

Mario Milani De Mayo De Mari

Curriculum Vitae

Name	Mario
Family name	Milani De Mayo De Mari
Birthplace	Rome, Italy
Date of birth	13/10/1971
Home address	Via Frisi 3, 20129 Milano, Italy
Phone numbers	Lab +39-02-50314894-2, Mobile +39-349-6640610
E-mail	mario.milani@unimi.it
U.R.L.	http://digilander.libero.it/mario.milani http://users.unimi.it/biolstru/Home.html

Good written and spoken English

Education

Secondary Education: classical studies; final mark 60/60.

May 1998, Degree in Physics, University “La Sapienza”, Rome, Italy. Studies mainly oriented in atomic, molecular and solid state physics. Final mark 110/110. Title of the Experimental Thesis: “On the scattering mechanism of electrons interacting with surfaces in specular reflection geometry“. Tutor: Prof. G. Stefani.

February 2002, PhD in Physics at Genoa University. The title of PhD Thesis: “X-ray diffraction and molecular dynamics studies on truncated hemoglobin-N from *Mycobacterium tuberculosis*”. Tutors: Prof. M. Bolognesi and Prof A. Desideri.

Skills

Briefly, I can be defined an **expert in protein structure and in structure-function-inhibition relationship**.

- I have a strong background in **solid-state physics**, acquired during my graduate studies. Moreover, I have learned some experimental techniques in surface physics.
- Starting from my PhD I acquired knowledge about **biophysics and biochemistry** such as: cloning, expression and purification of recombinant proteins. Spectroscopic characterization of proteins. Low resolution structure determination (SAXS). Biochemical assays. Protein crystallization. X-Ray diffraction data collection (in house and in different synchrotrons). Data indexing/scaling/phasing and structure refinement.
- *in silico* docking and structure based drug identification, optimization and *de-novo* design. Computer modeling of protein structure. **Molecular dynamics simulations** of proteins and protein-ligand interactions.

Schools attended:

- **1999**, INFN-National School of Matter Physics, Turin, Italy.
- **2000**, INFN-National School of Biophysics, Viterbo, Italy.

- **2001**, VI International School on Crystallography of Biological Macromolecules, Como, Italy.
- **2001**, Training in Methods for Macromolecular Crystallography, EMBL Hamburg, Germany.
- **2003**, VII International School on Crystallography of Biological Macromolecules, Como, Italy.
- **2005**, “High Throughput Macromolecular Crystallization”, Amsterdam, The Netherlands.
- **2006**, VII International School on Crystallography of Biological Macromolecules, Como, Italy.
- **2006**, International School of Crystallography, “Large Molecular Assemblies”, Erice, Italy.
- **2008**, Workshop on Macromolecular Structure Phasing and Refinement. Vienna.

Current position:

I am Adjunct Prof. of Biophysics at University of Milano **and Since February 2009**, I have a **permanent position at National Research Council (CNR) as researcher**. My lab is located at the Biophysics Institute of CNR (University of Milano, Dep. of Bioscience) where I work as biophysicist and protein crystallographer. I am mainly involved in the following two projects:

1. The European project *SILVER* on structural proteomics of RNA viruses. The aim of the project is to extend our comprehension on the molecular basis (protein structure-function relationship) of RNA virus infectivity and to find new antiviral drugs.
2. Structural and functional analysis of IAPs (inhibitor of apoptosis proteins), structure-based discovery and optimization of lead compounds active as proapoptotic compounds to be used in anticancer therapy.

Jobs:

- **October 1996 - May 1998** undergraduate research experience in experimental surface physics (with Prof. G. Stefani, “Roma 3” University, Rome).
- **June - December 1998**, INFM (National Institute of Physics of Matter) fellowship, University “Roma Tre” to improve the interactions between Researchers and Industries.
- **July 1999 - April 2005**, research experience in the protein crystallography group of Prof. Martino Bolognesi (Advanced Biotechnology Center, Genoa).
- **March - May 2003** I have been working in the microbiology group of Prof. Paolo Visca in Spallanzani Hospital (Rome).
- **April 2005 - February 2009** I had a temporary position as researcher at “Italian National Research Council” (CNR). My working place was in University of Milano, Dep. of Biomolecular Science and Biotechnology.
- **February 2009** - permanent position as researcher at CNR. My working place is located at University of Milano.

Teaching:

- **2001**, Lesson: “Determinism and Time: Ilya Prigogine and the new Perspectives in Classical Physics” (Istituto Superiore Assunzione, Rome, Italy).
- **2001**, Lesson: “Paradoxes in Quantum Mechanics” (ISA, Rome, Italy).
- **2002**, Lessons during the II INFM National School of Biophysics (Genoa, Italy).
- **2003** Lessons of Bioinformatics (Degree in Biotechnology, University of Genoa, Italy).
- **2003-05, Adj. Prof. of Biochemical Physics** (Dep. of Physics, University of Genoa, Italy)
- **2005**, Lessons on protein crystallography for the PhD students in Physics, University of Milan.
- **2005**, Lecture and practical training on Dynamic Light Scattering in Ljubljana University.
- **2006**, Lectures during the biophysics course, University of Milan.
- **2007**, Lecture: “Viruses: structure function and infection mechanisms” (Master in Nanotechnology, Politecnico di Torino, Italy).
- **2007**, Lecture: “Viruses: capsid structure and infection mechanisms” (Degree in Biology,

University of Milano, Milano).

- **2006-2014, Adj. Prof. of Biophysics** (Dept. of Physics, University of Milan).

Main conferences:

- 1998 *Poster* at “International Conference On Coincidence Spectroscopy”, (*Université de Bretagne Occidentale*, Brest, France).
- 2000 *Proteine*.
- 2000 June, *Poster* at “INFMeeting”, Genoa.
- 2001 June, *Oral presentation* at “INFMeeting”, Rome.
- 2001 September, *Poster* at “S.I.B.”, Siena.
- 2002 June, *Poster* at “Proteine 2002”, L’Aquila.
- 2002 July, *Poster* at “SILS”, Roma (award for the best poster).
- 2003 June, *Oral presentation* at “INFMeeting”, Genoa.
- 2004 October, *Oral presentation* at CNR, Rome.
- 2005 June, *Oral presentation* at “MMDmeeting”, Genoa.
- 2005 June, *Oral presentation* at “SILS”, Modena.
- 2005 August, *Poster* at IUCR, Florence.
- 2005 September, *Poster* at SIB, Riccione.
- 2007 August, *invited speaker* ECM-24, Marrakech. Title: **Structure of flaviviral enzymes: helicase and methyltransferase.**
- 2007 September, *Lecture* at SIB, Riccione. Title: **Structure-based design of flaviviral Methyltransferase inhibitors.**
- 2008 July, *Lecture* at Workshop on Structural Virology. Vienna. Title: **Structural based inhibition of flavivirus replication enzymes: Helicase and Methyltransferase.**
- 2008 November, *invited speaker* at ICAV (International Consortium on Anti-virals) 7th International Symposium. Beijing. Cina. Title: **Structural based inhibition of flavivirus replication enzymes: Helicase and Methyltransferase.**
- 2010 17th May, *Lecture* at SIAS Symposium, DESY Campus, Hamburg. Title: **Structural based inhibition of flavivirus replication enzymes: Helicase and Methyltransferase.**
- 2011, 5-9 March, Biophysical Society 55th Annual Meeting. Poster title: **Flaviviral helicases: structure, function, inhibition and dynamics**
- 2011, 8-11 May, 24th ICAR (International Conference on Antiviral Research) - Sofia, Bulgaria. Poster title: **Targeting the flavivirus helicase (Award for the best poster in the young investigator section)**
- 2011, 29 June - 2 July, Villa Vigoni workshop in Cell death. Presentation: **IAP: structural based inhibition.**
- 2011 Biophysical Society Meeting, Baltimore: **Flaviviral helicases: structure, function, inhibition and dynamics**
- 2012 Biophysical Society Meeting, San Diego: **Structure based inhibition of the calicivirus RNA-dependent RNA-polymerase**
- 2012 25th ICAR- Sapporo, Japan: **Structure-based inhibition of norovirus RNA-dependent RNA-polymerases**
- 2013 26th ICAR- San Francisco, USA: **Structure of norovirus RNA-dependent RNA-polymerase in complex with three naphthalene derivatives inhibitors.**

Main funding:

- 2012** - Grant from 60° Pharmaceuticals, LLC “Ivermectin-mediated dengue virus inhibition”. Role: Principal Investigator.

2013 - Italian Projects FIRB: SAVIOR Project: Selecting AntiViral Inhibitors Of Rotavirus. Role: Project Coordinator

2013 - Italian Projects PRIN: NOXSS (X-ray Single Shots of Nano Objects): an integrated experimental and theoretical approach for the structural determination of nano and micro objects using the ultrashort and ultrabright X-ray pulses from the European Free Electron Laser sources. Role: Partner Coordinator.

Scientific societies membership:

Biophysical Society; ISAR, International Society for Antiviral Research; Membro della Commissione CNR IUCR, International Union of Crystallography.

Peer-reviewing activity:

Journals: PLOS one, Journal of Nanoparticle Research, Journal of Virological Methods, Antiviral Research, Scientific Reports

Patents:

- **2007** C. Scolastico, L. Manzoni, P. Seneci, L. Belvisi, D. Delia, M. Bolognesi, E. Mastrangelo, **M. Milani**, I. Motto, C. Drago (2007). EPO 7021843. "New SMAC mimetic compounds as apoptosis inducers"
- **2011 Milani**, Mastrangelo, Bolognesi et al. "Avermectins and milbemycins for the treatment of flavivirus infections" (WO2011051159 (A1)).
- **2012** PCT/IB2012/000297 deposited 20/02/2012: "New homo- and heterodimeric SMAC mimetic compounds as apoptosis inducers"

Publications:

from 1999 to 2014 I am coauthor of **56** papers (**17** as first author **5** as corresponding author). **H-index** (25/06/2014): **24** (<http://scholar.google.it>).

1999

A. Ruocco, **M. Milani**, S. Nannarone, G. Stefani (1999) "Scattering Mechanism of electrons interacting with surfaces in specular reflection geometry: graphite". *Phys. Rev. B* **59**, 13359-63. (**9 citations**)

A. Ruocco, **M. Milani**, S. Nannarone, G. Stefani (1999) "On the scattering mechanism of the electron impact on surfaces in specular reflection geometry: Nickel (110)". *Journal de Physique IV* **9**, Pr6.

2001

Stroppolo M.E., Pesce A., D'Orazio M., O'Neill P., Bordo, D., Rosano, C., **Milani, M.**, Battistoni A., Bolognesi M., Desideri A. (2001) "Single mutations at the subunit interface modulate copper reactivity in Photobacterium leiognathi Cu,Zn superoxide dismutase" *J. Mol. Biol.* **308**(3), 555-63. (**15 citations**)

Alessandra Pesce, Sylvia Dewilde, Laurent Kiger, **Mario Milani**, Paolo Ascenzi, Michael C. Marden, Marie-Louise Van Hauwaert, Jacques Vanfleteren, Luc Moens and Martino Bolognesi (2001) "Very high resolution structure of hemoglobin from the trematode Paramphistomum epiclitum displaying A TyrB10 – TyrE7 heme distal residue pair and high oxygen avidity". *J. Mol. Biol.* **309**(5), 1153-64. (**34 citations**)

Mario Milani, Alessandra Pesce, Yannick Ouellet, Paolo Ascenzi, Michel Guertin and Martino Bolognesi (2001) "Mycobacterium tuberculosis hemoglobin N displays a protein tunnel suited for ligand diffusion to the heme" *EMBO J.* **20**(15), 3902-9. (**153 citations**)

Mario Milani, Alessandra Pesce, Martino Bolognesi and Paolo Ascenzi (2001) "Truncated hemoglobins: trimming the classical 'three-over-three' globin fold to a minimal size" *Biochemistry and Molecular Biology Education* **29**(3), 123-125. IF. (**3 citations**)

Mario Milani, Laura Andolfi, Salvatore Cannistraro, Martin Ph. Verbeet and Martino Bolognesi (2001) "The 1.6 Å resolution crystal structure of a mutant plastocyanin bearing a 21-25 engineered disulfide bridge" *Acta Cryst.* **D57**, 1735-1738. **(14 citations)**

2002

Mario Milani, Alessandra Pesce, Sylvia Dewilde, Paolo Ascenzi, Luc Moens and Martino Bolognesi (2002) "Structural plasticity in the eight-helix fold of a trematode hemoglobin". *Acta Cryst.* **D58**, 719-722. **(5 citations)**

Paolo Visca, Giulia Fabozzi, Andrea Petrucca, Chiara Ciaccio, Massimo Coletta, Giampiero De Sanctis, Martino Bolognesi, **Mario Milani** and Paolo Ascenzi (2002) "The truncated hemoglobin from *Mycobacterium leprae*". *Biochemical and Biophysical Research Communications* **294(5)**, 1064-1070. **(38 citations)**

Paolo Visca, Giulia Fabozzi, **Mario Milani**, Martino Bolognesi, and Paolo Ascenzi (2002) "Nitric oxide and *Mycobacterium leprae* pathogenicity." *IUBMB Life* **54(3)**, 95-9. **(22 citations)**

2003

Mario Milani, Alessandra Pesce, Martino Bolognesi, Alessio Bocedi, Paolo Ascenzi (2003) "Substrate channeling: Molecular bases". *Biochemistry and Molecular Biology Education* **Vol 31 No. 4**, pp. 228-233. **(20 citations)**

Mario Milani, Pierre-Yves Savard, Hugues Oullet, Paolo Ascenzi, Michel Guertin and Martino Bolognesi (2003) "A TyrCD1/TrpG8 hydrogen bond network and a TyrB10TyrCD1 covalent link shape the heme distal site of *Mycobacterium tuberculosis* hemoglobin O.". *Proc. Natl. Acad. Sci. U S A* **100(10)**, 5766-5771. **(86 citations)**

Mario Milani, Alessandra Pesce, Hugues Ouellet, Michel Guertin, Martino Bolognesi (2003) "Truncated hemoglobins and nitric oxide action" *IUBMB Life* **55(10-11)**, 623-7. **(24 citations)**

2004

Mario Milani, Yannick Ouellet, Hugues Ouellet, Michel Guertin, Alberto Boffi, Giovanni Antonini, Alessio Bocedi, Marco Mattu, Martino Bolognesi and Paolo Ascenzi. "Cyanide Binding to Truncated-Hemoglobins: A Crystallographic and Kinetic Study" (2004) *Biochemistry* **43(18)**, 5213-21. **(44 citations)**

Mario Milani, Alessandra Pesce, Yannick Ouellet, Sylvia Dewilde, Joel Friedman, Paolo Ascenzi, Michel Guertin and Martino Bolognesi. "Heme-Ligand Tunneling in Group I Truncated-Hemoglobins" (2004) *J. Biol. Chem.* **279(20)**, 21520-5. **(89 citations)**

Dantsker D, Samuni U, Ouellet Y, Wittenberg BA, Wittenberg JB, **Milani, M.**, Bolognesi M, Guertin M, Friedman JM. "Viscosity dependent relaxation significantly modulates the kinetics of CO recombination in the truncated hemoglobin trHbN from *mycobacterium tuberculosis*." (2004) *J. Biol. Chem.* **279(37)**, 38844-53. **(15 citations)**

Alessio Bocedi, Livia Leoni, Paolo Visca, Elisabetta Zennaro, **Mario Milani**, Martino Bolognesi & Paolo Ascenzi. "CO Sniffing through Heme-based Sensor" (2004) *IUBMB Life* **56(6)**, 309-315. **(9 citations)**

2005

Milani M., Leoni L., Rampioni G., Zennaro E., Ascenzi P., Bolognesi M. "An Active-like Structure in the Unphosphorylated StyR Response Regulator Suggests a Phosphorylation- Dependent Allosteric Activation Mechanism." (2005) *Structure* **13(9)**, 1289-97. **(26 citations)**

Milani M., Pesce A, Nardini M, Ouellet H, Ouellet Y, Dewilde S, Bocedi A, Ascenzi P, Guertin M, Moens L, Friedman JM, Wittenberg JB, Bolognesi M. "Structural bases for heme binding and diatomic ligand recognition in truncated hemoglobins." (2005) *J. Inorg. Biochem.* **99(1)**, 97-109. **(98 citations)**

2006

Ouellet Y, **Milani M**, Couture M., Bolognesi M., Guertin M. "Ligand interactions in the distal heme pocket of *Mycobacterium tuberculosis* truncated hemoglobin N: Roles of the tyrosine B10 and glutamine E11 residues". (2006) *Biochemistry* **45(29)**, 8770-81. **(26 citations)**

Axel Bidon-Chanal, Marcelo A. Martí, Alejandro Crespo, **Mario Milani**, Modesto Orozco, Martino Bolognesi, F. Javier Luque, and Darío A. Estrin. "Ligand-induced dynamical regulation of NO conversion in Mycobacterium tuberculosis truncated-hemoglobin-N". (2006) *Proteins* **64**(2), 457-64. **(66 citations)**

Ascenzi P., Bocedi A., Bolognesi M., Fabozzi G., **Milani M.**, Visca P. "Nitric oxide scavenging by Mycobacterium leprae GlbO involves the formation of the ferric heme-bound peroxynitrite intermediate". (2006) *BBRC* **339**(1), 450-6. **(23 citations)**

E. Mastrangelo, M. Bollati, **M. Milani**, X. De Lambelleire, N. Brisbare, K. Dalle, V. Lantez, M.-P. Egloff, B. Coutard, B. Canard, E. Gould, N. Forrester and M. Bolognesi. "Preliminary characterization of (nucleoside-2'-O-)-methyltransferase crystals from Meaban and Yokose flaviviruses". (2006) *Acta Crystallograph. Sect F* **62**(8), 768-70. **(6 citations)**

Paolo Ascenzi, **Mario Milani**, and Paolo Visca. "Peroxynitrite scavenging by ferrous truncated hemoglobin GlbO from Mycobacterium leprae". (2006) *BBRC* **351**(2), 528-33. **(12 citations)**

Mastrangelo E., Bollati M., **Milani M.**, Brisbarre N., de Lamballerie X., Coutard B., Canard B., Khromykh A., Bolognesi M. "Preliminary crystallographic characterization of an RNA helicase from Kunjin virus". (2006) *Acta Crystallograph Sect F* **62**(9):876-9. **(4 citations)**

2007

Marco Nardini, Alessandra Pesce, **Mario Milani**, Martino Bolognesi "Protein fold and Structure in the truncated (2/2) globin family" (2007) *Gene*, **398**(1-2):2-11. **(39 citations)**

Ascenzi P, Bolognesi M, **Milani M**, Guertin M, Visca P. "Mycobacterial truncated hemoglobins: From genes to functions" (2007) *Gene* **398**(1-2), 42-51. **(30 citations)**

Mastrangelo E, Bollati M, **Milani M**, Selisko B, Peyrane F, Canard B, Grard G, de Lamballerie X, Bolognesi M. "Structural bases for substrate recognition and activity in Meaban virus nucleoside-2'-O-methyltransferase." (2007) *Protein Sci.* **16**(6), 1133-45. **(23 citations)**

Mario Milani, Emanuela Balconi, Alessandro Aliverti, Eloise Mastrangelo, Frank Seeber, Martino Bolognesi, and Giuliana Zanetti. "Ferredoxin-NADP⁺ reductase from *plasmodium falciparum* undergoes nadp⁺-dependent dimerization and inactivation: functional and crystallographic analysis" (2007) *J. Mol. Biol.* **367**(2), 501-13. **(27 citations)**

Eloise Mastrangelo, **Mario Milani**, Michela Bollati, Barbara Selisko, Frederic Peyrane, Vittorio Pandini, Graziella Sorrentino, Bruno Canard, Peter V. Konarev, Dmitri I. Svergun and Martino Bolognesi "Crystal structure and activity of kunjin virus ns3 helicase; protease and helicase domain assembly in the full length ns3 protein" (2007) *J Mol Biol.* **372**(2), 444-55. **(39 citations)**

Ouellet H, **Milani M**, Labarre M, Bolognesi M, Couture M, Guertin M. "The Roles of Tyr(CD1) and Trp(G8) in Mycobacterium tuberculosis Truncated Hemoglobin O in Ligand Binding and on the Heme Distal Site Architecture." (2007) *Biochemistry* **46**(41), 11440-11450. **(17 citations)**

Pesce A, Nardini M, **Milani M**, Bolognesi M. "Protein structure in the truncated (2/2) hemoglobin family". (2007) *IUBMB Life.* **59**(8):535-41. **(13 citations)**

2008

Mario Milani, Marco Nardini , Alessandra Pesce , Eloise Mastrangelo and Martino Bolognesi "Hemoprotein time-resolved X-ray crystallography" (2008) *IUBMB Life.* **60**(3), 154-8. **(6 citations)**

Pesce A, **Milani M**, Nardini M, Bolognesi M. "Mapping heme-ligand tunnels in group I truncated(2/2) hemoglobins". *Methods Enzymol.* (2008), **436**, 303-15. **(7 citations)**

Boechi L, Martí MA, **Milani M**, Bolognesi M, Luque FJ, Estrin DA. "Structural determinants of ligand migration in Mycobacterium tuberculosis truncated hemoglobin O". *Proteins.* (2008), **73**(2), 372-79. **(31 citations)**

Eloise Mastrangelo, Federica Cossu, **Mario Milani**, Graziella Sorrentino, Daniele Lecis, Domenico Delia, Leonardo Manzoni, Carmelo Drago, Pierfausto Seneci, Carlo Scolastico, Vincenzo Rizzo and Martino Bolognesi. "Targeting the x-linked inhibitor of apoptosis protein (xiap) through 4-substituted azabicyclo[5.3.0]alkane smac-mimetics: structure, activity and recognition principles". *J. Mol. Biol.* (2008), **384**(3), 673-89. **(22 citations)**

Ouellet YH, Daigle R, Lagüe P, Dantsker D, **Milani M**, Bolognesi M, Friedman JM, Guertin M. Ligand binding to truncated hemoglobin N from Mycobacterium tuberculosis is strongly modulated by the interplay between the distal heme pocket residues and internal water. *J. Biol. Chem.* (2008), **283**(40), 27270-8. **(7 citations)**

2009

Michela Bollati, **Mario Milani**, Eloise Mastrangelo, Stefano Ricagno, Gabriella Tedeschi, Simona Nonnis, Etienne Decroly, Barbara Selisko, Xavier de Lamballerie, Bruno Coutard, Bruno Canard and Martino Bolognesi "Recognition of the RNA cap in Wesselsbron virus NS5 methyltransferase domain: implications for RNA capping mechanisms in Flavivirus". *J. Mol. Biol.* (2009), **385**(1), 140-52. **(29 citations)**

Cossu F, Mastrangelo E, **Milani M**, Sorrentino G, Lecis D, Delia D, Manzoni L, Seneci P, Scolastico C, Bolognesi M. "Designing Smac-mimetics as antagonists of XIAP, cIAP1, and cIAP2." *Biochem Biophys Res Commun.* (2009), **378**(2), 162-7. **(37 citations)**

Bollati M, **Milani M**, Mastrangelo E, de Lamballerie X, Canard B, Bolognesi M. "Crystal structure of a methyltransferase from a no-known-vector Flavivirus." *Biochem. Biophys. Res. Commun.* (2009), **82**, 200-4. **(3 citations)**

Mario Milani, Eloise Mastrangelo, Michela Bollati, Barbara Selisko, Etienne Decroly, Mickaël Bouvet, Bruno Canard and Martino Bolognesi "Flaviviral methyltransferase/RNA interaction. Structural basis for enzyme inhibition" *Antiviral Res.* (2009), **83**, 28-34. **(27 citations)**

Federica Cossu*, **Mario Milani***, Eloise Mastrangelo, Patrice Vachette, Federica Servida, Daniele Lecis, Domenico Delia, Carmelo Drago, Leonardo Manzoni, Pierfausto Seneci, Carlo Scolastico, Vincenzo Rizzo and Martino Bolognesi. "Structural bases for bivalent smac-mimetics recognition in the IAPs protein family". *J. Mol. Biol.* (2009) **392**(3), 630-44. **(25 citations)** *These authors have contributed equally to the studies presented

Seneci P, Bianchi A, Battaglia C, Belvisi L, Bolognesi M, Caprini A, Cossu F, Franco ED, Matteo MD, Delia D, Drago C, Khaled A, Lecis D, Manzoni L, Marizzoni M, Mastrangelo E, **Milani M**, Motto I, Moroni E, Potenza D, Rizzo V, Servida F, Turlizzi E, Varrone M, Vasile F, Scolastico C. "Rational design, synthesis and characterization of potent, non-peptidic Smac mimics/XIAP inhibitors as proapoptotic agents for cancer therapy". *Bioorg. Med. Chem.* (2009) **17**(16), 5834-56. **(21 citations)**

Crobu D., Canevari G., **Milani M.**, Pandini V., Vanoni. M.A., Bolognesi M., Zanetti G., Aliverti A. "Plasmodium falciparum Ferredoxin-NADP(+) Reductase His286 Plays a Dual Role in NADP(H) Binding and Catalysis". *Biochemistry.* (2009) **48**(40), 9525-33. **(3 citations)**

Assenberg R, Mastrangelo E, Walter TS, Verma A, **Milani M**, Owens RJ, Stuart DI, Grimes JM, Mancini EJ. "Crystal structure of a novel conformational state of the Flavivirus NS3 protein: Implications for Polyprotein Processing and Viral Replication". *J. Virol* (2009) **83**(24), 12895-906. **(41 citations)**

2010

Bollati M, Alvarez K, Assenberg R, Baronti C, Canard B, Cook S, Coutard B, Decroly E, De Lamballerie X, Gould EA, Grard G, Grimes JM, Hilgenfeld R, Jansson AM, Malet H, Mancini EJ, Mastrangelo E, Mattevi A, **Milani M.**, Moureau G, Neyts J, Owens RJ, Ren J, Selisko B, Speroni S, Steuber H, Stuart DI, Unge T, Bolognesi M. "Structure and functionality in flavivirus NS-proteins: Perspectives for drug design". *Antiviral Res.* (2010) **87**(2), 125-48. **(56 citations)**

Federica Cossu, Francesca Malvezzi, Giulia Canevari, Eloise Mastrangelo, Daniele Lecis, Domenico Delia, Pierfausto Seneci, Carlo Scolastico, Martino Bolognesi and **Mario Milani** "Recognition of Smac-mimetic compounds by the BIR domain of cIAP1." *Protein Science.* (2010) **19**, 2418-29. **(4 citations)**

2011

Mario Milani, Francesco Ciriello, Sara Baroni, Vittorio Pandini, Giulia Canevari, Martino Bolognesi, Alessandro Aliverti "FAD-binding site and NADP reactivity in human renalase: a new enzyme involved in blood pressure regulation" *J. Mol. Biol.* (2011) **411**(2), 463-73. **(19 citations)**

2012

Eloise Mastrangelo, Martino Bolognesi, **Mario Milani** "Flaviviral helicase: insights into the mechanism of action of a motor protein" *Biochem. Biophys. Res. Commun.* (2012) **417**, 84-7. **(2 citations)**

Eloise Mastrangelo, Margherita Pezzullo, Martino Bolognesi, Susanne Kaptein, Tine De Burghgraeve, Johan Neyts, Boris Pastorino, Xavier de Lambellerie, **Mario Milani** "Ivermectin is a potent inhibitor of flavivirus replication specifically targeting NS3 helicase activity: new prospects for an old drug." *J. Antimicrob. Chemother.* (2012) **67**(8), 1884-94. **(12 citations)**

Eloise Mastrangelo, Margherita Pezzullo, Delia Tarantino, Roberto Petazzi, Francesca Germani, Dorothea Kramer, Ivonne Robel, Jacques Rohayem, Martino Bolognesi & **Mario Milani** "Structure-based inhibition of norovirus RNA-dependent RNA-polymerases" *J. Mol. Biol.* (2012) **419**(3-4), 198-210. **(7 citations)**

Federica Cossu*, **Mario Milani***, Patrice Vachette, Francesca Malvezzi, Serena Grassi, Giulia Canevari, Daniele Lecis, Domenico Delia, Carmelo Drago, Pierfausto Seneci, Martino Bolognesi and Eloise Mastrangelo. "Structural insights into inhibitor of apoptosis proteins recognition by a potent divalent smac-mimetic." *PLoS One.* 2012;7(11):e49527. *These authors have contributed equally to the studies presented **(2 citations)**

Daniele Lecis, Eloise Mastrangelo, Laura Belvisi, et al., **Mario Milani**, et al., & Pierfausto Seneci "Dimeric Smac mimetics/IAP inhibitors as in vivo-active pro-apoptotic agents. Part II: Structural and biological characterization". *Bioorg Med Chem.* 2012 Nov 15;20(22):6709-23. **(2 citations)**

2013

Sara Baroni, **Mario Milani**, Vittorio Pandini, Giulio Pavesi, David Horner, Alessandro Aliverti "Is renalase a novel player in catecholaminergic signaling? The mystery of the catalytic activity of an intriguing new flavoenzyme". *Current pharmaceutical design* (2013) **19** (14), 2540-2551. **(6 citations)**

Massimo Sabbatini, Alessandro Vezzoli, **Mario Milani** and Giovanni Bertoni "Evidence for self-association of the alternative sigma factor σ^{54} ". *FEBS J.* (2013) **280**(5):1371-8.

2014

Delia Tarantino, Margherita Pezzullo, Eloise Mastrangelo, Romina Croci, Jacques Rohayem, Ivonne Robel, Martino Bolognesi, & **Mario Milani** "Naphtalene-sulfonate inhibitors of human norovirus RNA-dependent RNA-polymerase" *Antiviral Res.* 2014, **102**, 23-28

Romina Croci, Delia Tarantino, **Mario Milani**, Margherita Pezzullo, Jacques Rohayem, Martino Bolognesi & Eloise Mastrangelo "PPNDS inhibits murine Norovirus RNA-dependent RNA-polymerase mimicking two RNA stacking bases" in press *FEBS L.*

Romina Croci, Margherita Pezzullo, Delia Tarantino, **Mario Milani**, Shwu-Chen Tsay, Radhakrishnan Sureshbabu, Yi-Jin Tsai, Eloise Mastrangelo, Jacques Rohayem, Martino Bolognesi and Jih Ru Hwu "Structural Bases of Norovirus RNA Dependent RNA Polymerase Inhibition by Novel Suramin-related Compounds" in press *PLOS ONE*

Eloise Mastrangelo, Stefania Mazzitelli, Jacopo Fabbri, Jacques Rohayem, Janne Ruokolainen, Antti Nykänen, **Mario Milani**, Margherita Pezzullo, Claudio Nastruzzi and Martino Bolognesi "Delivery of suramin as an anti-viral agent through liposomal systems" in press *chem med chem*