

**Summer School on Micro- and Nano- structural characterization
of materials, focused on electron microscopy**

July 11-15, 2012, Thessaloniki, Greece



School Program

Tuesday, July 10th, 2012

Arrival Day

19.30 Registration

20.30 Welcome Reception

Wednesday, July 11th, 2012

8.00 Registration

8.45 **Welcome**

Organizing Committee Chairman Prof. Efstathios K. Polychroniadis
Aristotle University of Thessaloniki, Greece

First Session

Chairperson: Prof. Efstathios K. Polychroniadis

9.00 **Principles and design of the Transmission Electron Microscope (TEM)**

Dr. Aria Andreadou
Aristotle University of Thessaloniki, Greece

10.00 Coffee Break

10.20 **Physical concepts of diffraction and electron crystallography**

Dr. Alkyoni Mantzari
Aristotle University of Thessaloniki, Greece

11.50 **Contrast and image formation in TEM**

Dr. Andreas Delimitis
Centre for Research and Technology Hellas, Greece

13.00 Lunch



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Second Session

Chairperson: Prof. Nikos Frangis

- 14.00 **High Resolution Electron Microscopy (HREM)**
Prof. Christos Lioutas
Aristotle University of Thessaloniki, Greece
- 15.00 **Application of transmission electron microscopy in solving some
problems of shape memory alloys**
Prof. Danuta Stróż
University of Silesia, Poland
- 16.00 Coffee Break
- 16.20 **Participants' presentations**
- 18.30 Departure from Hotel Lobby

Sightseeing Tour of the City
- 20.30 Dinner at the hotel

Thursday, July 12th, 2012

Third Session

Chairperson: Dr. Maya Marinova

- 8.30 **Electron spectroscopy techniques for surface chemical analysis:
XPS/AES/SAM**
Prof. Panagiotis Patsalas
University of Ioannina, Greece
- 10.30 Coffee Break
- 10.50 **Highly performing semiconductor quantum dots, towards
commercialization in optoelectronics and photovoltaics**
Dr. Alexandros Stavrinadis
The Institute of Photonic Sciences, Spain
- 12.30 Lunch



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Fourth Session

Chairperson: Prof. Panagiotis Patsalas

- 13.30 **Micro- and nano-structural study of SiC, polytypes and stacking faults**
Dr. Maya Marinova
University of Paris-Sud, France
- 15.15 Departure from Hotel Lobby
- Excursion to the beaches of Chalkidiki
Dinner by the sea

Friday, July 13th, 2012

Fifth Session

Chairperson: Prof. Christos Lioutas

- 8.30 **SEM, basics and applications**
Dr. Lori Nalbandian
Centre for Research and Technology Hellas, Greece
- 10.00 **AFM, basics and applications**
Prof. Nikos Frangis
Aristotle University of Thessaloniki, Greece
- 11.00 Coffee Break
- 11.20 **New techniques for nanocrystal structure determination by precession electron diffraction**
Dr. Stavros Nicolopoulos
NanoMEGAS, Belgium
- 13.00 Lunch
- 14.00 Departure from Hotel Lobby
- Experimental Work in the Electron Microscopy Laboratory of the
Aristotle University of Thessaloniki**
- 20.30 Dinner at the hotel



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Saturday, July 14th, 2012

Sixth Session

Chairperson: Prof. Tomasz Goryczka

8.30 **Advanced Microscopy, new techniques**

Dr. Tetsuo Oikawa
JEOL, Japan

10.45 Departure from Hotel Lobby

Excursion to the Archaeological Site of Vergina and Lunch

17.00 Coffee Break

Seventh Session

Chairperson: Prof. Danuta Stróż

17.20 **XRD for structural determination of materials, basics and applications**

Prof. Tomasz Goryczka
University of Silesia, Poland

19.20 **Electron microscopy for high-tech materials and structures: examples
of work**

Dr. Konstantinos P. Giannakopoulos
National Centre for Scientific Research "Demokritos", Greece

21.00 Dinner at the hotel

Sunday, July 15th, 2012

Eighth Session

Chairperson: Prof. Patrick Soukiassian

8.30 **General introduction to European Funds**

Cécile Le Duc
Lyon Ingénierie Projets, France

9.30 **Dislocations in solids**

Dr. Gabrielle Regula
Aix-Marseille University, France

11.00 Coffee Break



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11.20 Basic principles of optical investigation techniques

Prof. Jean Camassel
University of Montpellier 2, France

13.00 Lunch

Ninth Session

Chairperson: Prof. Jean Camassel

14.00 Optical investigation of as-grown stacking faults in SiC samples

Prof. Sandrine Juillaguet
University of Montpellier 2, France

**15.30 SiC surfaces, interfaces and nanostructures: atomic structure,
nanochemistry, and electronic & optical properties**

Prof. Patrick Soukiassian
University of Paris-Sud, France

17.00 Evaluation and Closing

Organizing Committee Chairman Prof. Efstathios K. Polychroniadis
Aristotle University of Thessaloniki, Greece

18.00 Departure from Hotel Lobby

Visit to the Church of St. Demetrius, patron saint of Thessaloniki (the byzantine
basilica with its catacombs is part of the UNESCO World Heritage Site)

Goodbye Dinner

Monday, July 16th, 2012

Departure Day

