

CURRICULUM VITAE

of Andrea Di Cicco

Present position

Professor in Physics at the University of Camerino (Italy).

Personal details

Born in Pistoia (Italy) on August, the 15th, 1962.

Marital status: married with one son.

Scientific Profile

His activity in the last 15 years has been mainly devoted to the development and exploitation of the x-ray absorption spectroscopy (XAS) and x-ray diffraction (XRD) techniques. He published more than 120 papers (cited more than 2200 times) and acts as a referee on international journals. He is currently chair of the International XAFS Society and member of several International boards. He attended numerous conferences, workshops and schools as an invited speaker and worked at international synchrotron radiation facilities (PULS/PWA Frascati, LURE Orsay, SSRL Stanford, ESRF Grenoble). He has been invited scientist several times at Stanford, Paris and Grenoble and maintains active international collaborations with research groups in Grenoble (ESRF, F), Paris (LURE and Jussieu, F), Stanford (SSRL, USA), Gdansk (Pl), Bristol (UK). He currently coordinates the activity of the XAS group at Camerino and is supervisor of researchers, students, post-docs and technicians. The main research program at the Camerino University has been the development of a laboratory dedicated to x-ray measurements of liquid and solid matter under extreme conditions. His research programs are active at synchrotron radiation facilities (currently ESRF) under approved financed proposals. He developed in the framework of a national collaboration the GNXAS suite of programs for multiple-scattering XAS data-analysis, available to the scientific community (<http://gnxas.unicam.it>). Current research is focused on the study of the structural properties under extreme high-pressure and high-temperature conditions with x-ray techniques, developed and financed within national and international collaborations.

Education

- Degree (Laurea) in Physics (110/110 cum laude, University of Roma I, 1987).
- PhD in Physics (University of Rome I, 1988-1991), title of the thesis: “The x-ray absorption spectroscopy: development of a new data-analysis method and applications”.

- Participant to 3 international schools in Solid State Physics (Varenna 1988, Erice 1989, Bodrum 1990) covering various aspects of spectroscopy with synchrotron radiation, condensed matter theory and superconductivity.

Brief description of main research activities

- Development of advanced computer codes (GNXAS) able to use multiple-scattering (MS) theory for X-ray absorption data-analysis and applications in molecular and solid systems of known structure. Development of original Reverse Monte Carlo codes for combined XAS and XRD structural analysis.
- Experimental determination of the local three-body distribution by XAS in liquid and amorphous systems.
- Design and realization of XAS measurements on liquid and undercooled metals. Development of high-temperature XAS/XRD measurements.
- XAS and XRD measurements under extreme high-pressure and high-temperature conditions, using diamond and large-volume PE cells.
- Study of the local structure in binary solids and liquids such as molten salts and metal alloys.
- Study of the many-electron channels contributing to the atomic background in X-ray absorption spectra. Relevance to the determination of the structural signal.
- Photoemission study of shake-up satellites associated with many-electron channels.
- XAS studies of High-Tc superconductors and related compounds. Structural studies of local distance and angle (Cu-O-Cu) distributions.
- XAS studies of nanophase systems.
- Applications of multiple-scattering theory to X-ray absorption data of compounds of biological interest.

Teaching Activity

- Since 1990, he has been in charge of teaching in several undergraduate and post-graduate classes as a fulfillment of his teaching duties at the University of Camerino (“General Physics”, “Laboratory of Physics”, “Solid State Physics”, “Physics of Disordered Matter”, “Laboratory of Physics of Matter”).
- He has been the tutor of 16 undergraduate and 3 PhD students at the University of Camerino.
- He has been in charge of teaching in several PhD classes in Camerino, Napoli and specialized lectures for students and researchers at Stanford, Paris XI, Paris VI, Grenoble, Roma.
- He was invited to give a series of lectures in several national and international schools: Camerino 1992, Castro Marina 1995, Camerino 1996, S. Margherita di Pula 1997,

Trieste 2000, Beijing (China) 2001, Warsaw 2001, Trieste 2002, Beijing (China) 2004.

Managing and coordination

- Main coordinator or co-proposer of several national research projects within Italian CNR and INFN, supporting several PhD or post-doc grants, research contracts and development of x-ray and high-temperature/ pressure instrumentation.
- He has chair of the International XAFS Society (IXS) <http://www.i-x-s.org> and is in charge of organizing the international XAFS conference in 2009.
- Member of International Advisory Board of the XAFS 13 conference (Stanford 2006), Liquid and Amorphous Metals (2007). Organizer or member of the board of international workshops and schools at the University of Camerino (1992,1996), Frascati (2002), Kyoto (2001), Gdansk (2005).
- Member of several boards for selecting PhD students, post-doc, researchers, and associate professors in Italian University, CNR, INFN. Member of the board for allocating beam-time at the Italian beamline at the ESRF “Gilda”. He has been member or vice-chair of the Executive Committee of the IXS for more than 6 years.
- Reviewer of thesis work for a PhD student at Paris VI University and for assigning the SBP-BNV 2003 award of the Belgian Physical Society. Referee of the National Science Foundation in USA. Chair (2006) and member of the committee (2003) for selecting the “young scientist” and “outstanding scientist” awards of the IXS.
- Presently he is vice-director of the Physics Department and has been sitting for 4 years in the Academic Senate of the University of Camerino.

updated 10-September-2006

Andrea Di Cicco

CNISM, CNR-INFN, Dipartimento di Fisica

Via Madonna delle Carceri,

Università di Camerino, I-62032 Camerino (MC)

Tel +39-0737-402535

Tel Lab: +39-0737-402550

FAX +39-0737-402550,

E-mail: andrea.dicicco@unicam.it

URL: <http://gnxas.unicam.it/~dicicco>