

NDTonAIR: 3rd training event

Material Science, Vibrometry and Thermal Theory

Time: April 16th-20th, 2018

Location: Maria-Reiche-Str. 2, 01109 Dresden

Room: 4.027 (Einstein)

Monday 16th

9:30 – 10:00	Welcome Address
10:00 - 12:30	Lab Tour Part I
12:30 - 13:30	<i>Lunch break</i>
13:30 - 15:00	Lab Tour Part II
15:00 – 16:00	Methods of residual stress measurements IKTS: Dr. Bernd Köhler
16:00 - 16:15	<i>Coffee break</i>
16:15 – 18:00	7 out of 14 ESR Progress report

Tuesday 17th

9:00 – 10:30	Fundamental of Composite Sciences, Part I MDP: Dr. Andrea Terenzi and PERUGIA: Prof. Luigi Torre
10:30 - 10:45	<i>Coffee break</i>
10:45 - 12:30	Fundamental of Composite Sciences, Part II MDP: Dr. Andrea Terenzi and PERUGIA: Prof. Luigi Torre
12:30 - 13:30	<i>Lunch break</i>
13:30 - 16:00	Fundamental of Composite Sciences, Part III MDP: Dr. Andrea Terenzi and PERUGIA: Prof. Luigi Torre
16:00 - 16:10	<i>Coffee break</i>
16:10 – 17:30	7 out of 14 ESR progress report

Wednesday 18th

8:00 – 9:15	Bus transfer to Mittweida; start at IBIS Dresden, Prager Str. 5
09:15 - 14:00	Industrial Seminar on Composites at COTESA factory in Mittweida: “Quality assurance chain in the production of high-quality fibre-reinforced composite components for application in aircraft industry”, COTESA: Dr. Jacob Schulz, Dr. Rita Bulgrin
14:30 – 15:30	Transfer to Dresden; arrival at Zwinger Dresden
16:00 - 18:00	Visit at Mathematisch-Physikalischer Salon in Zwinger Dresden guided tour 60 min + 60 min self guide <i>(Cabinet of Mathematical and Physical Instruments)</i>
18:30	Dinner in „Kurfürstenschänke“; walking distance from Zwinger

Thursday 19th

8:30 - 10:30	Mechanical properties, fatigue, failures, (destructive) testing, TU Dresden: Prof. Martina Zimmermann
10:30 - 10:45	<i>Coffee break</i>
10:45 – 12:30	Thermal theory, heat diffusion, Fourier’s law, thermal waves, lock-in thermography and thermographic reconstruction, RECENDT: Dr. Peter Burgholzer
12:30 - 13:30	<i>Lunch break</i>
13:30 - 16:00	Visualization of sound fields for better understanding of NDT and SHM with elastic guided waves IKTS: Dr. Bernd Köhler
16:00 - 16:15	<i>Coffee break</i>
16:15 – 17:30	Laser Ultrasonics (including different optical detection techniques for detecting small vibrations). KUL: Prof. Christ Glorieux

Friday 20th

9:00 - 10:45	System theory (spectra, impulse response, convolution) and wave velocity and damping extraction from experimental data, PART I KUL: Prof. Christ Glorieux
10:45 - 11:00	<i>Coffee Break</i>
11:00 - 12:30	System theory (spectra, impulse response, convolution) and wave velocity and damping extraction from experimental data, PART II KUL: Prof. Christ Glorieux
12:30 - 13:30	<i>Lunch break</i>
13:30 - 16:00	Semi-analytical calculation of guided wave dispersion and interaction of guided waves with cracks and delamination, including linearly and nonlinearly (cross-modulation) acting defects. KUL: Prof. Christ Glorieux