The 14th International Conference on X-ray Absorption Fine Structure (XAFS14)

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Abstract. This is the preface of the proceedings volume of the 14th International Conference on X-ray Absorption Fine Structure (XAFS14) held in Camerino, Italy, July 26-31, 2009.
1. Preface

The 14th International Conference on X-ray Absorption Fine Structure (XAFS14) was held on 26-31 July in the town of Camerino (MC), Italy. About 500 scientists from 32 Countries all around the world attended this important International event.

Figure 1. Participants of the XAFS14 conference gathered near the “Benedetto XIII” hall.

About three decades ago Italy hosted the first International Conference on EXAFS and Near Edge structure (Frascati, 1982), after the initial weekend meeting taking place at Daresbury in 1981. The world and science are quite different from those old times. X-ray absorption spectroscopy (XAS) transformed from a ”new” and sometimes misused technique to a mature tool for deeper and deeper investigations of structural and electronic properties of matter. The potential of this technique remains now particularly high and new perspectives are opened by advances in experimental and theoretical methods and by new radiation sources.

The continuous interest in developing and using XAS is clearly shown by the success of the XAFS conference series and by this conference in particular, having probably achieved the largest participation ever recorded for this event. An innovative format of the conference containing symposia on specific topics of large interest, the presence of numerous excellent invited speakers, and the extremely high number of first-class contributed abstracts, have guaranteed an interesting scientific program which we are proud of. In fact, the scientific program of the XAFS14 conference included about 200 oral communications, articulated into plenary lectures, symposia, special sessions, and four parallel afternoon sessions. Moreover, more than 400 communications were presented during two poster sessions.

In particular, the program included three symposia and one special sessions. The symposium about “Electronic correlations, core-hole interaction and relaxation effects in x-ray absorption spectra” was sponsored by the European network LightNET (chair C. R. Natoli). The ESF (European Science Foundation) sponsored, through the Dyna network, the symposium “Advances in ultrafast spectroscopy using present and next generation x-ray sources”. The International Union of Crystallography (IUCr), through the IUCr XAFS commission, co-organized the symposium about “Complementarity of XAS and diffraction techniques” (chair F. Boscherini). A special session, partially sponsored by the “Società Italiana di Chimica”, was dedicated to the hot topic “Catalysis and Energy Sciences: From EXAFS to QEXAFS and Beyond” (chair C. Lamberti).

The choice of Camerino as a XAFS conference site deserves also a few lines of comments. Camerino is a quiet ”hidden” historical town, outside of the usual touristic routes in Italy, which certainly deserves a visit. Being one of the oldest Universities in Italy and Europe, it hosted also,
since the 70s, several researchers working around the exploitation of synchrotron radiation of the ADONE storage ring in Frascati. The XAS group in Camerino, in charge of organizing this conference, grew about 20 years ago around this original seed. In recent times, the University of Camerino followed the general negative trend related to the decrease of resources devoted to basic research and educational system, but both a high-level scientific and teaching activities still stand with about 10000 students attending various courses in different fields. It is certainly worthwhile to keep a strong scientific tradition in this place. The participants have appreciated the good University infrastructures and experienced personnel, and enjoyed the environment with its wonderful landscapes and old monuments, tasting the genuine food and meeting this wonderful people.

Figure 2. Opening of the Conference (26 July 2009).

Figure 3. Closing of the conference with the entire organizing staff on the stage.

These Proceedings collect a series of invited and contributed papers that were submitted for the Conference Proceedings and were accepted after a severe peer review procedure. A group of about 50 outstanding scientists in the field contributed to the review process and in most cases suggested revisions of the manuscripts to improve scientific presentation. As a result we believe the entire volume has reached a quite high standard. Due to the wide range of subjects involved and large numbers (over 200) of individual contributions the papers were sorted in 19 topics as follows:

(i) Theory
(ii) XMCD
(iii) Data-analysis
(iv) Instrumentation
(v) Related Phenomena
(vi) Time resolved experiments
(vii) Water and aqueous solutions
(viii) Semiconductors, metals and alloys
(ix) Oxides, Glasses and insulators
(x) Magnetic and correlated systems
(xi) Diluted magnetic semiconductors
(xii) Surfaces, films and multilayers
(xiii) Nanoparticles
which reflect but are not necessarily identical to the structure of the session and symposia at the Conference. We hope this work will constitute a useful reference for the ongoing scientific activity in the field.

We would also like to express our gratitude and appreciation to the sponsors of this Conference for their generous support: the University of Camerino and the Camerino city hall, the ESF Dyna and the LightNET networks, the Laboratori Nazionali di Frascati-INFN, the ELETTRA synchrotron radiation facility (Trieste), the International Union of Crystallography, the CNISM (Consorzio Nazionale Interuniversitario per la Fisica della Materia), and our commercial sponsors (XIA, Saint-Gobain).

Finally, we would like to acknowledge the entire local organizing staff (names are found below) and in particular its core group, the collaborators and members of the XAS group at the University of Camerino, whose efforts made the XAFS14 conference a success.

Andrea Di Cicco and Adriano Filipponi
Chairmen of the Conference and Proceedings Editors
Camerino, Italy, September 30th, 2009
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