OCM 2025

Program March 26, 2025

time	action	autor	organization	titel
10:00		Tour Fraunhofer IOSB (optional)		
11:30		Registration		
				Opening Ceremony
12:00		Prof. Dr. Jürgen Beyerer; Fraunhofer IOSB		
				Session 1: Standardization, Image acquisition
12:15	Lecture	Bernd Jähne	Uni Heidelberg-IUP	Extending the EMVA 1288 Standard for Sensors Required for Optical Material Characterization
12:40	Poster session			**Methods, Modeling**
	Poster	Achim Kehrein	Uni Rhine-Waal	About the Parameter Determination of Overlapping Voigt Profiles from Geometric Features of the Spectrum
	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 for Mid-Wave Infrared Hyperspectral Imaging in Black Plastic Recycling
	Poster	Johannes Meyer	Fraunhofer IOSB	Inverse rendering for material characterization
	Poster	Andreas Polywka	Fraunhofer IOSB	Effective directional reflectance modelling of fine-structured surfaces
13:00	Lunch break & Poster session			
				Session 2: Food & Agriculture
14:00	Talk	Leo Fiedler	Carl Zeiss AG	Leveraging Grounded SAM and a weakly supervised CNN Filtering for Enhanced Leaf Segmentation in Automated Plant Phenotyping
14:25	Talk	Thorsten Tybussek	Fraunhofer IVV	Non-Destructive and Inline Capable Characterization of Grapes by Mid-Infrared Spectroscopy
14:50	Talk	Sabine Wittmann	HS Weihenstephan-Triesdorf	Use of VIS-NIR Spectroscopy to Monitor Mango Ripening Quality with Ripening Indices in Professional Ripening Processes
15:15	Poster session			**Food & Agriculture**
	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 & Poster session			
				Session 3: Plastics Recycling
15:45	Talk	Nikolai Kuhn	Montanuniversität Leoben	Exploring Near-Infrared Spectra of Multi-Material Multi-Layer Packaging – Findings From the PET-Stream
16:10	Talk	Wladislaw Benner	Fraunhofer IWKS	Detection of bio-based additives in plastics using NIR data Opportunity for bio-based markers
16:35	Poster session			**Recycling**
	Poster	Anna Tokareva	Uni Luxembourg	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 & Poster session			
				Session 4: Deep Learning in Recycling
17:10	Talk	Maria Kainz	JOANNEUM RESEARCH Forschungsgesellschaft mbH	Supervised and Unsupervised Textile Classification via Near-Infrared Hyperspectral Imaging and Deep Learning
17:35	Talk	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

time	action	autor	organization	titel
				Session 5: Methods 1
09:00	Talk	Johannes Emmert	Fraunhofer IIS	Towards continual learning with the Artificial Neural Twin applied to recycling processes
09:25	Talk	Genc Ahmeti	Wilhelm-Schickard-Institute for Computer Science University of Tuebingen	Transfer Learning for Hyperspectral Image Classification
09:50	Talk	Abtin Maghmoumi	RWTH Aachen	Assessment of lossless compression algorithms and their performance on near-infrared spectral images
10:15	Talk	Dennis Hofmann	Uni Heidelberg-IUP	Measurement of Air-Water Gas Exchange by Fluorescence Imaging
10:40	Poster session			**Methods 2**
	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	Hyperspectral Data Compression and its Impact on Spectral Signatures of Water Bodies
	Poster	Achim Kehrein	Uni Rhine-Waal	About the Parameter Determination of Overlapping Voigt Profiles from Geometric Features of the Spectrum
10:50	Coffee break & Poster session			
				Session 6: Methods 3
11:10	Panel talk	Alexander Braun	HS Düsseldorf	A novel scan-free one-shot refractometer for the whole dispersion curve
12:00	Lunch break			
				Session 7: Construction & Demolition Waste
13:00	Talk	Paul Bäcker	Fraunhofer IOSB	PAH Detection in Road Surface Residue Using Various Hyperspectral Imaging Sensors
13:25	Talk	Patrick Hunhold	Materials Research and Testing Institute Weimar	Approach to Increase Resource Efficiency in Natural Gypsum using Hyperspectral Imaging and Machine Learning Methods
13:50	Coffee break			
				Session 8: Food
14:10	Talk	Sebastian Tück	PROBAT SE	Advancing Coffee Roasting: A Data-Driven Approach to Efficiency
14:35	Talk	Patrick Menz	Fraunhofer IFF	On the Rapid Aging of Roasted Coffee Beans – A Hyperspectral Freshness Analysis
15:00	Talk	Johannes Schlosser	Uni Bayreuth	Classification of overall sensory acceptability of modified-air packaged (MAP) minced pork stored at different temperatures using fluorescence spectroscopy
15:25				**Best Paper Award, Summary and Conclusion**
15:45		End		