR).

**Unit Participant** in the MIUR Project PON01\_02512: "Research and Development of bioregulators active on the epigenetic mechanisms of inflammatory processes in chronic and degenerative diseases (BIAM-EPI)", responsible Dr Peluso Gianfranco (IBP - CNR).

**Unit Participant** in the Ministry of Foreign Affairs Project - Italy-USA Bilateral Project: "Meiotic roles of RecQ helicases in the fungus *Sordaria macrospora*, a convenient model system to study chromosome segregation", head of Dr Storlazzi Aurora (IGB - CNR).

**Unit participant** in the CNR Project MERIT Project: Molecular Oncology, head of prof. Rossi Mosè (IBP - CNR).

## REGISTERED 3D STRUCTURES

(ON PROTEIN DATA BANK SITE:  
<https://www.rcsb.org/>)

PDB codes (from the most recent):

6GA0 – 5LLQ – 4WX9 – 4WXC – 4WXD – 4ZYD – 4ZYE – 4ZYG – 4ZYH – 4BHB – 4BHC – 2CEQ – 2CER – 2CES – 2CET – 1UWQ – 1UWR – 1UWS – 1UWT – 1UWU

59. FARAG N, MATTOSSOVICH R, MERLO R, NIERZWICKI L, PALERMO G, PORCHETTA A\*, **PERUGINO G\***, RICCI F\* (2021) Folding-upon-repair DNA nanoswitches for monitoring DNA repair enzymes activity. *ANGEWANDTE CHEMIE INTERNATIONAL EDITION*, 60(13):7283-7289.  
ISSN: 1433-7851, doi: 10.1002/anie.202016223 \*corresponding author (12.959; 15.336)
58. MERLO R, MATTOSSOVICH R, VALENTI A, **PERUGINO G\*** Recent advances in the use of the SNAP-tag® in the modern biotechnology. Eds *BP International Book Series: Recent Research Advances In Biology*. (Ref. no. 2020/BP/8226D) \*corresponding author
57. MERLO R, CAPRIOGLIO D, CILLO M, VALENTI A, MATTOSSOVICH R, MORRONE C, MASSAROTTI A, ROSSI F, MIGGIANO M, LEONARDI A, MINASSI A\*, **PERUGINO G\*** (2020) The SNAP-tag technology revised: an effective chemo-enzymatic approach by using a universal azide-based substrate. *JOURNAL OF ENZYME INHIBITION AND MEDICAL CHEMISTRY*, 36: 85-97.  
ISSN: 1475-6366, doi: 10.1080/14756366.2020.1841182 \*corresponding author (4.673; 5.051)
56. VISIONE V, SZABÓ I, **PERUGINO G**, HUDECZ F, BÁNÓCZI Z, VALENTI A (2020). Topoisomerases inhibition and DNA binding mode of daunomycin-oligoarginine conjugate. *JOURNAL OF ENZYME INHIBITION AND MEDICAL CHEMISTRY*, 35: 1363-1371.  
ISSN: 1475-6366, doi: 10.1080/14756366.2020.1780226 (4.673; 5.051)
55. MATTOSSOVICH R, MERLO R, MIGGIANO R, VALENTI A, **PERUGINO G\*** (2020). O<sup>6</sup>-alkylguanine-DNA Alkyltransferases in Microbes Living on the Edge: From Stability to Applicability. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*, 21: 2878.  
ISSN: 1422-0067, doi: 10.3390/ijms21082878 \*corresponding author (4.556; 5.923)
54. MATTOSSOVICH R, MERLO R, FONTANA A, d'IPPOLITO G, TERNIS MP, WATTS EA, VALENTI A, **PERUGINO G\*** (2020). A journey down to hell: new thermostable protein-tags for biotechnology at high temperatures. *EXTREMOPHILES*, 24:81-91.  
ISSN: 1431-0651, doi: 10.1007/s00792-019-01134-3 \*corresponding author (2.462; 2.365)
53. **PERUGINO G\***, STRAZZULLI A\*, MAZZONE M, ROSSI M, MORACCI M (2019). Effects of random mutagenesis and in vivo selection on the specificity and stability of a thermozyyme. *CATALYSTS*, 9: 440-454.  
ISSN: 2073-4344, doi: 10.3390/catal9050440 \*first author (3.520; 4.146)
52. SERPE M, FORENZA C, ADAMO A, RUSSO N, **PERUGINO G**, CIARAMELLA M, VALENTI A (2019). The DNA Alkylguanine DNA Alkyltransferase-2 (AGT-2) of *Caenorhabditis elegans* is involved in meiosis and early development under physiological conditions. *SCIENTIFIC REPORTS*, 9: 6889-6903.  
ISSN: 2045-2322, doi: 10.1038/s41598-019-43394-1 (3.998; 4.379)
51. STRAZZULLI A\*, **PERUGINO G\***, MAZZONE M, ROSSI M, WITHERS SG, MORACCI M (2019). Probing the role of an invariant active site His in family GH1  $\beta$ -glycosidases. *JOURNAL OF ENZYME INHIBITION AND MEDICAL CHEMISTRY*, 34: 973-980.  
ISSN: 1475-6366, doi: 10.1080/14756366.2019.1608198 \*first author (4.673; 5.051)
50. DEL PRETE S, MERLO R, VALENTI A, MATTOSSOVICH R, ROSSI M, CARGINALE V, SUPURAN CT, **PERUGINO G\***, CAPASSO C\* (2019). Thermostability enhancement of the  $\alpha$ -carbonic anhydrase from *Sulfolobus solfataricus* by using the anchoring-and-self-labelling protein-tag system (ASL<sup>tag</sup>). *JOURNAL OF ENZYME INHIBITION AND MEDICAL CHEMISTRY*, 34: 946-954.  
ISSN: 1475-6366, doi: 10.1080/14756366.2019.1605991 \*corresponding author (4.673; 5.051)
49. MERLO R, DEL PRETE S, VALENTI A, MATTOSSOVICH R, CARGINALE V, SUPURAN CT, CAPASSO C\*, **PERUGINO G\*** (2019). An AGT-based protein-tag system for the labelling and surface immobilization of enzymes on *E. coli* outer membrane. *JOURNAL OF ENZYME INHIBITION AND MEDICAL CHEMISTRY*, 34: 490-499.  
ISSN: 1475-6366, doi: 10.1080/14756366.2018.1559161 \*corresponding author (4.673; 5.051)
48. LO GULLO G, MATTOSSOVICH R, **PERUGINO G**, LA TEANA A, LONDEI P, BENELLI D (2019). Optimization of an *In Vitro* Transcription/Translation System Based on *Sulfolobus solfataricus* Cell Lysate. *ARCHAEA*, 1: 1-10.  
ISSN: 1472-3654, doi: 10.1155/2019/9848253 (3.379; 3.273)
47. ROSSI F, MORRONE C, MASSAROTTI A, FERRARIS DM, VALENTI A, **PERUGINO G\***, MIGGIANO R\* (2018). Crystal structure of a thermophilic O<sup>6</sup>-alkylguanine-DNA alkyltransferase-derived self-labeling protein-tag in covalent complex with a fluorescent probe. *BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATION*, 500: 698-703.  
ISSN: 0006-291X, doi: 10.1016/j.bbrc.2018.04.139 \*corresponding author (2.705; 3.575)
46. BETTOTTI P, VISIONE V, LUNELLI L, **PERUGINO G**, CIARAMELLA M, VALENTI A (2018). Structure and Properties of DNA Molecules Over The Full Range of Biologically Relevant Supercoiling States. *SCIENTIFIC REPORTS*, 8: 6163-6177.  
ISSN: 2045-2322, doi: 10.1038/s41598-018-24499-5 (4.011; 4.379)
45. MIGGIANO R, VALENTI A, FRANCA R, RIZZI M, **PERUGINO G\***, CIARAMELLA M\* (2017). Every OGT is Illuminated... by Fluorescent and Synchrotron Lights. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*, 18: 2613.  
ISSN: 1422-0067, doi: 10.3390/ijms18122613 \*corresponding author (3.687; 5.923)
44. VISIONE V, HAN W, **PERUGINO G**, DEL MONACO G, SHE Q, ROSSI M, VALENTI A, CIARAMELLA M (2017) *In vivo* and *in vitro* protein imaging in thermophilic archaea by exploiting a novel protein tag. *PLoS ONE*, 12: 1-19.  
ISSN: 1932-6203, doi: journal.pone.0185791 (2.765; 3.240)
43. MORRONE C, MIGGIANO R, SERPE M, MASSAROTTI A., VALENTI A, DEL MONACO G, ROSSI M, ROSSI F, RIZZI M, **PERUGINO G\***, CIARAMELLA M (2017). Interdomain interactions rearrangements control the reaction steps of a thermostable DNA alkyltransferase. *BIOCHIMICA ET BIOPHYSICA ACTA - GENERAL SUBJECTS*, vol. 1861, p. 86-96.  
ISSN: 0304-4165, doi: 10.1016/j.bbagen.2016.10.020 \*corresponding author (3.679; 3.770)
42. MIGGIANO R, **PERUGINO G**, CIARAMELLA M, SERPE M, REJMAN D, PAV O, POHL R, GARAVAGLIA S, LAHIRI S, RIZZI M, and ROSSI F (2016). Crystal structure of *Mycobacterium tuberculosis* O<sup>6</sup>-methylguanine-DNA methyltransferase protein clusters assembled onto damaged DNA. *BIOCHEMICAL JOURNAL*, vol. 473, p. 123-133.  
ISSN: 0264-6021, doi: 10.1042/BJ20150833 (3.797; 3.857)
41. VETTONE A, SERPE M, HIDALGO A, BERENQUER J, DEL MONACO G, VALENTI A, ROSSI M, CIARAMELLA M, **PERUGINO G\*** (2016). A novel thermostable protein-tag: optimization of the *Sulfolobus solfataricus* DNA-alkyl-transferase by protein engineering. *EXTREMOPHILES*, vol. 20, p. 1-13.  
ISSN: 1431-0651, doi: 10.1007/s00792-015-0791-9 \*corresponding author (2.236; 2.462)
40. **PERUGINO G**, MIGGIANO R, SERPE M, VETTONE A, VALENTI A, LAHIRI S, ROSSI F, ROSSI M, RIZZI M, and CIARAMELLA M (2015). Structure-function relationships governing activity and stability of a DNA alkylation damage repair thermostable protein. *NUCLEIC*

ACIDS RESEARCH, vol. 43, p. 8801-8816.  
ISSN: 1362-4962, doi: 10.1093/nar/gkv774 (9.202; 16.971)

39. JAMROZE A, **PERUGINO G**, VALENTI A, RASHID N, ROSSI M, AKHTAR M, and CIARAMELLA M (2014). The reverse gyrase form *Pyrobaculum caldifontis*, a novel extremely thermophilic DNA topoisomerase endowed with DNA unwinding and annealing activities. *THE JOURNAL OF BIOLOGICAL CHEMISTRY*, vol. 289, p. 3231-3243.  
ISSN: 0021-9258, doi: 10.1074/jbc.M113.517649 (4.573; 5.157)

38. VETTONE A, **PERUGINO G**, ROSSI M, VALENTI A, and CIARAMELLA M (2014). Genome stability: recent insights in the topoisomerase reverse gyrase and thermophilic DNA alkyltransferase. *EXTREMOPHILES*, vol. 18, p. 895-904.  
ISSN: 1431-0651, doi: 10.1007/s00792-014-0662-9 (2.306; 2.365)

37. VISIONE V, VETTONE A, SERPE M, VALENTI A, **PERUGINO G**, ROSSI M, and CIARAMELLA M (2014). Chromatin Structure and Dynamics in Hot Environments: Architectural Proteins and DNA Topoisomerases of Thermophilic Archaea. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*, vol. 15, p. 17162-17187.  
ISSN: 1422-0067, doi: 10.3390/ijms150917162 (2.862; 5.923)

36. MIGGIANO R, CASAZZA V, GARAVAGLIA S, CIARAMELLA M, **PERUGINO G**, RIZZI M, and ROSSI F. (2013). Biochemical and structural studies in the *M. tuberculosis* O<sup>6</sup>-methylguanine methyltransferase and mutated variants. *JOURNAL OF BACTERIOLOGY*, vol. 195, p. 2728-2736.  
ISSN: 1098-5530, doi: 10.1128/JB.02298-12 (2.688; 3.490)

35. COBUCCI-PONZANO B, **PERUGINO G**, STRAZZULLI A, ROSSI M, and MORACCI M (2012). Thermophilic Glycosynthases for Oligosaccharides Synthesis. *METHODS IN ENZYMOLOGY*, vol. 510, p. 273-300.  
ISSN: 0076-6879, doi: 10.1016/B978-0-12-415931-0.00015-X (2.002; 1.600)

34. **PERUGINO G**, VETTONE A, ILLIANO G, VALENTI A, FERRARA MC, ROSSI M, and CIARAMELLA M. (2012). Activity and Regulation of an Archaeal DNA-Alkyltransferase: a Conserved Protein Involved in Repair of DNA Alkylation Damage. *THE JOURNAL OF BIOLOGICAL CHEMISTRY*, vol. 287, p. 4222-4231.  
ISSN: 0021-9258, doi: 10.1074/jbc.M111.308320 (4.651; 5.157)

33. VALENTI A, DE FELICE M, **PERUGINO G**, BIZARD A, NADAL M, ROSSI M, and CIARAMELLA M. (2012) Synergic and opposing activities of thermophilic RecQ-like helicase and Topoisomerase 3 in Holliday junction processing and replication fork stabilization. *FEBS JOURNAL*, vol. 279, p. 474-474.  
ISSN: 1742-464X, (4.250; 5.542)

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## CURRENT SCIENTIFIC COLLABORATIONS

(IN ALPHABETICAL ORDER)

**Professor Dario BENELLI**, La Sapienza University of Rome: optimization of an *in vitro* high temperature transcription / translation system based on cellular lysates of *Sulfolobus solfataricus*

**Professor Josè BERENGUER**, Centro De Biología Molecular "Severo Ochoa" de Madrid (SPAIN): *in vivo* expression and characterization of the OGT of *Sulfolobus solfataricus* in the *Thermus thermophilus* model system.

**Dr Clemente CAPASSO**, IBBR-CNR of Naples: development of innovative *in vivo* immobilization methodologies of enzymes of biotechnological interest.

**Dr Isaac CANN**, School of molecular and Cellular Biology, University of Illinois (USA): development of *in vivo* immobilization methodologies of enzymes of biotechnological interest by the innovative ASLtags.

**Dr Beatrice COBUCCI-PONZANO**, IBBR-CNR of Naples: cloning and characterization of new thermostable glycosyl-hydrolases for the synthesis of new carbohydrates of high added value and of industrial interest.

**Dr Marina CRETICH**, ICRM-CNR of Milan: immobilization of heat-stable protein-tags for applications of enzymes of biotechnological interest.

**Dr Angelo FONTANA**, ICB-CNR of Pozzuoli (NA): development and improvement of enzymes and biochemical methodologies applicable to the *Thermotoga neapolitana* model system.

**Professor Stefania GALDIERO**, University of Naples "Federico II": functionalization of liposomes with new *in vivo* enzymatic immobilization systems.

**Dr Riccardo MIGGIANO**, University of Eastern Piedmont of Novara: basic research and biotechnological potential study of AGTs from various model systems, such as pathogenic bacteria (*Mycobacterium tuberculosis*), (hyper) thermophilic bacteria (*Thermus thermophilus*, *Sulfolobus solfataricus* and *Thermotoga neapolitana*) and human.

**Professor Marco MORACCI**, University of Naples "Federico II": optimization of the reactions of thermostable glycosyl-hydrolases for the synthesis of oligosaccharides of biotechnological interest.

**Dr Alberto MINASSI**, University of Eastern Piedmont of Novara: development and synthesis of innovative AGT substrates, for biotechnological applications in the field of industrial production and bio-sensors.

**Dr Alessandro PORCHETTA**, Tor Vergata University of Rome: development of new fluorescent-based assay for the determination of CRISPR-Cas activities (with John van der Oost).

**Professor Ivo RENDINA**, ISASI-CNR of Pozzuoli (NA): development and immobilization of thermostable protein-tags in solid supports, for the construction of optical detection equipment to be used in bio-sensing applications.

**Professor Francesco RICCI**, Tor Vergata University of Rome: studies and development of innovative spectro-fluorimetric assay systems for determining the activity of DNA transaction enzymes.

**Professor Barbara SACCÀ**, Universität Duisburg-Essen (GERMANY): application of thermostable protein-tags in innovative molecular systems, such as "DNA Origami".

**Professor Qunxin SHE**, University of Copenhagen (DENMARK): expression and characterization *in vivo* of the OGT of *Sulfolobus solfataricus* in the model system *Sulfolobus islandicus*.

**Professor Michael TERNS**, University of Georgia, Athens (USA): development of the "SNAP-tag technology" with thermostable enzymes in the hyperthermophilic model system *Pyrococcus furiosus*.

**Dr Anna VALENTI**, IBBR-CNR of Naples: basic research study on enzymes involved in genomic stability in various model organisms, with applicative implications in various fields of biotechnology.

**Professor John VAN DER OOST**, Wageningen University (THE NETHERLANDS): development of new fluorescent-based assay for the determination of CRISPR-Cas activities (with Alessandro Porchetta).

**Professor Stephen G WITHERS**, University of British Columbia (CANADA): improvement of "cascade" enzymatic reactions through innovative *in vivo* immobilization systems.

## OTHER ACTIVITIES



Since July the 1<sup>st</sup> 2021

**First Vice President** of the Lions Club San Sebastiano al Vesuvio Host (NA).

2020-2021

The Lions Governor of District 108 Ya (Campania, Basilicata, Calabria) Dr. Antonio MARTE conferred to **Dr. PERUGINO** a charge of **Lions Club International Foundation (LCIF) Coordinator** for the **II County**, comprising of 3 zones and 13 Lions Clubs in the Regione Campania.

2019

**Member** of the Lions Club San Sebastiano al Vesuvio Host (NA).

**TRATTAMENTO DEI DATI  
PERSONALI, INFORMATIVA E  
CONSENSO**

Il D.Lgs. 30/6/2003, n. 196 "Codice in materia di protezione dei dati personali" regola il trattamento dei dati personali, con particolare riferimento alla riservatezza, all'identità personale e al diritto di protezione dei dati personali; l'interessato deve essere previamente informato del trattamento .

La norma in considerazione intende come "trattamento" qualunque operazione o complesso di operazioni concernenti la raccolta, la registrazione, l'organizzazione, la conservazione, la consultazione, l'elaborazione, la modifica, la selezione, l'estrazione, il raffronto, l'utilizzo, l'interconnessione, il blocco, la comunicazione, la diffusione, la cancellazione e la distruzione di dati, anche se non registrati in una banca dati.

In relazione a quanto riportato, autorizzo al trattamento dei dati contenuti nel presente *curriculum vitae*. Inoltre acconsento all'aggiornamento delle informazioni intranet che mi riguardano sia relative le pubblicazioni sia alle ricerche svolte.

- acconsento  
 non acconsento

A handwritten signature in black ink, appearing to be a stylized name, possibly 'G. J. ...', written over a horizontal line.