

ANDREAS SANTAMARIA **CURRICULUM VITAE**





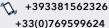
Born / 10/11/1994 Age/26 Place of birth / NAPOLI (NA) Nationality/ citizenship / Italy 6 rue Nicolas Chorier, 38000 GRENOBLE (FRANCIA)

Via Ugo La Malfa 5, 81020 SAN NICOLA LA STRADA (CE) Driving licence / B / Car available

ID/4277072 updated on 26/10/21



andreassantamaria@virgilio.it

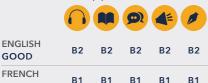


SOFT SKILL

Autonomy 9/10 Self confidence 9/10 Flexibility/Adaptability 7/10 Resistance to stress 8/10 Ability to plan and organize 10/10 Managing information 10/10 Precision/Attention to details 10/10 Learn continuously 10/10 Achievement of objectives 10/10 Entrepreneurial spirit and initiative 10/10 Communication 9/10 Problem Solving 9/10 Team work 10/10 Leadership 10/10



MOTHER TONGUE(S): Italian



EXPECTATIONS AND FEATURES OF THE DESIRED JOB

INTENTION TO CONTINUE STUDIES: Yes / Doctoral studies

ECONOMIC SECTOR: 1. education, training, research and development /2. chemicalpharmaceutical industry /3. chemistry

DESIRED JOB:

FAIR

Researcher in biochemical field; expert on structural biology and biophysics.

AVAILABILITY FOR BUSINESS TRAVELS: Yes, including relocation

AVAILABILITY TO RELOCATE ABROAD: Yes, but only in Europe

Career Goal

Researcher in biochemical field; expert on structural biology and biophysics.



ACADEMIC STUDIES

MASTER'S DEGREE 2016 - 2018

CERTIFIED TITLE



Università degli Studi di NAPOLI 'Federico II' Dipartimento di Scienze Chimiche Scienze chimiche

LM-54 - 2nd level degree in Chemistry

Dissertation/thesis title: Investigation and modulation of aptamer functionality by a combined use of click-chemistry and X-ray crystallography | Dissertation/thesis subject: CHIMICA FISICA |

Thesis supervisor: SICA FILOMENA

Age at graduation: 23 | Official duration: 2 years

Final degree mark: 110/110 cum laude Graduation date: 25/10/2018

BACHELOR'S DEGREE Università degli Studi di NAPOLI 'Federico II' Dipartimento di Scienze Chimiche 2013 - 2016

Chimica

L-27 - 1st level degree in Chemistry

Dissertation/thesis title: Synthesis and characterization of new phosphytilating agents | Dissertation/thesis subject: Oligonucleotides design and synthesis | Thesis supervisor:

ZARRELLI ARMANDO

Age at graduation: 21 | Official duration: 3 years

Final degree mark: 110/110 cum laude Graduation date: 14/07/2016

UNIVERSIDAD COMPLUTENSE DE MADRID Faculty: Facultad de Ciencias Químicas

Química avanzada

PHD 2019 -

ONGOING STUDIES SPAIN

INSTITUT LAUE-LANGEVIN (FRANCE)

SCIENTIFIC CERTIFICATE

CASERTA 2013

Scientific High School

ALESSANDRO MANZONI, CASERTA (CE)

School-leaving examination mark: 100/100 cum laude

Kind of secondary school diploma: Italian secondary school diploma



WORK EXPERIENCES

Undergraduate Internship UNIVERSITY 'FEDERICO II'

Chemistry 01/2016 - 03/2016 Main activities and responsibilities: Biomolecules crystallisation techniques

Employed as: intern/trainee - undergraduate internship | Company sector: R&D and patents



FOREIGN LANGUAGE SKILLS

DIPLOMAS AND CERTIFICATES

English Cambridge English, First Certificate (FCE), Università di Cambridge, Jun 2017, Europass level B2



INFORMATION TECHNOLOGY SKILLS

BASIC DIGITAL COMPETENCE Operating systems Excellent

Word processing Fair Electronic spreadsheet Good Data base administrators Fair Internet skills Excellent

Multimedia Fair

SOFTWARE APPLICATIONS

 ${\sf Excell, Word, PowerPoint, MatLab, Origin, ChemDraw, WinCoot,}\\$

Pymol, CCP4, SasView, AuroreNR, FloJo.



STUDIES AND EXPERIENCES ABROAD

GERMANY 2018 Other experience acknowledged by the course of study (Erasmus

Traineeship)
At: LIMES Institute

Place: Bonn (Germany) | Language: English | Duration: 5 (months)

Completion of the thesis project.

Knowledge of instruments such as LCMS, freeze-drier and flow cytometer. Skill in performing click-reactions with oligonucleotides. Rudiments of cell growth methodologies. Knowledge of the methodologies to perform anticoagulation tests (Thrombin Time

and Activated Partial Thromboplastin Time).



PROFESSIONAL ACCOLADES AND AWARDS

PRIZE 01/06/2021

PCCP presentation prize at: School of Physical Chemistry 2021



CONFERENCES AND SEMINARS

CONFERENCES 01/09/2021 35th CONFERENCE OF THE EUROPEAN COLLOID & INTERFACE

SOCIETY

Character: Poster presentation

www.ecis2021.org/

CONFERENCES 01/06/2021 School of Physical Chemistry, University of Naples Federico II

Character: ortal talk - winner

CONFERENCES 07/04/2021

7th European Joint Theoretical/Experimental Meeting on

Membranes (EJTEMM 2021)

Character: Poster presentation

WORKSHOPS 05/04/2021 ACS spring 21 Character: Oral talk

CONFERENCES

UK Neutron and Muon user meeting

Character: Oral talk

2021

NSCIS21: Neutron Scattering in Colloid and Interface Science

CONFERENCES 2021

Character: Oral talk

CONVENTIONS

V Simposio Anual en Química Avanzada (VSAQA) , Madrid Character: Oral talk

01/12/2020

ILLPhD Seminar , ILL , Grenoble

WORKSHOPS 01/12/2020

Seminar cycle of all ILL PhD students on neutron transport

LECTURES 01/03/2020

HERCULES school, Grenoble

Cabaal an anializad in the field

School specialized in the field of synchrotron and neutron radiation, focusing on the structure and dynamics of biological

macromolecules (school session B)

CONVENTIONS

2020

XXIV International School of Pure and Applied Biophysics, SIBPA,

School of Pure and Applied Biophysics focusing on neutron and X-

ray scattering techniques.

www.sibpa.it/index.php/scuola-internazionale-di-bi...

WORKSHOPS

01/12/2019

ILLPhD Seminar . ILL . Grenoble

Cycle of Seminars of all ILL PhD students

CONFERENCES

01/12/2019

BILL2019, ILL, Grenoble

Cycle of conferences about lipid bilayers

CONVENTIONS

04/07/2019

Communication between thrombin exosites: structural effects of the simultaneous binding of two bimodular aptamers, Naples Poster presented by ROMUALDO TROISI at the Fifth Meeting of

the Italian and Spanish Crystallographic Associations (MISCA V). The research presented is partially based on my Master thesis

project.



PUBLICATIONS

JOURNAL ARTICLES

Romualdo Troisi, Nicole Balasco, Andreas Santamaria, Luigi Vitagliano, Filomena Sica, Structural and functional analysis of the simultaneous binding of two duplex/quadruplex aptamers to human -thrombin

Review: nternational Journal of Biological Macromolecules

Publisher: Elsevier

The long-range communication between the two exosites of human -thrombin (thrombin) tightly modulates the protein-effector interactions. Duplex/quadruplex aptamers represent an emerging class of very effective binders of thrombin. Among them, NU172 and HD22 aptamers are at the forefront of exosite I and II recognition, respectively. The present study investigates the simultaneous binding of these two aptamers by combining a structural and dynamics approach.

JOURNAL ARTICLES

Andreas Santamaria, Krishna C Batchu, Olga Matsarskaia, Sylvain F Prévost, Daniela Russo, Francesca Natali, Tilo Seydel, Ingo Hoffmann, Valerie Laux, Michael Haertlein, Tamim A Darwish, Robert A Russell, Giacomo Corucci, Giovanna Fragneto, Armando Maestro, Nathan R Zaccai, Strikingly different roles of SARS-CoV-2 fusion peptides

uncovered by neutron scattering

Review: bioRxiv

Publisher: Cold Spring Harbor Laboratory

The understanding of the infection mechanisms by SARS-CoV-2 is of utmost importance. A critical stage in infection is the fusion between viral and host membranes. Here, we present an investigation of the role of the Spike protein, and the influence of calcium, in this fusion process. Structural information from neutron reflectometry and small-angle neutron scattering, together with quasi-elastic and spin-echo neutron spectroscopy, revealed different functions encoded in the Spike fusion domain. www.biorxiv.org/content/10.1101/2021.08.30.4580...

JOURNAL ARTICLES

2021

Alessandra Luchini, Samantha Micciulla, Giacomo Corucci, Krishna Chaithanya Batchu, Andreas Santamaria, Valerie Laux, Tamim Darwish, Robert A Russel, Michel Thepaut, Isabelle Bally, Franck Fieschi, Giovanna Fragneto, Lipid Bilayer Degradation Induced by SARS-CoV-2 Spike Protein as Revealed by Neutron Reflectometry Review: Research Square

SARS-CoV-2 spike proteins are responsible for the membrane fusion event, allowing the viral infection. This process starts with the binding of the spike extramembrane domain to the angiotensin-converting enzyme 2 (ACE2), a membrane receptor highly abundant in the lungs. In this study, results from neutron reflectometry and quartz crystal microbalance measurements showed that the presence of the SARS-CoV-2 spike protein produced a remarkable degradation of the lipid bilayer. assets.researchsquare.com/files/rs-531349/v1_cov...

JOURNAL ARTICLES

Javier Carrascosa-Tejedor, Andreas Santamaria, Daniel Pereira, Armando Maestro, Structure of DPPC Monolayers at the Air/Buffer

Interface: A Neutron Reflectometry and Ellipsometry Study

Review: Coatings Publisher: MDPI

Langmuir monolayers of DPPC are extensively used as model systems of biomembranes and pulmonary surfactant. Here, we report structural information obtained by using NR and ellipsometry on DPPC monolayers in the liquid condensed phase. On one side, NR can resolve the thickness of the aliphatic tails and the degree of hydration of the polar headgroups. On the other side, ellipsometry gives information on the refractive index and on

the physical state of the monolayer www.mdpi.com/2079-6412/10/6/507/htm



ATTACHMENTS

Lipid Bilayer Degradation Induced by SARS-CoV-2 Spike Protein as Revealed by Neutron Reflectometry

SARS-CoV-2 spike proteins are responsible for the membrane fusion event, allowing the viral infection. This process starts with the binding of the spike extramembrane domain to the angiotensin-converting enzyme 2 (ACE2), a membrane receptor highly abundant in the lungs. In this study, results from neutron reflectometry and quartz crystal microbalance measurements showed that the presence of the SARS-CoV-2 spike protein produced a remarkable degradation of the lipid bilayer. assets.researchsquare.com/files/rs-531349/v1_cov...

Strikingly different roles of SARS-CoV-2 fusion peptides uncovered by neutron scattering

The understanding of the infection mechanisms by SARS-CoV-2 is of utmost importance. A critical stage in infection is the fusion between viral and host membranes. Here, we present an investigation of the role of the Spike protein, and the influence of calcium, in this fusion process. Structural information from neutron reflectometry and small-angle neutron scattering, together with quasi-elastic and spin-echo neutron spectroscopy, revealed different functions encoded in the Spike fusion domain. www.biorxiv.org/content/10.1101/2021.08.30.4580...

Structural and functional analysis of the simultaneous binding of two duplex/quadruplex aptamers to human -thrombin

The long-range communication between the two exosites of human -thrombin (thrombin) tightly modulates the protein-effector interactions. Duplex/quadruplex aptamers represent an emerging class of very effective binders of thrombin. Among them, NU172 and HD22 aptamers are at the forefront of exosite I and II recognition, respectively. The present study investigates the simultaneous binding of these two aptamers by combining a structural and dynamics approach.

www.sciencedirect.com/science/article/abs/pii/S01...

Structure of DPPC Monolayers at the Air/Buffer Interface: A Neutron Reflectometry and Ellipsometry Study

Langmuir monolayers of DPPC are extensively used as model systems of biomembranes and pulmonary surfactant. Here, we report structural information obtained by using NR and ellipsometry on DPPC monolayers in the liquid condensed phase. On one side, NR can resolve the thickness of the aliphatic tails and the degree of hydration of the polar headgroups. On the other side, ellipsometry gives information on the refractive index and on the physical state of the monolayer www.mdpi.com/2079-6412/10/6/507/htm