



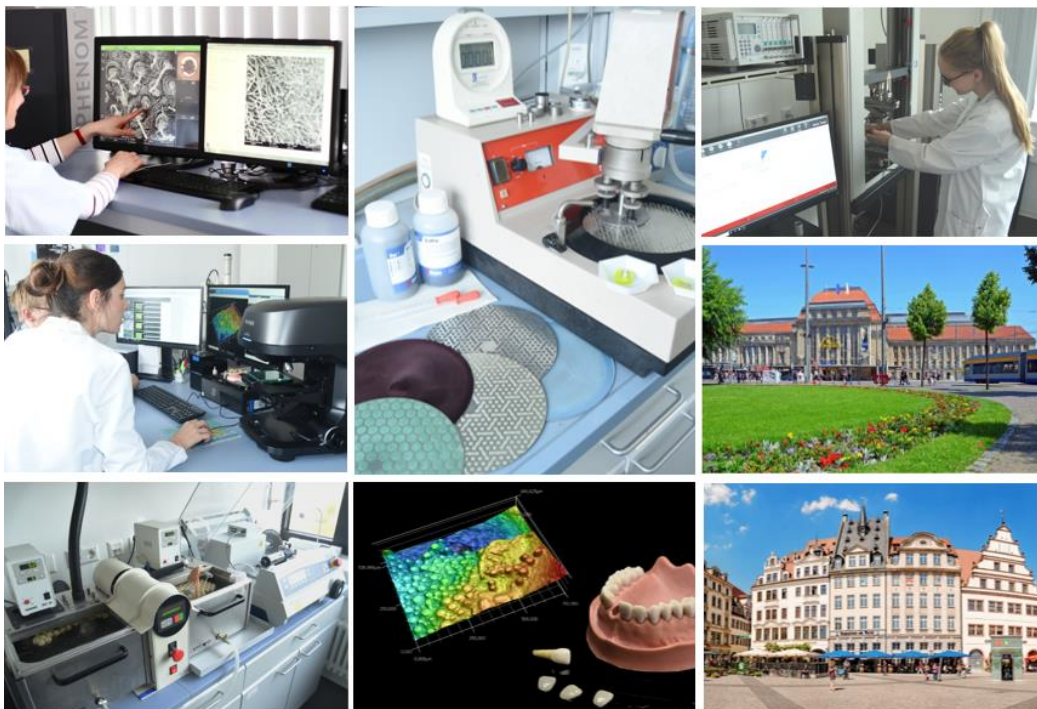
PROMOTING HIGH-QUALITY ORAL HEALTH RESEARCH IN EUROPE

FREE CED - IADR SUMMER SCHOOL

'ASSESSMENT OF DENTAL MATERIALS WITH INVASIVE & NON-INVASIVE METHODS' May 11-15, 2020 | LEIPZIG, GERMANY

Three free Summer Schools have been organized by CED-IADR. The first CED-IADR Summer School was held in Marseille, France in 2017 (*Dental Tissue Regeneration Investigation Methods*), followed the second CED-IADR Summer School in Madrid, Spain (*In Vitro Oral Biofilms Models: from Development to Assessment*) and last year the third CED-IADR Summer School in Zagreb, Croatia (*Methods in Dental and Orofacial Tissues Research*). All three were great achievement with success in many aspects, such as a learning opportunity to gain theoretical knowledge and laboratory experience, as well as a platform to network with peers interested and active in the same research field.

The main focus of the fourth summer school in Leipzig is dental materials research enabling participants the possibility to practice new material science research techniques, so to apply these methods in their own research projects at their home university laboratories. During this course, participants will receive, in addition to practical workshops, only theoretical lectures directly linked to the broad understanding of the investigation methods being trained in.



PROF. DR. SEBASTIAN HAHNEL and his Department of Prosthetic Dentistry & Dental Material Science, as well as **PROF. DR. RAINER HAAK** from the Department of Cariology, Endodontology & Periodontology will host the 2020 CED-IADR Summer School in the **DENTAL SCHOOL OF THE UNIVERSITY OF LEIPZIG, GERMANY.**

Registration for the CED-IADR Summer School is **free of charge for CED-IADR members**, but limited to maximum 16 selected candidates! Attendees should only cover their own housing/travel expenses.

INTERESTED?

APPLY HERE no later than February 29, 2020.

The CED-IADR office will inform the candidates mid-March 2020 on their acceptance. CED-IADR has the right to cancel the summer school in case of insufficient participation.

F R E E C E D - I A D R S U M M E R S C H O O L
'ASSESSMENT OF DENTAL MATERIALS WITH INVASIVE & NON-INVASIVE METHODS'
May 11-15, 2020 | LEIPZIG, GERMANY

RESPONSIBLE STAFF: Prof. Dr. Sebastian Hahnel & Dr. Dipl.-Ing. Andreas König of the Department of Prosthetic Dentistry & Dental Material Science. Prof. Dr. Rainer Haak, Dr. Ellen Schulz-Kornas & Dr. Hartmut Schneider of the Department of Cariology, Endodontology & Periodontology.

PRELIMINARY PROGRAM: Each workshop includes a theoretical introduction of approximately 1h followed by a 5h practical session part.

WORKSHOP I: Optical Methods at the Department of Prosthetic Dentistry & Dental Material Science		
Introduction	Theoretical introduction	LECTURE
Confocal scanning laser microscopy & roughness measurements	Surface analysis & roughness	LABO
Micro- and macroscopic digital imaging	Equipment, 2D/3D recording, lightening	LABO
Image processing	Open source programs, batch conversion, size handling	LABO
2D/3D image analysis & automatization	Working with Image, 2D/3D visualization, spatially-resolved analysis	LABO
WORKSHOP II: Mechanical Properties at the Department of Prosthetic Dentistry & Dental Material Science		
Introduction	Theoretical introduction	LECTURE
Sample preparation	Mounting, cutting, grinding	LABO
Deformation measurement	Sensor techniques, standard regulations, strength & elastic module	LABO
Hardness testing	Macro / micro-hardness	LABO
Fatigue testing	Thermocycling, acid resistance, chewing & toothbrush simulation	LABO
WORKSHOP III: Tooth-restoration bond – micromorphological evaluation at the Department of Cariology, Endodontology and Periodontology		
Introduction	Theoretical introduction	LECTURE
Sample preparation	Teeth cleaning, fixation, dehydration, drying, embedding, mounting and sectioning, sputter coating	LABO
Light and scanning electron microscopy (SEM)	Assessment of tooth-restoration bond, microleakage, interaction features, nanoleakage	LABO
Digital Analysis	Qualitative / quantitative analysis of tooth-composite interaction, statistical evaluation	LABO
WORKSHOP IV: Non-invasive 2D/3D imaging in vitro and in vivo at the Department of Cariology, Endodontology and Periodontology		
Introduction	Theoretical introduction	LECTURE
X-ray microtomography	Imaging of hard tooth substances, carious lesion and tooth-colored restoration, analysis, visualization (2D/3D), statistical analysis	LABO
Optical coherence tomography	Imaging of hard tooth substances, carious lesions & tooth-colored restorations; Visualization (2D/3D), statistical analysis, in vitro/in vivo; Imaging of individual steps of the adhesive technique: conditioning, adhesive layering, composite shrinkage, interfacial gap formation, restoration imperfections	LABO
2D/3D image analysis & standardization	Scale dependent quantification: 3D texture according to industrial standards, dental topography, morphometrics, volumetrics, and rendering	LABO