



# INSTRUCT Italian Users' Meeting

March 24<sup>th</sup>, 2009 - Florence, Italy

Aula Magna, University of Florence - Piazza San Marco 4

## PARTICIPANTS:

<b>Co-chairs</b>	
Lucia Banci	CERM, University of Florence
Ivano Bertini	CERM, University of Florence
Doriano Lamba	Institute of Crystallography, CNR
Giorgio Paolucci	Elettra, Synchrotron Trieste SCpA

<b>General participants</b>	
Fabio Arnesano	Pharmaceutical-Chemical Dept., University of Bar
Roberto Battistutta	Dept. of Chemical Sciences, University of Padua
Matteo Bellucci	DiSTA, University of Bologna
Simonetta Bernocco	Neuroscience Dept., Siena Biotech SpA
Domenico Bordo	National Cancer Research Institute
Paolo Carloni	International School for Advanced Studies
Luciano Cellai	Institute of Crystallography, CNR
Laura Ciani	Dept. of Chemistry, University of Florence
Nicola D'Amelio	CRM-Trieste, Bracco Imaging
Rino Esposito	Dept. of Sciences and Biomedical Technologies, University of Udine
Angelo Facchiano	Food Science Institute, CNR
Giuseppe Falini	G. Ciamician Dept. of Chemistry, University of Bologna
Isabella Felli	CERM, University of Florence
Maria Antonietta Gentile	Novartis Research Center, University of Naples/Novartis
Silvano Geremia	Dept. of Chemical Sciences, University of Trieste
Andrea Ilari	IBPM, Dept. of Biochemical Sciences, CNR
Giuseppe Legname	Neurobiology, International School for Advanced Studies
Vanessa Leone	Statistical Biological Physics, International School for Advanced Studies
Claudio Luchinat	CERM, University of Florence
Gaetano Malgieri	Dept. of Environment Science, University of Naples
Stefano Mammi	Dept. of Chemical Sciences, University of Padua
Stefano Mangani	Dept. of Chemistry, University of Siena
Lelio Mazzarella	University of Naples
Henriette Molinari	Dept. of Biotechnology, University of Verona
Hugo L. Monaco	Dept. of Biotechnology, University of Verona
Giovanna Musco	Biomolecular NMR Laboratory, Dulbecco Telethon Institute, S. Raffaele Scientific Institute
Francesco Musiani	DiSTA, University of Bologna
Neri Niccolai	Dept. of Molecular Biology, University of Siena
Silvia Onesti	Elettra, Trieste Synchrotron
Alessandro Padova	Molecular Informatics, Siena Biotech

Piergiuseppe Pelicci	Dept. of Experimental Oncology, European Institute of Oncology
Massimiliano Perduca	Dept. of Biotechnology, University of Verona
Delia Picone	Dept. of Chemistry, University of Naples
Roberta Pierattelli	CERM, University of Florence
Sandra Ristori	Dept. of Chemistry, University of Florence
Roberto Rizzo	Dept. of Life Sciences, University of Trieste
Paolo Romano	Dept. of Bioinformatics, National Cancer Research Institute
Camillo Rosano	Nanobiotechnology, National Institute for Cancer Research
Antonio Rosato	CERM, University of Florence
Bruno Samorì	Dept. of Biochemistry, University of Bologna
Maria Scarselli	Systems Biology, Novartis Vaccines and Diagnostics
Marco Sette	Dept. of Chemical Sciences and Technology, University of Rome
Francesco Spinozzi	SAIFET, Marche Polytechnic University
Alberto Spisni	Dept. of Experimental Medicine, University of Parma
Francesco Vanzi	European Laboratory for Non Linear Spectroscopy
Luigi Vitagliano	Institute of Biostructures and Bioimages, CNRi
Barbara Zambelli	DiSTA, University of Bologna

<b>Apologies</b>	
Filippo Belardelli	Department of Cell Biology and Neurosciences, Higher Institute of Health, Rome
Enrico Dainese	Department of Biomedical Sciences, University of Teramo
Giovanni Gaviraghi	Siena Biotech
Giangiaco Torri	<i>Giuliana Ronzoni</i> Institute of Chemical and Biochemical Research

#### **MEETING AGENDA:**

The agenda was as follows:

1. Welcome (Ivano Bertini)
2. Presentation of the European Integrated Structural Biology Infrastructure INSTRUMENT (Lucia Banci)
3. Information on similar national activities in Europe (Doriano Lamba)
4. Relationship between the national User Group and a national Infrastructure on Integrated Structural Biology (Giorgio Paolucci)
5. Organization of a National User Group (Ivano Bertini)
6. Establishment of working groups on themes identified during the meeting

#### **DISCUSSION POINTS:**

##### **I. Welcome**

**Ivano Bertini** opened the meeting with an overview of the evolution of INSTRUMENT and associated activities. He explained that in 2001, Italy participated in an intergovernmental effort to plan for a European roadmap for research infrastructures within the European Strategy Forum for Research Infrastructures (ESFRI).

He went on to describe how the INSTRUMENT Integrated Structural Biology Infrastructure, involving 7 Core Labs, is part of this ESFRI Roadmap, and is now in a “Preparatory Phase” supported by the

European Commission. He noted that the Magnetic Resonance Center (CERM) is one of the Core Labs, and has been included for its expertise in NMR. He also explained that one of the requirements of the call was that national governments and/or financing agencies nominate sponsors to represent national interests, and that Italy, through the Ministry of Education, Universities, and Research (MIUR), has indicated the National Research Council (CNR) as its sponsor. Italy is represented in the INSTRUCT Managing Committee (as CNR) by Sesto Viticoli and his deputy Dorian Lamba. CERM is also present in the Managing Committee, represented by Ivano Bertini and his deputy Lucia Banci.

Bertini explained that INSTRUCT has decided to organize the national users into User Groups, and that this was one of the primary motivations for the day's meeting.

Bertini went on to explain that the Italian government had launched a call to prepare a national roadmap of research infrastructures. He described a joint application made by CERM, Elettra, and sections of CNR and the National Institute for the Physics of Matter (INFN) for an "Italian INSTRUCT" infrastructure. He also touched on the importance of involving medical personnel in ongoing activities, and that there were representatives from San Raffaele and the European Oncology Institute (IEO) involved for this purpose.

Bertini emphasized the importance of organizing the Italian structural biology community so that the opportunities provided by existing infrastructures could be exploited. He suggested that panels be formed to evaluate the potentialities and needs with respect to the various techniques involved and the modality of organizing the users who wish to access the relative infrastructures.

**Action items:** N/A

## **2. Presentation of the European Integrated Structural Biology Infrastructure (INSTRUCT)**

**Lucia Banci** presented an overview of the INSTRUCT infrastructure. She addressed points including the current participation, the scientific focus, and the general organization.

The general consensus from participant comments indicated that INSTRUCT is a welcome and needed initiative, and there was great enthusiasm for participation from individual groups.

This enthusiasm, in part, took the form of enquiries into how associate centers would be chosen; it was explained that this was a point currently under discussion within the INSTRUCT Managing Committee.

There was also interest into how INSTRUCT's technologies and scientific themes had been and would be chosen. It was explained that the technologies were chosen based on the perceived needs of the broad biological scientific community, largely to cover the drug discovery pipeline, and that projects would be chosen by an international panel that would judge the worthiness and appropriateness



*The meeting participants in the University of Florence's Aula Magna.*

of scientific projects.

The synergies between the user community and the infrastructure itself were discussed, i.e. that the infrastructure can provide not only the instrumentation but the expertise to perform top-level research, and that in turn the user community should provide indications on what the infrastructure provides.

Bertini proposed a model in which the Italian National Users' Group would be at the junction between the European INSTRUMENT Infrastructure and a potential Italian INSTRUMENT Infrastructure.

**Action items:** N/A

### 3. Information on similar national activities in Europe

**Doriano Lamba** presented information on similar national activities in Europe, with a special emphasis on analogous meetings of national user groups.

There was a general discussion on the current state of major Italian players in the structural biology community, e.g. Elettra and CERM and their related activities.



There was also some particular discussion as to the strength of the electron microscopy community in Italy, with the general consensus being that while there are some outstanding individual groups, there is a lack of cohesiveness within that community.

**Action items:** N/A

### 4. Relationship between the National User Group and a national Infrastructure on Integrated Structural Biology

**Giorgio Paolucci** presented the motivation behind an Italian infrastructure for integrated structural biology and the importance of the national User Group within such an effort. He also suggested the inclusion of further centers in the National Roadmap for Research Infrastructures, in particular a center for Electron Microscopy (Italy is the only large European Country without a facility of this kind) and a facility for protein expression and crystallization.

It was stressed that training is very important in order to remain internationally competitive, and that this aspect should be given special attention in Italy's approach.

There was an affirmation that Italy's plans with regard to structural biology shouldn't only ensure access, but should help researchers, projects, and labs to grow, i.e. to create a culture where innovative projects are born. It was proposed that the community write a document to the Minister to call her attention to the importance of integrated structural biology with respect to the advancement of science and technology.

It was understood from these discussions that these subjects merit further attention and should be discussed within the working groups.

**Action items:** (i) address points such as those raised above within the working groups.

## 5. Organization of a National User Group

**Ivano Bertini** re-addressed the importance of organizing the national structural biology community so that it could fully benefit from investments in infrastructures such as those associated with INSTRUCT and the corresponding Italian initiative.

The subsequent discussion resulted in a great deal of enthusiasm for various techniques and a number of suggestions for scientific working groups, which are reflected in the table below. There was recognition that the size of the Italian community warrants some combination of techniques within larger groups, in order to secure the necessary critical mass of expertise; the number of working groups reflects this strategy.

The idea that the user group should define what the community needs was emphasized.

**Action items:** (i) to review these minutes to finalize the following working groups.

## 6. Establishment of working groups on themes identified during the meeting

Based on earlier discussions, the following panels were nominated to represent the user group in various techniques.

Synchrotron radiation (X-ray, EXAFS, X-ray microscopy, X-ray CD, X-ray imaging, IR)	Giuseppe Zanotti Silvia Morante Lisa Vaccari ...
Protein crystallization and crystallography	Andrea Musacchio (chair) Martino Bolognesi Maurizio Brunori ...
Protein production and labeling	Luciano Cellai Giuseppe Legname Marina Malpelli Delia Picone Lucia Banci ...
Solution and solid-state NMR	Henriette Molinari (chair) Roberta Pierattelli ...
Structural complementary techniques (AFM, EM, FRET, SANS, SAXS, neutron scattering, single-molecule techniques, EPR)	Paolo Mariani Silvia Onesti (chair) Bruno Samori Francesco Pavone ...
Computational structural biology and bioinformatics	Paolo Carloni Paolo Romano Antonio Rosato ...
It is remembered that mass spectrometry is already present in the Italian INSTRUCT application	Pierluigi Mauri Piero Pucci Domenico Garozzi

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**Action items:** (i) the nominees for the above working groups should first recruit any other members needed; (ii) the working groups will have the task of surveying the users to determine their needs in the various fields.