

## Friday, 25.09.2020

### 10:00 Dr. N. Kardjilov

*Applications of X-ray and neutron imaging in materials science and energy research*

### 11:30 Coffee Break

### 12:00 Dr. N. Kardjilov

*Applications of X-ray and neutron imaging in cultural heritage (Part 1)*

### 13:00 Lunch break

### 14:30 Dr. N. Kardjilov

*Examples of data processing in X-ray and neutron imaging experiments (Part 2)*

### 18:00 Dinner

## Saturday, 26.09.2020

### 9:30 Prof. J. Banhart

*Lecture: Use of 3D imaging processes for solving engineering problems*

### 10:30 Coffee break

### 11:00 Workshop,

**Chair: Prof. Myroslav Karpets**

**Organizers:**

**Dr. A. Dudka / Dr. Yu. Yaworski**

*Presentation of the master theses (5 min / topic) of 5-10 students.*

*Discussion about the possible application of the tomography.*

### 12:30 Lunch break

### 13:30 Prof. J. Banhart

*Opportunities for master's theses in materials science at German Universities and Research Centres*

### Panel discussion:

Science location Germany;  
Cultural exchange between the two countries.

### 18:00 Dinner

## Venue:

National Technical University of Ukraine  
"КПІ" named after Igor Sikorsky

Київ, вул. Політехнічна, 35,  
Інженерно-фізичний факультет,  
Інститут матеріалознавства та  
зварювання ім. Є.О. Патона  
Навчальний корпус 9

## Контакти для реєстрації КПІ, Київ:

**Dr. Олександр Дудка**, e-mail:  
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## Кінцевий термін реєстрації: 7.09.2020

## Осіння школа фінансується: Deutscher Akademischer Austauschdienst (DAAD)

## Autumn School in KPI, Kyiv 2020

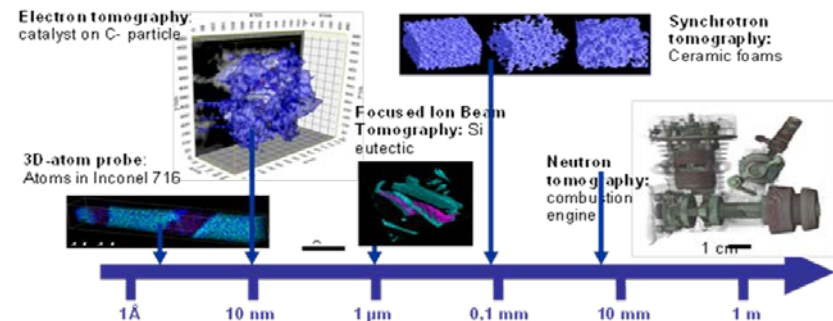
## Осіння школа в КПІ, Київ 2020 21.09 - 26.09.2020

Introduction to modern analytical  
methods for characterizing the  
three-dimensional microstructure  
of materials

Ознайомлення із сучасними  
аналітичними методами  
характеристики тривимірної  
мікроструктури матеріалів

## Program

## Програма



## Monday, 21.09.2020

### 9:00 Opening / Introduction

**Director of IM & W named after E.O. Paton, Prof. Dr. Petro Loboda**

**Prof. Dr. Myroslav Karpets**,  
Chair of Metallurgy and Heat Treatment

**Prof. Dr. Vladislav Masur**, Chair for high-temperature materials and powder metallurgy

**Dr. G. Zimmermann**,  
**Dr. O. Schwaika**, DAAD in Kiev,  
Higher education in Germany

**10:00 Prof. Dr. Banhart (TU Berlin)**  
*Presentation of the program and the schedule.*

### 10:30 Coffee break

**10:45 Dr. N. Wanderka**  
*Introduction into Atom Probe Tomography (APT)*

### 13:30 Lunch break

**14:30 Dr. N. Wanderka, E. Zaiser**  
*Reconstruction of the data sets and their analysis (Phase separation in Ni-base high- temperature alloys)*

### 18:00 Dinner

## Tuesday, 22.09.2020

**10:00 Dr. N. Kardjilov**  
*Introduction into X-ray and neutron imaging: Radiography(Part 1)*

### 11:30 Coffee break

**12:00 Dr. N. Kardjilov**  
*Introduction into X-ray and neutron imaging: Tomography(Part 2)*

### 13:00 Lunch break

**14:30 Dr. N. Kardjilov**  
*Examples of data processing in X-ray and neutron imaging experiments*

### 18:00 Dinner

## Wednesday, 23.09.2020

**10:00 Prof. Dr. S. Matsumura**  
*Recent Advancement in Three-dimensional Imaging of Metallic Nanoparticles by Electron Tomography*

### 10:30 Coffee break

**11:00 Dr. G. Melinte**  
*Fundamental of electron tomography (Theory)*

### 13:30 Lunch break

**14:30 Dr. G. Melinte**  
*Practical introduction to electron tomography data processing: CMK-3 porous carbon as test material.*

### 18:00 Dinner

## Thursday, 24.09.2020

**10:00 Dr. N. Wanderka**  
*Introduction into Focused Ion Beam (FIB) tomography*

### 11:30 Coffee break

**12:00 Dr. N. Wanderka**  
*Creation of 3D images from prepared data (e.g. 3D tomography of Al-10Si-0.3Fe base alloys (intermetallic phases)*

### 13:30 Lunch break

**14:30 Dr. N. Wanderka, E. Zaiser**  
*Creation of 3D images of phases in high entropy alloy AlCrCoCuFeNi*

### 18:00 Dinner

## Institutions



## involved: