Conference program

All scientific activities will take place in the **Bizkaia Aretoa** (Abandoibarra Etorbidea, 3, 48009 Bilbo). The oral sessions will be located in the conference hall **MITXELENA**, while the poster session, exhibition, coffee and lunch-breaks in the annexed areas **CHILLIDA** and **AXULAR**. **Please wear you conference badge on during all sessions and events.**

	Sat. 6th July	Sun. 7th July
8:00	Doors Opening / Registration	
9:00	WS01	WS03
10:40	WS Coffee Break	
11:00	WS01	WS03
13:00	WS Break	
14:00	WS02	Social Event 01
15:40	WS Coffee Break	
16:00	WS02	Doors Opening Registration
17:00		Opening Hyperplenary Paul Geladi Welcome Cocktail (until 21h)
18:00	END	END

	Mon. 8th July	Tue. 9th July	Wed. 10th July
8:00	Doors Opening / Registration		
8:30	Conference Opening and Plan of the day		
8:40	Invited 01 Carolina Santos	Invited 03 Cristiane Vidal	Invited 04 Thomas Bocklitz
9:30	T0101	T0201	T0301
9:50	T0102	T0202	T0302
10:10	HySpex Prediktera	SPECIM	T0303
10:30	Coffee Break / Exhibition		
	Posters P1	Posters P1	Posters P2
11:00	T0103		T0306
11:20	T0104	T0204	T0305
11:40	T0105	T0205	T0304
12:00	T0106	T0206	T0307
12:20	NEWTEC	Kax Group	Lightnovo
12:30	Lunch Break / Exhibition / Posters		
	Posters P1	Change Posters	Posters P2
14:00	Invited 02 Jose Blasco	T0207	T0308
14:20		T0208	T0309
14:40		T0209	T0310
14:50	T0107		
15:00		INNO-SPEC	T0311
15:10	T0108		
15:20		Exhibition / Posters P2	Coffee Break Exhibition Posters P2
15:30	Videometer		
15:40			
15:50	Coffee Break Exhibition Posters P1		
			T0312
16:30			T0313
16:40	T0109	Social Event 02 Dinner (until 23h)	
16:50			T0314
17:00	T0110		
17:10			Awards IASIM-2026 Farewell
17:20	T0111		
17:30			
17:40	T0112		
18:00	Beer Break by KAX Group	END	END
20:00			

Keynote Speakers

Shedding light on Active Hyperspectral Imaging with Supercontinuum Sources

Carolina Santos Silva

Carolina obtained her PhD in Chemistry at the Federal University of Pernambuco (Brazil). She worked as a post-doctoral in the same institution (2018-2021), and at the University of Malta (2021-2022). She is a research scientist in the Optical Spectroscopy team at the VTT Technical Research Centre of Finland (since 2022). Her background includes the development of innovative analytical solutions to meet society's demands using optical sensors and chemometrics. Fields of application include forensic chemistry, food analysis, mining, etc.

How far can hyperspectral imaging uncover microplastics in the environment?

Cristiane Vidal

Cristiane is from the University of Campinas (UNICAMP), São Paulo – Brazil, where she did her Ph.D. in hyperspectral imaging combined with chemometrics for microplastic identification in beach sand, as well as for food fraud. She has a strong background in environmental analytical chemistry working as a Research Chemist for over 12 years at UNICAMP, collaborating with projects related to emerging contaminants in the environment and hyperspectral imaging acquisition and processing in many areas of study.

Photonic Data Science. The journey from vibrational spectroscopic data to knowledge

Thomas Bocklitz

Thomas studied physics at the university of Jena, and he received his Ph.D. in physical chemistry/chemometrics from the same university in 2011. In 2013 he became head of a junior research group “Statistical Modelling and Image Analysis” at the university of Jena. Since 2019 he is head of the research department “Photonic data science” at the Leibniz IPHT. His main research area is closely connected with the photonic data life cycle, which contains machine learning and chemometrics based modeling of photonic data. He has published more than 130 publications in peer reviewed journals and gave more than 50 invited talks on conferences. The work of Thomas Bocklitz was award with prestigious awards, like the Bruce Kowalski award in 2015, the Kaiser-Friedrich research-award in 2018 and the ERC Consolidator grant 2022.

Spectral measurements of agricultural products. Lights and shadows

Jose Blasco

Jose Blasco received his MSc (1994) and PhD (2001) in Computer Science at Universitat Politècnica de València. He worked for IBM Spain (1994-1996) as a system analyst before joining the Instituto Valenciano de Investigaciones Agrarias (IVIA), leading the Laboratory of Computer Vision in Agriculture. His research is focused on developing computer vision, spectral solutions, robotics, and precision agriculture applications for the agri-food sector. In 2014, he became the head of the Agricultural Engineering Centre of IVIA. Since 2012, he is charing the CIGR International Working Group on Image Analysis and Spectroscopy for Agricultural Products and Processes. He has participated in more than 40 research projects and 13 contracts with companies, obtained 8 patents, published 85 peer-reviewed, 40 extension papers, 20 book chapters and more than 180 contributions and talks at conferences. His work has received awards from the CIGR and EurAgEng.

Workshops

1. Image transformations

Sergey Kucheryavskiy

When: 6th of July, 9:00-13:00

Software needed: Python (3.10 or later), Visual Studio Code

This workshop is devoted to the basics of digital image processing — image transformations. We will start with brief overview about how digital images are represented, talk about vector and raster formats, compressions, etc. Then we will use Python notebooks and several additional packages (will install everything together on workshop) to learn how to load images, how to work with images as multidimensional arrays, how to do geometrical transformations, arithmetic transformations and convolution of digital images and, finally, how to make a chain of processing units and apply this chain to a batch of images. Most of the examples will be based using conventional RGB images, but, at the end, we will try to apply the learned skills to a hyperspectral images as well.

2. Hyperspectral and Multivariate Image Analysis

Neal B. Gallagher

When: 6th of July, 14:00-18:00

Previous knowledge needed: Principal Component Analysis (Multivariate Curve Resolution and Regression would also be useful).

Software: For those interested, instructor lead hands-on examples will be provided using [Solo + MIA_Toolbox] or [MATLAB and PLS_Toolbox + MIA_Toolbox]. Full demo versions can be downloaded at http://www.eigenvector.com/.

Hyperspectral imaging provides spatial and spectral information for an imaged sample or scene and multivariate image analysis provides tools for exploring and extracting information from measured images. After a brief introduction to hyperspectral imaging, the course will explain how images are represented in the MATLAB environment. Tools for image exploration will be introduced including principal components analysis, maximum autocorrelation factors, maximum difference factors, multivariate curve resolution and divisive cluster analysis. The course will finish by discussing decluttering and target detection. Decluttering used to enhance and refocus signals in an image, and target detection is used to detect specific analytes of interest within an image. The course content will be useful for those involved in chemical, food, forensics, pharmaceutical and medical imaging, and remote and standoff imaging.

3. Introduction to deep learning on spectral data

Artzai Picon Ruiz

When: 7th of July, 9:00-13:00

Software needed: Python (3.10 or later), Visual Studio Code

This workshop will focus on the use of Deep learning in spectral imaging. First, we will introduce the concepts of Deep learning and how it is applied to signal and spectral imaging for classification, regression or segmentation tasks. We will study which network architectures are more appropriate to each type of task and we will include concepts such as self-supervised learning and finetuning for the reduction of data requirements in these systems. We will apply what we have learned in a small use case.

Program

Saturday, 6/07

08:00–09:00	**Doors Opening / Registration**
09:00–13:00	**WS01. Image transformations** Sergey Kucheryavskiy Baroja and Laboa Rooms
14:00–18:00	**WS02. Hyperspectral and Multivariate Image Analysis** Neal B. Gallagher Baroja and Laboa Rooms

Sunday, 7/07

08:00–09:00	**Doors Opening / Registration**
09:00–13:00	**WS03. Introduction to deep learning on spectral data** Artzai Picon Ruiz Baroja and Laboa Rooms
14:00–16:00	Social Event 01
16:00–17:00	**Doors Opening / Registration**
17:00–21:00	**Opening Honouring Paul Geladi** Welcome Cocktail (until 21h)

Monday, 8/07

7:30–8:30	**Doors Opening / Registration**
8:30–8:40	Conference Opening and Plan of the Day
	Session 1. Chair *Sergey Kucheryavskiy*
8:40–9:30 **I003**	**Shedding light on Active Hyperspectral Imaging with Supercontinuum Sources.** Carolina Santos
9:30–9:50 **T0101**	**A072. A direct comparison of a next generation hyperspectral camera to state-of-the-art** Martin Henriksen
9:50–10:10 **T0102**	**A052. Comparison of portable and bench-top spectrometers for short wave infrared reflectance measurements of soils and leaves** Giuseppe Capobianco
10:10–10:30	**Platinum 1. HySpex / Prediktera** **How to develop industrial applications from your research on hyperspectral imaging** Andreas Vidman, Lukasz Paluchowski.
10:30–11:00	**Coffee break / Exhibition** **Posters P1**
	Session 2. Chair *Cristiane Vidal*
11:00–11:20 **T0103**	**A150. MIR and NIR Hyperspectral imaging for food quality control** Federico Marini
11:20–11:40 **T0104**	**A058. Detection of Listeria monocytogenes on beef meat with NIR hyperspectral imaging** Rumbidzai Matenda
11:40–12:00 **T0105**	**A030. Cost efficient training of deep learning models for detection of contaminating grains in bulk oats** Emma Van Puyenbroeck
12:00–12:20 **T0106**	**A028. Detection of apple mouldy core and prediction of mycotoxin contamination using hyperspectral imaging** María Agustina Pavicich
12:20–12:30	**Regular 1. NEWTEC**
12:30–14:00	**Lunch Break / Exhibition** **Posters P1**

Session 3. Chair *Federico Marini*

14:00–14:50 **I004**	**Spectral measurements of agricultural products: lights and shadows** Jose Blasco
14:50–15:10 **T0107**	**A041. Chemometric strategies for the identification of adulterated oregano using NIR Hyperspectral Imaging** Rosalba Calvini
15:10–15:30 **T0108**	**A068. Multispectral Imaging as a Predictive Tool for Freshness in Whole Atlantic Cod: A Comparative Study with Sensory, Chemical, and Microbiological Analysis** Andrea Rakel Sigurðardóttir
15:30–15:50	**Platinum 2. VIDEOMETER** **Spectral Imaging: Expanding Food and Agri Applications** Aske Schultz Carstensen, Jens Michael Carstensen
15:50–16:40	**Coffee-break / Exhibition** **Posters P1**

Session 4. Chair *Jose Blasco*

16:40–17:00 **T0109**	**A007. On Chemometrics and Deep Learning when applied to Semantic Segmentation Classification** Marina Cocchi
17:00–17:20 **T0110**	**A027. Authentication of wholemeal content in bread using hyperspectral imaging and a quantification method based on pixel counting by classification** Miriam Medina García
17:20–17:40 **T0111**	**A025. Estimation of nutritional levels on citrus leaves using spectral imaging and machine learning techniques** Iván Blanco-Álvarez
17:40–18:00 **T0112**	**A043. Estimating the nutritional value of food through hyperspectral imaging** María José Sáiz-Abajo
18:00–20:00	**Beer Break supported by KAX Group, honouring Paul Geladi**

Tuesday, 8/07

7:30–8:30	**Doors Opening / Registration**
8:30–8:40	Conference Opening and Plan of the Day
	Session 5. Chair *Neal C. Gallagher*
8:40–9:30 **I002**	**How far can hyperspectral imaging uncover microplastics in the environment?** Cristiane Vidal
9:30–9:50 **T0201**	**A003. Quantification of wind turbine components for better recycling process** Ekaterina Galand
9:50–10:10 **T0202**	**A103 Early detection of water deficit stress in Eucalyptus spp. through VIS-NIR hyperspectral imaging technologies and multivariate analysis** Pamela Sanhueza
10:10–10:30	**Gold 1. Specim** **Advances and Applications of MWIR and LWIR Hyperspectral Cameras** Mathieu Marmion
10:30–11:20	**Coffee break / Exhibition** **Posters P1**
	Session 6. Chair *Ludovic Duponchel*
11:00–11:20 **T0203**	**A020. Classification of Phosphate Sedimentary Facies and Estimation of Carbonate-Fluorapatite Abundance Using Hyperspectral Infrared Imaging** Houda Lkhaoua
11:20–11:40 **T0204**	**A022. Remote Sensing For Asbestos Roofing Mapping: Mantua Case Study** Alice Aurigemma
11:40–12:00 **T0205**	**A115. Hyperspectral Pixel Unmixing with Large Spectral Libraries on Soils and Minerals** Jade Preston
12:00–12:20 **T0206**	**A113. H.E.I.M.D.A.L. Deploying a Computed Tomography Imaging Spectrometer camera system on a REXUS/BEXUS Balloon Mission** Mads Juul Ahlebæk
12:20–12:30	**Regular 2. Kax Group** **ImaJerI – What's in an Image?** Joonsup Lee
12:30–14:00	**Lunch Break / Exhibition** **CHANGE POSTERS P1 to P2**

Session 7. Chair *Paolo Olivieri*

14:00–14:20 **T0207**	**A059. The expanding horizons of essential information** Cyril Ruckebusch
14:20–14:40 **T0208**	**A006. Speeding up MCR-ALS by selecting the most influential pixels based on Combined Analyte Signal and randomized SVD** Sergey Kucheryavskiy
14:40–15:00 **T0209**	**A010. Automated Iterative Targeted Detection in Hyperspectral Imaging – Fast, Accurate Detection of Minor Target Signal in a Swamp** Neal B Gallagher
15:00–15:20	**Gold 2. INNO-SPEC**
15:20–16:10	**Coffee-break / Exhibition** **Posters P2**
16:40–23:00	**Social Event 2**

Wednesday, 10/07

7:30–8:30	**Doors Opening / Registration**
8:30–8:40	Conference Opening and Plan of the Day
	Session 8. Chair *Aoife Gowen*
8:40–9:30 **I001**	**Photonic Data Science the journey from vibrational spectroscopic data to knowledge** Thomas Bocklitz
9:30–9:50 **T0301**	**A016. Vis-SWIR Hyperspectral Microscopy of plasmonic color printed arrays** Mads Svanborg Peters
9:50–10:10 **T0302**	**A002. Integrating terahertz time-domain spectral imaging technique into agricultural and food bioprocess system: an innovative indirect in-situ processing quality sensing strategy** Yuqiao Ren
10:10–10:30 **T0303**	**A017. Detection and Analytics of Thin Surface Layers by Hyperspectral Imaging Techniques** Tom Scherzer
10:30–11:00	**Coffee break / Exhibition** **Posters P2**
	Session 9. Chair *Thomas Bocklitz*
11:00–11:20 **T0304**	**A080. Integration of an XRF-VNIR-SWIR hyperspectral imaging system with multiblock data processing for a non-invasive unveiling of Raffaello painting techniques** Giorgia Sciutto
11:20–11:40 **T0305**	**A146. Integrating Multispectral Photometric Stereo with Hyperspectral Imaging: A Unified Approach for Enhanced Surface Analysis and Spectral Insights** Alaitz Atxa Galdos
11:40–12:00 **T0306**	**A091. Magnificent colors in ancient Roman wall paintings. On-site Vis-NIR Hyperspectral Imaging in Ostia Antica Archeological Park** Costanza Cucci
12:00–12:20 **T0307**	**A021. Mapping water patterns during dehydration of nonvascular epiphytic communities through NIR hyperspectral imaging** Sara Gariglio
12:20–12:30	**Regular 3. LightNovo** **Optics miniaturization strategy without performance compromise for demanding Raman microscopy applications** Yaroslav Aulin
12:30–14:00	**Lunch Break / Exhibition** **Posters P2**

Session 10. Chair *Carolina Santos*

14:00–14:20 **T0308**	**A142. Transferring weights from RGB Large Visual Models into multispectral Deep Neural Networks** Pablo Galán
14:20–14:40 **T0309**	**A075. Joint CP Decomposition and Learnable Mapping for One-Shot Anomaly Detection in Hyperspectral Images** Gerardo Mora Jimena
14:40–15:00 **T0310**	**A029. Fusion, a novel and unique cloud-based platform for processing hyperspectral images using deep learning** Guillaume Hans
15:00–15:20 **T0311**	**A088 Solving the missing information problem in image fusion through single factorization unmixing analysis** Anna de Juan
15:20–16:10	**Coffee-break / Exhibition** **Posters P2**

Session 11. Chair *Anna de Juan*

16:10–16:30 **T0312**	**A097. Increasing spatial resolution in polarized Raman microscopy with tensor decomposition-assisted super-resolution** Andrii Kutsyk
16:30–16:50 **T0313**	**A037. Multivariate Exploratory Data Analysis of Mobility Patterns using Distributed Acoustic Sensing** Jose Camacho
16:50–17:10 **T0314**	**A065. Multivariate Curve Resolution of multltimodal multisample spectroscopic imaging analysis of tumor tissues** Romà Tauler
17:10–18:00	**Awards, IASIM-2026, Farewell**