1ST IPERION-CH DOCTORAL SUMMER SCHOOL

ORGANIZED BY IPERION-CH SPAIN NODE

ADVANCED CHARACTERIZATION TECHNIQUES, DIAGNOSTIC TOOLS & EVALUATION METHODS IN HERITAGE SCIENCE

12th – 15th July, 2016 at Spanish National Research Council (CSIC), Madrid, Spain

This IPERION-CH Doctoral Summer School Spain (IDS^3) will provide advanced lectures focused on analytical and diagnostic tools for the evaluation of current state of conservation of artworks. The lectures will include up-to-date developments of conservation materials, and recent advances on a broad range of characterization techniques and analytical applications. Both theoretical and technical lectures will be imparted by a widespread range of international experts in the field of Heritage Science.

The interdisciplinary IDS^3 is organized by the IPERION-CH Spain Node, constituted by two groups at CSIC (Centro Nacional de Investigaciones Metalúrgicas, CENIM and Instituto de Química Física Rocasolano, IQFR), the Spanish Institute of Cultural Heritage (IPCE) and the Prado National Museum. The School is organized in collaboration with programme Geomateriales 2.

The lectures will be held at IQFR CSIC and IPCE. Together with the lectures, visits to the Scientific Characterization Techniques laboratories at IPCE and Prado National Museum will be organized, offering the opportunity to interact with the research and professional staff.

Who should attend IDS^3 ?

The IPERION-CH Doctoral Summer School will be of interest for post-graduate and PhD students, post-docs, conservators-restorers and scientists working in conservation and restoration of cultural heritage.

IDS^3 will be aimed at potential users of the IPERION-CH trans-national access (TNA) program. The School will show the results achieved by the TNA and the joint research activities (JRA) of CHARISMA, as well as their advancement within IPERION-CH. There will be ample opportunities to present and discuss these activities with post-graduate, PhD and post-doctoral researchers. All lectures are intended to provide an overview on the state-of-the-art as well as specific details of their topic. Due to the small number of participants an intensive interaction with the lecturers will be encouraged. Participants must be keenly motivated to actively participate, and must be available for the whole duration of the summer school. All sessions will be conducted in English and therefore fluency in written and spoken English is essential. A certificate of attendance will be provided by CSIC to all participants.

Confirmed list of lecturers:

Dr. Laura Alba, Prado National Museum, Spain

Dr. Mónica Álvarez de Buergo, UCM, Spain

Prof. Demetrios Anglos, FORTH, Greece

Dr. David M. Bastidas, CENIM-CSIC, Spain

Prof. Bernhard Blümich, RWTH-Aachen Univ., Germany

Dr. Emilio Cano, CENIM-CSIC, Spain

Dr. Esther Carrasco, IQFR-CSIC, Spain

Prof. Raffaella Fontana, INO-CNR, Italy

Dr. Miguel Gómez-Heras, UCM, Spain

Dr. Magda Iwanicka, NCU, Poland

Dr. Mª Inmaculada Martínez, UCM, Spain

Prof. Rocco Mazzeo, UNIBO-CNR, Italy

Dr. Constanza Miliani, ISTM-CNR, Italy

Dr. Mohamed Oujja, IQFR-CSIC, Spain

Dr. Enrique Parra, IPCE, Spain

Dr. Paraskevi Pouli, FORTH, Greece

Dr. Francesca Rosi, ISTM-CNR, Italy

Dr. Mikel Sanz, IQFR-CSIC, Spain

Prof. Piotr Targowski, NCU, Poland

Dr. Nieves Valentín, IPCE, Spain

Dr. Carmen Vega, IPCE, Spain

Preliminary Programme

TUESDAY 12TH JULY

- **(10.30h)** Opening Ceremony and Introductory Remarks, ***Rocco Mazzeo, Silvia Prati, Emilio Cano, Juan de la Figuera and José Luis González (IQFR and CENIM Directors)***
- **(12.00h)** Development of advanced spectroscopic and immuno based methods for the identification of proteinaceous substances in paint cross sections, ***Rocco Mazzeo, UNIBO (Italy)***
- ***(15.00h)*** Multispectral IR reflectography for painting analysis, ***Raffaella Fontana, INO-CNR (Italy)***
- ***(16.00h)*** Optical Coherence Tomography, ***Magda Iwanicka, Piotr Targowski, NCU (Poland)***
- ***(17.00h)*** Non-invasive and portable techniques for diagnosis and conservation assessment in geomaterials structures, ***Mónica Álvarez de Buergo, UCM (Spain)***

WEDNESDAY 13TH JULY

- **(09.30h)** New approaches for Green Museums. Biosensors technology for detecting microbial development in microenvironments and application of natural extracts for elimination of biological agents in historic collections. ***Nieves Valentín. IPCE (Spain).***
- **(10.30h)** Gypsum detection by imaging techniques in the near infrared region, (Radiography and hyperspectral imaging). ***Carmen Vega. VISIONA and IPCE (Spain).***
- **(12.00h)** Concepts and applications of the NMR-Mouse. ***Bernhard Blümich, RWTH-Aachen Univ. (Germany).***
- **(15.00h)** Ultra-HPLC coupled to UV-vis and tandem MS detection. Advanced applications on chemical micro-analysis of organic pigments. ***Enrique Parra. IPCE (Spain).***
- **(16.00h)** Infrared thermography for built heritage diagnosis. ***Miguel Gómez-Heras, UCM (Spain)***
- **(17.00h)** Cultural heritage monitoring based on wireless sensor networks for a preventive conservation, ***Mª Inmaculada Martínez Garrido, UCM (Spain)***
- **(18.00h) Visit to IPCE Labs and Facilities**

THURSDAY 14TH JULY

- **(09.30h)** Laser spectroscopy in the analysis and diagnosis of CH objects and monuments; portable instruments and case applications, ***Demetrios Anglos, FORTH (Greece)***
- **(10.30h)** Laser cleaning in CH objects and monuments; a tailored relation, ***Paraskevi Pouli, FORTH (Greece)***
- **(12.00h)** Laser removal of biodeteriogen layers on heritage stone. ***Mohamed Oujja. IQFR-CSIC (Spain)***
- **(12.30h)** Laser cleaning of paintings and mitigation of side effects. ***Esther Carrasco. IQFR-CSIC (Spain)***
- **(13.00h)** Analysis of historic glasses by laser spectroscopies. ***Mikel Sanz. IQFR-CSIC (Spain)***
- **(15.00h)** X-Ray Radiography to determine density of the stands, ***Laura Alba, Prado Museum (Spain)***
- **(16.00h) Visit to Prado National Museum Labs and Facilities.**

FRIDAY 15TH JULY

- **(09.30h)** Electrochemical techniques for in-situ corrosion evaluation of Cultural Heritage. ***Emilio Cano, CENIM-CSIC (Spain)***
- **(10.30h)** Non-invasive molecular spectroscopy for in situ analysis of painting materials, ***Constanza Miliani & Francesca Rosi, ISTM-CNR (Italy)***
- **(12.00h)** In-situ corrosion diagnosis in contemporary concrete Heritage, ***David M. Bastidas, CENIM-CSIC (Spain)***
- **(12.45h)** Closing Ceremony and Final Remarks. ***Emilio Cano, CENIM-CSIC (Spain)***

Venue of IDS3

The venue of the IDS^3 will be the main campus of CSIC in Madrid, which is located in the centre of the city, between the business area and the historical city. The main lecture hall will be located at **IQFR-CSIC**, and acomodation is offered within the campus in the **CSIC Students-Residence**.

Madrid can easily be reached by car, train and plane: http://www.esmadrid.com/como-llegar-a-madrid The international airport is connected by metro from Madrid down-town, this facilitate the easy access for participants.

No doubt a great number of scientists will appreciate this choice and will enjoy the IDS^3 venue.

IQFR-CSIC

www.iqfr.csic.es/index.php?lang=en

Instituto de Química Física Rocasolano. C/ Serrano 119 - 28006 Madrid - Spain

IQFR-CSIC is settled at Rockefeller building, characterized by a unique and singular architecture.

CSIC Students Residence

www.residencia.csic.es/en/hotel/accomodation.htm

Residencia de Estudiantes. C/ Pinar 21, 28006 - Madrid

Accomodation is provided at CSIC Residencia de Estudiantes. The Residencia has maintained its function as an accommodation site for scholars, artists and professionals from various fields and countries. It is very convenient as it is located next door to the Lecture hall at IQFR. This campus-like environment facilitates social and intellectual interaction among the residents, from *tertulias* to debates among the experts.

EUROPEAN HERITAGE LABEL

In 2015, the Residencia de Estudiantes was awarded the European Union's European Heritage Label due to the significant role it has played in the history and culture of Europe. It is an internationally renowned institution which encourages exchange, dialogue and understanding among different generations and cultures in disciplines such as the arts, humanities and sciences.

Schedule and Registration

Doctoral Summer School Fees

The costs of travel and accommodation will need to be met by the participants. Registration fees include a copy of all lectures, visits, coffees and lunches.

REGISTRATION FEES	**Early Registration** (Before 17th April)	Late Registration (After 18th April)
Full Registration, Including 4 nights' Accommodation,	450€	520€
IDS³ Registration (no accommodation)	250€	320€

Schedule

Lectures start on Tuesday 12th of July at a 10:00h in the morning, and will end on Friday 15th of July at about 13:00h in the afternoon.

Registration

Registration is limited to **25 participants**. Attendees will be selected by the IDS³ Organization from the candidate pool based on merits, background and other criteria. Early applications will be given priority.

To applicate to the IDS³, please use and complete the attached form, and send to the contact e-mail along with a short CV and a motivation letter.

Contact

Dr. David M. Bastidas
E-mail: david.bastidas@cenim.csic.es
Phone: +34 91 553 89 00
Fax: +34 91 534 74 25

www.iperion-ch.eu

Organized by:

CSIC
CENIM
Centro Nacional de Investigaciones Metalúrgicas
MINISTERIO DE EDUCACIÓN, CULTURA Y DEPORTE
DIRECCIÓN GENERAL DE BELLAS ARTES Y BIENES CULTURALES Y DE ARCHIVOS Y BIBLIOTECAS
SUBDIRECCIÓN GENERAL DEL INSTITUTO DEL PATRIMONIO CULTURAL DE ESPAÑA
IPCE
MUSEO NACIONAL DEL PRADO
Comunidad de Madrid
GEOMATERIALES
TECNOLOGÍAS Y CONSERVACIÓN DE GEOMATERIALES DEL PATRIMONIO (S2013/MIT_2914).Convocatoria de ayudas a grupos para el Desarrollo de Programas de Actividades de I+D entre Grupos de Investigación de la Comunidad de Madrid en Tecnologías

Registration form

Return the completed form along with a short CV and a motivation letter to: david.bastidas@cenim.csic.es

Personal data:

Title:	Family Name/Last Name:	
Given Name/First Name:		Male/Female:
Date of birth (day/month/year):		
Correspondence address:		
Nationality:	Email address:	

Current studies:

University name	
Department/School	
Address	
Research area(s)	
Year of study	
Thesis advisor	

Educational background:

	Title	University	Mark	Date of award
Undergraduate (Degree, Bachelor)				
Graduate (Master)				

Registration options:

☐ **Full Registration, Including 4 nights' Accommodation** (450€ before 17th April, 520€ after 18th April)

☐ Only IDS[3] Registration (no accommodation) (250€ before 17th April, 320€ after 18th April)