

Curriculum vitae et studiorum

Personal information

First name / Surname **Vincenzo Mangini**

Address

Telephone

E-mails

Date of birth 21/07/1984

Occupational field **Biotechnology research worker**

About me I am a dedicated and enthusiastic researcher with a strong multidisciplinary expertise in bioorganic and protein chemistry, nanotechnology, and structural and molecular biology. Since several years, I work on research projects at the interface between chemistry, biology and nanotechnology. I also enjoy teaching and I have supervised several master students from various fields of study (chemistry, biotechnology, chemical and pharmaceutical technologies).

Work experience

Dates	September 2016 – to date
Occupation or position held	Senior post-doctoral researcher
Main activities and responsibilities	Directional immobilization of proteins on nanoparticles for biomedical applications such as novel nanoparticle-based vaccine formulations
Name and address of employer	Center for Biomolecular Nanotechnologies, Italian Institute of Technology (IIT) in Arnesano, Lecce, Italy
Dates	May 2016 – August 2016
Occupation or position held	Post-doctoral researcher within the national "Anna Laura Segre 2016" award
Main activities and responsibilities	Research grant prizewinner for the project: "NMR-based approaches for nanotoxicity assessment: effect of silver nanoparticles on copper trafficking proteins"
Name and address of employer	Italian Discussion Group on Magnetic Resonance (G.I.D.R.M.) and the family of Anna Laura Segre at the Department of Chemistry, University of Bari "Aldo Moro", Bari, Italy
Dates	May 2015 - June 2016
Occupation or position held	Post-doctoral researcher within a PON project
Main activities and responsibilities	Research grant recipient for the project: "Study on the peptide internalization mechanisms caused by copper and nanoparticles"
Name and address of employer	Interuniversity Consortium for Research in the Chemistry of Metal Ions in Biological Systems (C.I.R.C.M.S.B.) in Bari, Italy
Dates	May 2014 - June 2015
Occupation or position held	Post-doctoral researcher within a PON project
Main activities and responsibilities	Research grant recipient for the project: "Structural and stability studies on metal ion adducts with ubiquitin and polyubiquitin"
Name and address of employer	Interuniversity Consortium for Research in the Chemistry of Metal Ions in Biological Systems (C.I.R.C.M.S.B.) in Bari, Italy

19/02/2020

Dates June 2010 - December 2010
Occupation or position held **Post-graduate researcher** with a grant from the Italian bank foundation Compagnia di San Paolo
Main activities and responsibilities Research grant recipient within the Program Neuroscience for the project: "Protein Oligomers: Role in Neurodegeneration"
Name and address of employer **Interuniversity Consortium for Research in the Chemistry of Metal Ions in Biological Systems (C.I.R.C.M.S.B.)** in Bari, Italy

Education and training

Dates January 2011 – February 2014
Title of qualification awarded **Ph.D. in Chemical and Molecular Sciences**
Level in international classification ISCED 6
Organisation providing education **University of Bari "Aldo Moro"**, Bari, Italy
Principal subjects/occupational skills covered Thesis title: "*Ubiquitin-metal ion interaction and amyloid formation on membrane and nanoparticle surfaces*". Thesis supervisors: *Dr. Fabio Amesano and Prof. Giovanni Natlie*
Internship Chemical-physical characterization of protein aggregates and research into the role of metal ions in the onset of neurodegenerative disorders at **Dept. of Chemistry, University of Bari "Aldo Moro"**, Bari, Italy

Dates February 2010
Title of qualification awarded **Qualification to the biology profession (section A)**
Organisation providing education **University of Bari "Aldo Moro"**, Bari, Italy

Dates November 2006 – July 2009
Title of qualification awarded **Second level degree in Pharmaceutical, Veterinary and Medical Biotechnologies (9/S)**
Level in international classification ISCED 5
Final Mark 110/110 cum laude
Organisation providing education **University of Bari "Aldo Moro"**, Bari, Italy
Principal subjects/occupational skills covered Thesis title: "*Localized delivery of fibroblast growth factor-2 and brain-derived neurotrophic factor reduces spontaneous seizures in an epilepsy model*". Thesis supervisors: *Prof. Michele Simonato and Prof. Susanna Cotecchia*
Internship Histological and in vivo experiments on the effect of delivery of fibroblast growth factor-2 and brain-derived neurotrophic factor in epilepsy models at **Faculty of Pharmacy, University of Ferrara, Ferrara, Italy**

Dates November 2003 – October 2006
Title of qualification awarded **First level degree in Medical and Pharmaceutical Biotechnologies (L-2)**
Level in international classification ISCED 5
Final Mark 110/110
Organisation providing education **University of Bari "Aldo Moro"**, Bari, Italy
Principal subjects/occupational skills covered Thesis title: "*Ubc9 overexpression in 3T3-L1 fibroblasts by adenoviral system: effects on adipogenesis*". Thesis supervisors: *Prof. Francesco Giorgino and Prof. Maria Svelto*
Internship Study of the effects of the overexpression of a SUMO conjugating enzyme on adipogenesis in 3T3-L1 fibroblasts at the laboratory of the **Polyclinic Hospital of Bari, University of Bari "Aldo Moro"**, Bari, Italy

Dates July 2003
Title of qualification awarded **High school diploma (Scientific Certificate)**
Level in international classification ISCED 3
Organisation providing education **L.S.S. Ettore Majorana, Putignano, Bari, Italy**
Final mark 100/100

19/02/2020

Personal skills and competences

Mother tongue(s) Italian

Other language(s) English

Self-assessment

Understanding				Speaking				Writing	
Listening		Reading		Spoken interaction		Spoken production			
C1	Proficient user	C1	Proficient user	B1	Independent user	B1	Independent user	C1	Proficient user

(*) Common European Framework of Reference for Languages

Technical skills and competences Synthesis and characterization of metal nanoparticles (NPs) of controlled shape and size. Design, preparation and characterization of NPs functionalized with a controlled number of proteins and peptides for clinical and diagnostic applications. In vitro assessment of engineered NPs, including toxicity and biological activity in 2D and 3D cell cultures.

Chemical-physical characterization of protein-protein and protein-nanoparticle interaction in physiopathological mechanisms through spectroscopic and spectrometric approaches, microscopic techniques, and molecular biology assays.

High specific knowledge and hands-on experience in expression of recombinant proteins in prokaryotic cells and protein purification; nuclear magnetic resonance, circular dichroism, mass spectrometry; gel-electrophoresis, immunoblot and immunofluorescence; transmission electron and confocal microscopy; mammalian cell and tissue cultures.

Social skills and competences Verbal and written communication of ideas and findings. Team spirit. Work in cooperative environment.

Organisational skills and competences Work in interdisciplinary teams. Design, organization and management of a chemical-biological research laboratory. Conceiving and writing of papers and scientific projects.

Computer skills and competences Experienced user of computers, including Word, Excel, PowerPoint, internet and scientific data analysis programs (such as Origin, ChemDraw, ImageJ, LSM Image Browser, TopSpin®, MestReNova, CARA NEASY, VMD, GraphPad).

Publications

Peer-reviewed articles: 11

H-index: 6

Total citations: 111 (without self-citations 109)

Source: Scopus - Elsevier, accessed 19/02/2020

Orcid ID: orcid.org/0000-0002-0743-2178

* First author or co-first author

SNIP = Source Normalized Impact per Paper

IF = Impact Factor

Salbini M, Stomeo T, Ciraci C, Fiammengo R, Mangini V, Toma A, Pisano F, Pisanello F, Verri T, Smith D.R, De Vittorio M.

Label-free Biomechanical Nanosensor based on LSPR for biological applications. Opt. Mater. Express. 2020, accepted.

Cit. 0 - SNIP 1.0 - IF 2.7

Mangini V*, Maggi V, Trianni A, Melle F, De Luca E, Pennetta A, Del Sole R, Ventura G, Cataldi T.R.I. Fiammengo R.

Directional immobilization of proteins on gold nanoparticles is essential for their biological activity: leptin as a case study. Bioconjugate Chem. 2020, 31 (1), 74-81.

Cit. 0 - SNIP 1.1 - IF 4.3

Meleleo D, Notarachille G, Mangini V, Arnesano F.

Concentration-dependent effects of mercury and lead on A42: possible implications for Alzheimer's disease. Eur. Biophys. J. 2019, 48 (2), 173-187.

Cit. 9 - SNIP 0.6 - IF 2.5

19/02/2020

Compañón I, Guerreiro A, Mangini V*, Castro-López J, Escudero-Casao M, Avenoza A, Busto JH, Castellón S, Jiménez-Barbero J, Asensio JL, Jiménez-Osés G, Boutureira O, Peregrina JM, Hurtado-Guerrero R, Fiammengo R, Bernardes GJL, Corzana F.

Structure-based design of potent tumor-associated antigens: modulation of peptide presentation by single-atom O/S or O/Se substitutions at the glycosidic linkage. J. Am. Chem. Soc. 2019, 141 (9), 4063-4072.

Cit. 6 - SNIP 2.6 - IF 14.7

Fermani S, Calvaresi M, Mangini V*, Falini G, Bottoni A, Natile G, Arnesano F.

Aggregation Pathways of Native-Like Ubiquitin Promoted by Single-Point Mutation, Metal Ion Concentration, and Dielectric Constant of the Medium. Chem.: Eur. J. 2018, 24 (16), 4140-4148.

Cit. 0 - SNIP 1.0 - IF 5.2

Dell'Aglio M, Mangini V, Valenza G, DePascale O, De Stradis A, Natile G, Arnesano F, De Giacomo A. *Silver and Gold Nanoparticles produced by Pulsed Laser Ablation in Liquid to investigate their interaction with Ubiquitin.* Appl. Surf. Sci. 2016, 374, 297-304.

Cit. 21 - SNIP 1.2 - IF 5.2

La Mendola D, Arnesano F, Hansson O, Giacomelli C, Calò V, Mangini V, Magri A, Bellia F, Trincavelli ML, Martini C, Natile G, Rizzarelli E.

Copper binding to the naturally occurring, lactam form of angiogenin differs from that of recombinant protein and affects its activity differently. Metallomics 2016, 8 (1), 118-124.

Cit. 11 - SNIP 1.1 - IF 3.6

Di Gioia S, Trapani A, Mandracchia D, De Giglio E, Cometa S, Mangini V, Arnesano F, Belgiovine G, Castellani S, Pace L, Lavecchia MA, Trapani G, Conese M, Puglisi G, Cassano T.

Intranasal delivery of dopamine to the striatum using glycol chitosan/sulfobutylether- β -cyclodextrin based nanoparticles. Eur. J. Pharm. Biopharm. 2015, 94 (1), 180-193.

Cit. 36 - SNIP 1.4 - IF 4.7

Mangini V*, Dell'Aglio M, De Stradis A, De Giacomo A, De Pascale O, Natile G, Arnesano F.

Amyloid transition of ubiquitin on silver nanoparticles produced by Pulsed Laser Ablation in Liquid as a function of stabilizer and single point mutations. Chem.: Eur. J. 2014, 20 (34), 10745-10751.

Cit. 19 - SNIP 1.0 - IF 5.2

Fermani S, Falini G, Calvaresi M, Bottoni A, Calò V, Mangini V, Arnesano F, Natile G.

Conformational Selection of Ubiquitin Quaternary Structures Driven by Zinc Ions. Chem.: Eur. J. 2013, 19 (46), 15480-15484.

Cit. 2 - SNIP 1.0 - IF 5.2

Lobasso S, Lopalco P, Vitale R, Saponetti MS, Capitanio G, Mangini V, Milano F, Trotta M, Corcelli A.

The light-activated proton pump Bop I of the archaeon Haloquadratum walsbyi. Photochem. Photobiol. 2012, 88 (3), 690-700.

Cit. 7 - SNIP 0.8 - IF 2.3

Participation at congresses

Talk: *Immobilizzazione di antigeni tumore-specifici su nanoparticelle di oro per la realizzazione di vaccini anticancro.*

Invited speaker at LEbiatec 2019 - Lecce (Italy) 26th September - 2nd and 3rd October 2019

Talk: *Immobilization of tumor-associated glycopeptide antigen mimics on gold nanoparticles for improving the efficacy of cancer vaccines.*

GlycoBioTec 2019 - Berlin (Germany) 28th - 30th January 2019

Talk: *Nanovaccines for the treatment of cancer: multivalent presentation of TA-MUC1 glycopeptides on gold nanoparticles.*

EMRS - Spring Meeting 2018 - Strasbourg (France) 18th - 22th June 2018

Poster: *Nanovaccines for the treatment of cancer: multivalent presentation of TA-MUC1 glycopeptides on gold nanoparticles.*

EMRS - Spring Meeting 2018 - Strasbourg (France) 18th - 22th June 2018

19/04/2020

Poster: *Next generation gold-nanoparticle formulations for improving efficacy of TA-MUC1-directed cancer vaccines.*

Medical Biotechnology VIB Conference Series - **Gent** (Belgium) 24th -25th May 2018

Poster: *Improved size-tunable synthesis of gold nanorods and surface functionalization strategies for biomedical applications.*

School of Nanomedicine - **Bari** (Italy) 11th -13th October 2017

Talk: *NMR-based approaches for nanotoxicity assessment: effect of silver nanoparticles on copper trafficking proteins.*

Invited speaker at XLVI National Congress of Magnetic Resonance - **Fisciano** (Italy) 27th -29th September 2017

Poster: *Improved size-tunable synthesis of gold nanorods and surface functionalization strategies for biomedical applications.*

XXVI Congresso Nazionale SCI - **Paestum** (Italy) 10th -14th September 2017

Talk: *NMR studies of protein-nanoparticle interaction: implication for nanotoxicity and nanomedicine.*

Invited speaker at Center for Biomolecular Nanotechnologies, Italian Institute of Technology - **Arnesano** (Italy) 18th March 2016

Poster: *NMR-based approaches for exploring an innovative ubiquitin-silver nanoparticle bioconstruct for wound healing.*

School of Nanomedicine - **Bari** (Italy) 2nd -4th December 2015

Talk: *NMR-based approaches for exploring an innovative ubiquitin-silver nanoparticle bioconstruct for wound healing.*

Meeting COST action CM1105 – **Bari** (Italy) 26th-27th October 2015

Talk: *NMR-based approaches for exploring an innovative ubiquitin-silver nanoparticle bioconstruct for wound healing.*

XV workshop on Pharmacobiometallics 2015 – **Bari** (Italy) 23rd-24th October 2015

Talk: *Modulation of ubiquitin interaction with metal nanoparticles: implication for health impact of nanotechnology.*

XIV workshop on Pharmacobiometallics 2014 – **Pisa** (Italy) 24th-25th October 2014

Talk: *Tuning the affinity of ubiquitin for membranes: implications for neurodegenerative disorders.*

Final meeting COST action CM0902 – **Innsbruck** (Austria) 8th-11th November 2013

Oral presentation: "Modulation of ubiquitin interaction with silver nanoparticles."

XI Suprachem – **Padova** (Italy) 24th-27th September 2013

Poster: *Clean production of silver nanoparticles via Laser Ablation and interaction with ubiquitin.*

EMSLIBS **Bari** (Italy) 16th -20th September 2013

Talk: *Tuning the affinity of ubiquitin for membranes: implications for neurodegenerative diseases.*

XL Congresso Nazionale di Chimica Inorganica – **Sestri Levante** (Italy) 9th-13th September 2012

Poster: *Tuning the affinity of ubiquitin for membranes: implications for neurodegenerative diseases.*

II Scuola Nazionale di Chimica Bioinorganica - **Siena** (Italy) 3rd -6th July 2011

Talk: *Tuning the affinity of ubiquitin for membranes: implications for neurodegenerative diseases.*

X workshop on Pharmacobiometallics 2010 – **Pozzuoli** (Italy) 29th-31st October 2010

Awards and memberships

Prizewinner of national "Anna Laura Segre 2016" award from the family of Anna Laura Segre and the Italian Discussion Group on Magnetic Resonance (G.I.D.R.M.)

Member of the Inorganic Chemistry (I.C.) and Chemistry of Biological Systems (C.B.S.) divisions of the Italian Chemical Society (S.C.I.)

Member of the Italian Discussion Group on Magnetic Resonance (G.I.D.R.M.)

Research supervision

Italian Institute of Technology, Center for Biomolecular Nanotechnologies

Supervised 2 master students in medical biotechnology and nanobiotechnology (University of Salento)

19/04/2020

University of Bari "Aldo Moro", Department of Chemistry

Supervised 1 master student in chemistry, 2 master students in chemical and pharmaceutical technologies, and 1 student in medical biotechnology (University of Bari "Aldo Moro")

Referees

Prof. Giovanni Natile (giovanni.natile@uniba.it)

Prof. Fabio Arnesano (arnesano@farmchim.uniba.it)

Dr. Roberto Fiammengo (roberto.fiammengo@iit.it)

Il sottoscritto, sotto la propria responsabilità e nella consapevolezza che – ai sensi e per gli effetti dell'art. 76 del D.P.R. 445/2000 – le dichiarazioni mendaci, la falsità negli atti e l'uso di atti falsi sono puniti ai sensi del codice penale e delle leggi speciali, dichiara che le informazioni rispondono a verità.

Il sottoscritto in merito al trattamento dei dati personali esprime il proprio consenso al trattamento degli stessi nel rispetto delle finalità e modalità di cui al d.lgs. n. 196/2003

Lecce, 19 febbraio 2020