

SUMMER SCHOOL ON APPLICATION OF RADIATION PHYSICS TO CULTURAL HERITAGE (SARP-CH)

Buenos Aires 9-11 March 2026

March 9

09:00	Opening Session
09:30	The INFN Cultural Heritage Network (INFN-CHNet). Francesco Taccetti, INFN-Florence (Italy)
10:00	MA-XRF basic theory and acquisition of the CHNet scanner. Lisa Castelli, INFN-Florence (Italy)
10:30	MA-XRF practical information, strengths and limits of the technique and of the CHNet scanner. Chiara Ruberto, INFN-Florence (Italy) and UNIFI
11:00	Coffee Break
11:30	Characterization of materials by traceable X-ray spectrometry. Burkhard Beckhoff, PTB-Berlin (Germany)
12:00	X-ray Fluorescence in Cultural Heritage: Methods, Applications, and Analytical Challenges. Teresa Brancolini, Simone Porcinai, Andrea Cagnini and Monica Galeotti. Opificio delle Pietre Dure of Florence and University of Turin (Italy)
12:30	Ion Beam Analysis for Cultural Heritage: instrumentation and technological innovations. Caroline Czelusniak, INFN-Florence (Italy)
13:00	Ion Beam Analysis for provenance investigation of cultural heritage materials. Marta Magalini, INFN-Turin (Italy)
13:30	Lunch interval.
14:45	Take the bus departing at 14:45 from the entrance of UNIBO-BA. Please, be on time.
15:30	Visit to the laboratory of the University of Buenos Aires. Marta Maier (two groups, duration 2 hours)

March 10

09:00	Beyond MA-XRF: synchrotron radiation-based imaging methods in cultural heritage. Koen Janssens, University of Antwerp (Belgium)
09:30	The use of radiation for study and diagnosis of artworks. Fernando Marte and Maximiliano Hernán Perez, UNSAM and CONICET (Argentina)
10:00	X-ray Computed Tomography for cultural heritage: custom CT systems and case-studies. Maria Pia Morigi, UNIBO (Italy)
10:30	A portable X-ray Tomography Prototype for Cultural Heritage: Design and Applications. Rodolfo Panerai and Lorenzo Giuntini, INFN-Florence and UNIFI (Italy)
11:00	Coffee Break
11:30	PIXE applications for historical and material analysis of archaeological objects. Josefina Schweickardt, Museo de la Patagonia (PNNH-APN) and Pablo Daniel Pérez, Centro Atómico Bariloche (CAB-CNEA) and CONICET (Argentina)
12:00	Assessment of radon exposure in sites of particular historical and artistic significance. Simona Mancini and Michele Guida, UNISA (Italy)
12:30	Positron annihilation spectroscopy and the use of positron beams. Applications in Cultural Heritage. Rafael Ferragut, Milan Polytechnic (Italy)
13:00	Statistical uncertainty in radiation emission: an intrinsic, or random, error that affects the precision of any measurement. Francesco Teodori, UNIBO (Italy)
13:30	Lunch interval
14:45	Take the bus departing at 14:45 from the entrance of UNIBO-BA. Please, be on time.

15:30	Visit to the laboratory of the University of San Martin. Fernando Marte (two groups, duration 2 hours)
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March 11

09:00	Vibrational spectroscopies (IR and Raman) for the identification of painting materials. Marta Maier, FCE-UBA (Argentina)
09:30	Chromatographic and mass spectrometry techniques (GC-MS, LC-MS) applied to archaeological materials. Irene Lantos, FCE-UBA (Argentina)
10:00	Mass spectrometry applied to cultural heritage (specifically TIMS and ICP-MS). Francesco Ferella, INFN-Laboratory Gran Sasso (Italy)
10:30	Radiation Transport with Monte Carlo simulation. Marco Sumini and Lorenzo Isolan, UNIBO (Italy)
11:00	Coffee Break
11:30	Modelling the X-ray Fluorescence and the detector influence: direct and inverse problem. Jorge E. Fernandez, UNIBO (Italy)
12:00	New Perspectives in Cultural Heritage Research through Spatially Resolved Energy-Dispersive Inelastic X-ray Scattering Spectroscopy. Juan José Leani, FaMAF-Universidad Nacional de Córdoba (Argentina)
12:30	Applications of radiocarbon dating to Cultural Heritage and Archaeology. Mariaelena Fedi, Lucia Liccioli and Serena Barone, INFN-Florence (Italy)
13:00	Closing Remarks
17:00	Social activity (not supported by the organizers). Together with the other Summer School participants, we will visit the fascinating Confitería La Ideal (Suipacha 384, Buenos Aires). It will be a nice occasion to enjoy a coffee or a cup of tea with a delicious cake together with the rest of the group.