Organizers

Northwestern Polytechnical University
School of Materials Science and Engineering

Université Pierre et Marie Curie
Laboratoire de Chimie Physique
-Matière et Rayonnement

Academic coordinators:

W. JIE (NPU)

jwq@nwpu.edu.cn

A. DUBOIS (UPMC)
alain.dubois@upmc.fr

SMSE

SORBONNE UNIVERSITÉS

UPMC SORBONNE UNIVERSITÉS

General information

Target audience: Master and PhD students in Physics, Chemistry and Materials Science.

Registration fee: 500€ (accommodation and meals are included). Financial support may be obtained upon request.

Credits: Certificate of Attendance.

Application deadline: April 15, 2015.

Application form: can be obtained upon request at

Hui YU (NPU)
yuhui04112@gmail.com

Angela FRAIOLI (UPMC)

angela.fraioli@upmc.fr

Further information:

jwq@nwpu.edu.cn

alain.dubois@upmc.fr

Conception: Antoine Avila

International Summer School

Physical and Chemical Principles in Materials Science

Xi'an - China

Northwestern Polytechnical University
Sorbonne Universités

S
M
S
E

Summer school organization and topics

The International Summer School “Physical and Chemical Principles in Materials Science” is sponsored by the School of Material Science and Engineering of Northwestern Polytechnical University (NPU) in Xi’an, China, and Sorbonne Universités, through Laboratoire de Chimie Physique - Matière et Rayonnement of Université Pierre et Marie Curie (UPMC) in Paris, France.

The school is aimed to present to a general audience of Master and PhD students the physical and chemical principles used in materials science, from design, elaboration and characterization of the materials to applications. Theoretical and computational approaches and description of specific materials such as nanoparticles, ceramics and periodic multimaterials, and their properties will also be addressed. The training involves a series of 3-hour lectures, including tutorials based on few case studies. Visits of the experimental facilities at SMSE will be organized, together with discussions around posters. The official language of the school will be English.

Summer school location

The Summer School will be held in Xi’an, China. Lectures and laboratory visits will be organized in the facilities of the School of Materials Science and Engineering in the downtown campus of the Northwestern Polytechnical University. Accommodation and meals will be provided within the campus.

西安

Xi’an is the capital of Shaanxi province and one of the oldest cities of the People’s Republic of China. It was one of the four Ancient Capitals of the country and hold the reign of 13 dynasties, from 11th century BC before to the 10th AC. Its long history provides therefore a rich cultural atmosphere, as illustrated for example by the famous Terracotta Army, the Giant Wild Goose Pagoda or the Bell and Drum Towers.

Cultural and social events will be organized during the school.

Confirmed speakers from NPU and UPMC

Gheorghe CHIUZBAIAN

- Introduction to synchrotron radiation and to advanced x-ray spectroscopies.
- Resonant x-ray emission and absorption for material characterization.

Alain DUBOIS

- Quantum mechanical principles of spectroscopies for materials science.

Xiaoli FAN

- Computational methods in materials science.

Feng GAO

- Fabrication and microstructure of textured electro-ceramics by reactive-templated grain growth method.

Wanqi JIE

- Crystal growth.
- Thermodynamical principles of phase transformation (solidification and heat treatment).

Philippe JONNARD

- Scanning electron microscopy and electron probe microanalysis. Illustration for periodic multimaterials applied in x-ray optics.

Feng LIU

- Kinetics in phase transformation.

Ahmed NAITABDI

- Metallic nanoparticles: design, fundamentals and new applications. A scanning tunneling microscopy investigation.

François ROCHET

- Advanced XPS tools for the characterization of functional surfaces and for the real-time monitoring of chemical reactions.

Bingqing WEI

- Synthesis of nano-material with chemical methods.

Yadong XU

- Electronic properties of materials.