

Non-Destructive Spectral Sensors advances and future trends

10-12.05.2022 Izola, Slovenia

Conference program

Tuesday, 10. 5. 2022

08:30	Registration		
09:00	Welcome		
	Session #1: Innovation in process control by means of NDSS Session chairs: Tiziana Cattaneo and Christian Huck		
09:15	Keynote #1: Jens Petter Wold	In-line NIR spectroscopy for quality assessment of heterogeneous foods	
09:45	555	Coffee break	
10:15	Krzysztof Rutkowski	The usefulness of VIS/NIR techniques for maturity and quality assessment of plums at harvest and after storage	
10:30	Alejandra Arroyo Cerezo	Raman through original food packaging – Authentication of the milk origin by animal species of sliced cheeses	
10:45	Miguel Vega-Castellote	Optimization of the spectral acquisition process of watermelons using new generation portable and online instruments and study of the quality of the spectral data	
11:00	Carmen Méndez-Sánchez	Authentication and quality control of edible insects using portable infrared spectroscopic devices	
11:15	Jose Luis Aleixandre-Tudo	Non-invasive quantification of phenolic content in red and white wines using a portable fluorescence spectrometer	
11:30	Eleonora Mustorgi	Multivariate online monitoring of a powder blending process using a miniaturized near infrared sensor	
11:45	Virtual poster session: Innovation in process control by means of NDSS Session chairs: Matija Milanič and Anna Sandak		
3 min /poster	Clara Barnés i Calle	Determination of hydroperoxides by near infrared spectrometry as a rapid procedure to evaluate oxidation susceptibility in fish	



	Cristina Zomeño	Predicting pork belly firmness with a portable NIR device
	Elena Fulladosa	In search to robust predictive models to determine the texture and ripening level of dry-cured ham
	Jakub Sandak	Using infrared spectra and molecular dynamic modelling for identification of valuable molecules in olive leaves
	Maria del Mar Giró Candanedo	Low-cost portable NIR spectrometers for fraud detection in fish
3 min /poster	María del Mar Garrido Cuevas	Suitability of a portable Near Infrared Spectroscopy sensor for its applicability to the on-site analysis of Extra Virgin Olive Oil
	Mecit Oztop	Predicting the Crystallinity of MW-Vacuum Crystallized Sucrose by Time Doman NMR
	Tiril Aurora Lintvedt	Raman Spectroscopy for In-line Estimation of Fatty Acid Features in Salmon Fillets
	Víctor Manuel Fernández Cabanás	Authentication of green asparagus of the Huétor-Tájar population variety by NIRS spectroscopy
	Giorgia Stocco	Rapid and non-destructive determination of Ca and P in milk using WDXRF
12:15		Lunch

13:30





Session #2: Novel approaches for NDSS signal integration Session chairs: Jasenka Gajdoš Kljusurić and Vincent Baeten

13:30	Keynote #2: Marena Manley	The road less travelled: NIR (hyper)-spectral imaging in cereal quality and safety
14:00	Benoit Jaillais	Extraction of phenotypic traits from multispectral images by Deep Learning
14:15	Salvador Castillo Gironés	Use of hyperspectral imaging to classify 'Rojo Brillante' persimmon in three texture classes before and after storage
14:30	Luca Fiorani	DIALPAS, a New Non-destructive Spectral Sensor for Easy Real-time Sensitive Detection of Food Fraud
14:45	Krzysztof Bec	Sensor Fusion and Interpretation of Chemical Information in the Performance Profiles of Miniaturized NIR Sensors in Food Analytical Framework
15:00	Zakarya Al-Shaebi -online	Synergetic of Surface-Enhanced Raman Spectroscopy and Deep Learning in Antimicrobial Resistance Identification
15:15	Iztok Prislan	Hyperspectral imaging of gluten-free dough and bread



15:30	Coffee break			
es d	STSM Session Session chairs: Cecilia Riccioli and Radu Ionescu			
16:00	Sebahattin Serhat Turgut	An approach towards the evaluation of quality attributes of black tea samples: Implementation of a NIR-Spectroscopy based technique		
16:10	Gonçalo Guedes	Toward a NIR smart sensor: digital filters for data curation		
16:20	Irina Torres Rodríguez	Selection of the optimal region of interest for the quality prediction in oranges analysed using hyperspectral imaging technology		
16:30	José Antonio Entrenas de León	Optimization and development of NIRS prediction models for their implementation in food process control		
16:40	María del Mar Garrido Cuevas	Non-targeted multivariate methods using NIR sensors for increasing sampling during on-site official inspections of virgin olive oils		
16:50	Stella Ordoudi	Methodological challenges in the assessment of virgin olive oil (VOO) adulteration using FTIR spectroscopy and chemometrics		
17:00	T Ice breaker			

Wednesday, 11. 5. 2022

08:30	Registration		
ζ.	Session #3: Real-time methodologies for processing NDSS data Session chairs: Marina Cocchi and Soren Engelsen		
09:00	Keynote #3: Jean-Michel Roger	Increasing the robustness of chemometric models by calibration transfer, orthogonal projections, domain adaptation	
09:30	Sebastian Orth	Spectral sensors and a novel multiblock data fusion approach for barley pre-harvest germination discriminant analysis	
09:45	Marina De Gea Neves	Investigation of bread staling by handheld NIR spectroscopy in tandem with 2DCOS and MCR-ALS analysis	
10:00	Candela Melendreras García	On-site sensors for quality control of Breast Milk	
10:15	Sergio Forcada	In-situ quantification of sugar content in intact green bean pods by Near Infrared Spectroscopy	



10:30	s ⁵ 5	Coffee break
11:00	Arnaud Molle	The use of milk Fourier-Transform Infrared spectra for predicting cheese making traits in Grana Padano PDO
11:15	Lorenzo Strani	Different chemometric approaches to monitoring pesto sauce quality in an industrial process
11:30	Justyna Grabska	NIR Spectra Simulation in Aid of Food Analytical Framework. Understanding of Matrix Effects and Improved Detection of Adulterants
11:45	Fatih Kahrıman	Comparison of Different NIR Instruments for the Determination of Oil Content in Single Maize Kernel
12:00 13:00		Lunch
		Virtual poster session: e methodologies for processing NDSS data n chairs: Matija Milanič and Anna Sandak
3 min /poster	Jana van Rooyen	Application of ASCA to characterise effects of roasting temperature, -time and milling method on SWIR spectral data of whole and milled wheat
	Advance	es in decision support systems for efficient control in the food supply chain
	Irina Torres Rodríguez	In situ authentication of Iberian pork meat using Near infrared spectroscopy
	Jasenka Gajdoš Kljusurić	Near infrared spectroscopy as authentication tool of protect design of origin for Dalmatian wine produced from grape Maraština
7 min	José Antonio Entrenas de León	Ready to use vs specific NIRS calibrations for determination of chemical parameters of Processed Animal Proteins (PAPs) meals
3 min /poster	Liudmil Antonov	Near Infrared Diffuse Reflectance Spectroscopy with Partial Robust M- Regression(PRM) as Sensory Tool for on-line Control of Biscuit Dough Production
	Madalina Belous	Evaluation of Plant Bioactive Compounds Activity and Stability by Spectroscopic Methods
	Sebahattin Serhat Turgut	Use of chemometrics for decision support in food quality assurance: an example study for tea blending
	Tassos Koidis	Detection of offal adulteration in minced beef products using Near-Infrared (NIR) spectroscopy



Matching scientific progress to industrial needs – alternative strategies for knowledge transfer			
	José Blasco	A non-destructive method to measure the light penetration depth and optical properties of "Rojo Brillante" persimmons	
	Dijana Blazhekovikj Dimovska	Determination of polycyclic aromatic hydrocarbons (PAHs) in commonly consumed smoked fish	
	Dilip Sing -online	Rapid quality assessment of Andrographis paniculata using a developed portable infrared spectroscopy instrument	
3 min	Maria Tarapoulouzi online	Discrimination of Halloumi cheese samples regarding species' origin	
/poster	Sara Chumillas Lidón	A collaborative platform economy to accelerate the democratization of NIR-based quality control in the food industry	
	Tiziana Cattaneo	Evaluation of the effect of different soil fertilizers on rice plants using a hyperspectral imaging system	
	Tiziana Cattaneo	NIR calibrations to predict stress related parameters in rice plants fertilised with sewage sludge	
	Nežka Sajinčič	Learning about NDSS through video – Evidence-based guidelines for effective instructional videos for a smooth transition into industry	
14:00	Sponsors session Session chairs: Anna Sandak and Matija Milanič		
14:30	Coffee break		
15:00 16:30	Industry round table Session chairs: Lola Pérez-Marín and Tom Fearn		
16:30 19:00	Free time		
19:00 21:30	Gala dinner		



Thursday, 12. 5. 2022

08:30



Registration



Session #4: Advances in decision support systems for efficient control in the food supply chain & 5 Matching scientific progress to industrial needs – alternative strategies for knowledge transfer Session chairs: Elena Fulladosa and S. Serhat Turgut

	Session chairs. Elena i ondaosa and S. Sernat Torgot		
09:00	Keynote #4: Wouter Saeys	Harvest planning in apple and pear with spectral sensors in the orchard	
09:30	Evgeni Eltzov	Reduce food losses by developing non-destructive biosensors for real-time rots detection in the stored agriculture produce	
09:45	Stefka Atanassova	Dairy products quality assessment by use of near-infrared spectroscopy	
10:00	Christian Huck	Current Status and Future Trends of NIR Spectroscopic Analysis of Foods	
10:15	Szilveszter Gergely	Monitoring the change in particle size of dried egg-pasta due to different grinding parameters by diffuse reflection near-infrared spectroscopic techniques	
10:30	Claudia Beleites	Open-Source Development of Portable NIR-Sensor Measurement Setups for Plant Leaves	
10:45	Marcello Vanzulli	QualiControl: Smart Cloud based NIR solutions for industry	
11:00	Closing of the conference		
11:10	Coffee break		
11:30- 12:45	MC meeting		
12:45 13:45	Lunch		
14:00- 17:00	Post-conference tour		



Conference chairpersons

- Lola Pérez-Marin, University of Cordoba
- Anna Sandak, InnoRenew CoE, University of Primorska, FAMNIT

Scientific committee

- Ana Garrido Varo, University of Cordoba
- Anna Sandak, InnoRenew CoE, University of Primorska, FAMNIT
- Antonio Silva Ferreira, Catholic University of Portugal
- Aoife Gowen, University College Dublin
- Christian Huck, Innsbruk University
- Declan Delaney, University College Dublin
- Ivan Stajduhar, University of Rijeka
- Jean-Michel Roger, INRAE
- Lola Pérez-Marín, University of Cordoba
- Maria Tarapoulouzi, University of Cyprus
- Marina Cocchi, University of Modena and Reggio Emilia
- Paul Brereton, Queen's University Belfast
- Szilveszter Gergely, Budapest University of Technology and Economics
- Tom Fearn, University College London
- Vincent Baeten, Walloon Agricultural Research Centre

Organizing Committee

- Albert Kravos, InnoRenew CoE
- Amy Simmons, InnoRenew CoE, University of Primorska, IAM
- Anna Sandak, InnoRenew CoE, University of Primorska, FAMNIT
- Benjamin Božič, InnoRenew CoE
- Faksawat Poohphajai, InnoRenew CoE
- Jakub Sandak, InnoRenew CoE, University of Primorska, IAM
- Lea Primožič, InnoRenew CoE
- Liz Dickinson, InnoRenew CoE
- Mitja Milanič, University of Ljubljana, Faculty of Mathematics and Physics
- Nežka Sajinčič, InnoRenew CoE, University of Primorska, PEF
- Oihana Gordobil, InnoRenew CoE
- René Herrera, InnoRenew CoE, University of the Basque Country
- Richard Acquah, InnoRenew CoE
- Sasikala Perumal, InnoRenew CoE
- Tine Šukljan, InnoRenew CoE, University of Primorska, IAM
- Veerapandian Ponnuchamy, InnoRenew CoE



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