

**PERSONAL INFORMATION**

Full Name: Casati, Nicola Pietro Maria  
Birth: September 3<sup>rd</sup> 1978, Bologna (Italy)  
Citizenship: Italian  
Marital status: registered partnership, two sons

**EDUCATION**

- 2002-2005: **PhD** in chemical sciences; thesis on 'Non environmental single-crystal x-ray diffraction' at the University of **Milan**. During this period, I spent seven months working under the supervision of Dr. S. Parsons, at the University of **Edinburgh**, learning high-pressure single-crystal techniques.
- 2002: **'Laurea'** (Ms Sc) in Chemistry at the University of Milan discussing a thesis on the 'Structural characterisation of materials with potential NLO properties' (final marks **110/110**); curriculum in Solid state Inorganic and Organometallic chemistry.
- 2000-2001: **Erasmus** student at **Cambridge University**, worked in Dr. J.P. Attfield's group on a research project about 'The synthesis and characterisation of the fluorides  $XCrF_3$  (X= Rb, K)'.

**EMPLOYMENT HISTORY**

- 2018-present : **Group Leader** of the Material Science group, within the Laboratory for Synchrotron Radiation, Condensed Matter.
- 2012-2018 : **Beamline Scientist** at the MS-X04SA **Powder Diffraction** beamline, Swiss Light Source. I also successfully led the beamline and supported users at the surface diffraction station during a year as **ad interim group leader** and surface diffraction scientist.
- 2009-2012: **Post-Doctoral Research Assistant** at **Diamond Light Source** ltd., extreme conditions beamline (I15). Main tasks include:
- Installation and commissioning of single crystal diffraction, available to users since March 2011.
  - Competitive research project on materials at high pressure, results published and presented at conferences.
  - Commissioning of new beamline elements (among which CCD and Pilatus 100k detectors).
  - Support of internal and external users.
- 2006-2009: **Post-doctoral** position at the University of Milan. My research focused on a) high pressure behaviour of small organic/metallorganic molecules in crystals; b) crystal engineering of novel materials for non-linear optics (NLO); c) structure determination of organometallic complexes active in catalysis. During the period I have also:
- given lectures to PhD students
  - led laboratory courses of Informatics for graduate students, inside the course held by Prof. Lanzavecchia.
  - visited prof. E. Boldyreva laboratories at Novosibirsk technical University for scientific cooperation.

**INSTITUTIONAL RESPONSIBILITIES**

As Group Leader I direct and support the research within the Material Science group. I prepare and coordinate the beamline strategic developments to improve capabilities and versatility.

As Beamline scientist my main responsibilities are:

- **Own research**, as a chemical crystallographer my main interests are the effects of mechanical forces on the stability of structures and chemical bonding.
- **Beamline development** including the design, construction and/or commissioning of several devices.
- Supervise the **safety** at work.
- **User support** of scientific activities at the beamline, ranging from engineering, pharma, chemistry and physics.
- Responsible for the beamline of **industrial activity**, grown from 0 to 12 days/year.
- Responsible for the development of **Mesquik**, a mail-in fast access service for standard measurements (started in September 2016)

## SUPERVISION AND LEADERSHIP

In different capacities I have supervised:

2012-2013 Dr. S. Evans, postdoc

2013-2017 Dr. A. Lanza, co-supervisor of her PhD thesis

2015- Dr. V. Ban, postdoc

2016- Mr. T. Poreba, supervisor of his PhD thesis

2017- Dr. M. Wilke, postdoc

In two separate periods, lasting approximately one and a half years, I have been **ad interim group leader** of the Material Science group.

I have attended **leadership** courses:

2014 two days course on “Aktiv Führen”, organized for PSI by Bischof management.

2017 one day course on “Leadership for Innovation”, organized by ETHZ.

## APPROVED RESEARCH PROJECTS

2004-2008: FIRB-2003 grant on "Molecular compounds and hybrid nanostructured materials with resonant and nonresonant optical properties for photonic devices" (national coordinator: prof. R. Ugo, role as co-investigator).

2008-2009: PRIN-2007 grant on “Innovative transition metal Catalysts for specific chemical and stereo-selective synthesis” (national coordinator: prof. S. Gladiali, role as co-investigator).

2012-2014: SNF grant on “Chemical bonding and reactions in molecular crystals at high-pressure”, Project number 200020\_144534SNF (Principal investigator Dr. P. Macchi, University of Bern, role as co-proposer).

2013: PSI-SYN budget 2013, co-proposer for a continuous-flow microwave-reactor to be available at the MS beamline.

2015: SYN budget 2015, main proposer for a novel cryostat design.

2015: PSI fellowship program, funding of Dr. V. Ban position as post-doc for 2 years.

2015-2017: SNF grant (continuation) on “Chemical bonding and reactions in molecular crystals at high pressure”, project number 200020\_162861 (Principal investigator Dr. P. Macchi, University of Bern, role as co-proposer)

2017: PSI fellowship program, funding of Dr. M. Wilke position as post-doc for 2 years

## MEMBERSHIPS

I am a member of the SNX committee, responsible for steering the Swiss Norwegian BeamLine at the **ESRF**.

I am member of the Swiss and the European Crystallographic Associations.

I regularly referee for crystallographic as well as chemical journals, such as Inorganic Chemistry, Journal of Synchrotron Radiation, and Acta Crystallographica.

## ORGANISATION OF CONFERENCES

- 2007: Organizing Committee (OC) of the Advanced X-ray diffraction analysis workshop in Martinafranca (Italy).
- 2008: OC of the 5<sup>th</sup> European Charge Density Meeting in Gravedona (Italy).
- 2012: Scientific OC and lecturer of the Powder Diffraction School at the SLS.
- 2012/13/14: Leader of the Local Organizing Committee for the Hercules course at the SLS.
- 2014: Scientific OC and lecturer of the Powder Diffraction School at the SLS.
- 2016: Scientific OC and lecturer of the Powder Diffraction School at the SLS.

## PRIZES

For my work on high-pressure crystallography I have won in 2009 the **Nardelli prize** for young scientists of the Italian Crystallographic Association (AIC).