

Program March 26, 2025

time	action	autor	organization	titel
10:00		Tour Fraunhofer IOSB (optional)		
11:30		Registration and Snack		
<b>Opening Ceremony</b>				
12:00		Prof. Dr. Jürgen Beyerer; Fraunhofer IOSB		
<b>Session 1: Standardization, Image acquisition</b>				
12:15	Lecture	Bernd Jähne	Uni Heidelberg-IUP	Extending the EMVA 1288 Standard for Sensors Required for Optical Material Characterization
12:40	<b>Poster session</b>			<b>Methods 1, Modeling</b>
	Poster	Achim Kehrein	Uni Rhine-Waal	On the Correspondence between the Shape Parameter and the Inflection Point of a Voigt Profile
	Poster	Fabian Roth	RWTH Aachen-ANTS	Automated data acquisition method for sensor-based real-time material flow characterization of recyclable waste streams using sensor fusion A case study
	Poster	Maria Jernej	JOANNEUM RESEARCH Forschungsgesellschaft mbH	Optimizing Illumination Concepts and Calibration Procedures for Mid-Wave Infrared Hyperspectral Imaging
	Poster	Oliver Lischtschenko	Coher Sense UG	Locating Peak Positions in Raman Spectra with Broadband Background Features
	Poster	Johannes Meyer	Fraunhofer IOSB	Inverse rendering for material characterization
	Poster	Andreas Polywka	Fraunhofer IOSB	Reflectance of fine-structured plane surfaces simulation and effective reflectance model
13:00	Lunch break			
<b>Session 2: Food &amp; Agriculture</b>				
14:00	Lecture	Leo Fiedler	Carl Zeiss AG	Leveraging Grounded SAM and a weakly supervised CNN Filtering for Enhanced Leaf Segmentation in Automated Plant Phenotyping
14:25	Lecture	Thorsten Tybussek	Fraunhofer IVV	Non-destructive and inline-capable characterization of grapes by mid-infrared spectroscopy
14:50	Lecture	Sabine Wittmann	HS Weihenstephan-Triesdorf	Quantitative Analysis of Mango Ripeness Parameters Using NIR Spectroscopy: A Case Study on Peruvian Kent Mangoes in Germany
15:15	<b>Poster session</b>			<b>Food &amp; Agriculture</b>
	Poster	Anna Taphorn	Fraunhofer IOSB	Non-Destructive Quality Control using a Multi-Sensory Fruit Scanner with NIR and Microwaves
	Poster	Kay Plat	greenhub solutions GmbH	Optimisation of Plant Trials in CEA and Vertical Farming through Standardization and Modelling
	Poster	Pascal Gauweiler	Fraunhofer IOSB	Optimizing Near-Infrared Spectroscopy for On-line Grape Must Quality Assessment: Addressing the Impact of Suspended Solids
15:25	Coffee break			
<b>Session 3: Plastics Recycling</b>				
15:45	Lecture	Nikolai Kuhn	Montanuniversität Leoben	Exploring near-infrared spectra of multi-material multi-layer packaging – findings from the PET-stream
16:10	Lecture	Malte Vogelgesang	Fraunhofer IWKS	Detection of bio-based additives in plastics using NIR data Opportunity for bio-based markers
16:35	<b>Poster session</b>			<b>Recycling</b>
	Poster	Daniële Waldmann-Diederich	TU Darmstadt	Impact of Demolition Waste Powders on the Microstructure of Cement Mortars: A Comparative Analysis of Concrete, Ceramic, and Mixed Wastes
	Poster	Lukas Roming	Fraunhofer IOSB	Robust model development for HSI-based characterization of post-consumer plastics
	Poster	Felix Kronenwett	Fraunhofer IOSB / KIT	Adaptive architectures for semantic segmentation in the field of sensor-based sorting systems
	Poster	Fridolin Blum	University of Applied Sciences Hamburg	Bulky Waste Classification from a Distance: Challenges and First Insights
	Poster	Wolfgang Becker	Fraunhofer ICT	MIR measurements combined with photon-up-conversion technology to measure and identify black polymers
16:50	Coffee break			
<b>Session 4: Deep Learning in Recycling</b>				
17:10	Lecture	Maria Kainz	JOANNEUM RESEARCH Forschungsgesellschaft mbH	Hyperspectral Deep Learning Enabled Textile Classification and Anomaly Detection for Advanced Recycling Solutions
17:35	Lecture	Gerald Koinig	Montanuniversität Leoben	CNN-Based Copper Reduction in Shredded Scrap for Enhanced Electric Arc Furnace Steelmaking
18:00	End of the first day			
19:00	Change of Location Special Presentation and Dinner			

## Program March 27, 2025

<i>time</i>	<i>action</i>	<i>autor</i>	<i>organization</i>	<i>titel</i>
<b>Session 5: Methods</b>				
09:00	Lecture	Ronald Mendez	Fraunhofer IIS	Towards continual learning with Artificial Neural Twin
09:25	Lecture	Genc Ahmeti	Wilhelm-Schickard-Institute for Computer Science University of Tuebingen	Transfer Learning for Hyperspectral Image Classification
09:50	Lecture	Abtin Maghmoumi	RWTH Aachen	Assessment of compression algorithms and their reconstruction performance on 1 Near-Infrared Spectral Images
10:15	Lecture	Dennis Hofmann	Uni Heidelberg-IUP	Measurement of Air-Water Gas Exchange by Fluorescence Imaging
10:40	Poster session			<b>Methods 2</b>
	Poster	Florian F. Linscheid	Uni Augsburg	Prediction of various material parameters using a combination of non-destructive sensors and artificial intelligence
	Poster	Jannick Küster	Fraunhofer IOSB	Investigating the influence of hyperspectral data compression on the classification of water bodies
	Poster	Achim Kehrein	Uni Rhine-Waal	About the Determination of Intensities and Shape Parameters of Overlapping Voigt Profiles Directly from Geometric Properties of the Spectrum
10:50	Coffee break			
<b>Panel Discussion</b>				
11:10	Talk	N. N.	(topic will be announced soon)	
12:10	Lunch break			
<b>Session 6: Construction &amp; Demolition Waste</b>				
13:10	Lecture	Paul Bäcker	Fraunhofer IOSB	PAH Detection in Road Surface Residue Using Various Hyperspectral Imaging Sensors with Detection Spray Proxy
13:35	Lecture	Patrick Hunhold	Materials Research and Testing Institute Weimar	Conserving resources by taking the example of natural gypsum employing hyperspectral imaging and machine learning techniques
14:00	Coffee break			
<b>Session 7: Food</b>				
14:20	Lecture	Sebastian Tück	PROBAT SE	Advancing Coffee Roasting: A Data-Driven Approach to Efficiency
14:45	Lecture	Patrick Menz	Fraunhofer IFF	On the Rapid Aging of Roasted Coffee Beans – A Hyperspectral Freshness Analysis
15:10	Lecture	Johannes Schlosser	Uni Bayreuth	Classification of overall sensory acceptability of modified-air packaged (MAP) minced pork stored at different temperatures using fluorescence spectroscopy
15:35	<b>Best Paper Award, Summary and Conclusion</b>			
15:55	End			