university of groningen

JESIUM 2025 GRONINGEN

Joint European Stable Isotopes Users group Meeting / 16-20 June 2025 / Groningen, the Netherlands

Our Sponsors

Table of contents

Welcome to Groningen

Dear colleagues

We are delighted to invite you to the Joint European Stable Isotope Users Meeting (JESIUM) which will be held from 16th to the 20th of June 2025 in the beautiful and vibrant university city Groningen, the Netherlands.

This international conference will bring together scientists, technicians and all users of stable isotope measurements to share knowledge, discuss advancements and explore future possibilities in isotope studies.

On behalf of the organising committee:
Harro Meijer, Anita Aerts-Bijma, Dipayan Paul, Arendje Nijs, Albert van Buuren and Pharahilda Steur

Expect a diverse scientific program with oral and poster presentation in sessions covering the broad range of stable isotope studies. Additionally, we will host a variety of social events, with as a highlight the conference dinner which will be held in the historic Martinikerk, one of the city's most iconic landmarks.

We hope to see you in Groningen on the 16th to 20th of June 2025!

Contact the Centre for Isotope Research (CIO)

Scientific Committee

The sessions will be arranged by the members of the International Scientific Committee of JESIUM 2025:

Session 1: Methodological advances
Joachim Mohn, (EMPA, Dübendorf, CH)
Heiko Moossen (MPI-BGC, Jena, DE)
Keynote speaker: Kristýna Kantnerová (UCT Prague, CZ)

Session 2: Progress in reference materials
Harro Meijer (UoG, Groningen, NL)
Federica Camin (IAEA, Seibersdorf, AT)
Keynote speaker: Philip Dunn (LGC,GB)

Session 3: Atmospheric sciences: greenhouse and other tracer gases, air quality and aerosols
Thomas Röckmann (UU, Utrecht, NL)
Ulrike Dusek (UoG, Groningen, NL)
Keynote speaker: Malavika Sivan (Utrecht University, NL)

Session 4: Paleoclimatology and Archaeology
Margot Kuitems (UoG, Groningen, NL)
Marcel van der Meer (NIOZ, Ten Burg, NL)
Keynote speaker: Kristof Haneca (Flanders Heritage Agency, BE)

Session 5: Food Authenticity, Forensics, Isoscapes
Eva de Rijke (U. Amsterdam, Amsterdam, NL)
Simon Kelly (IAEA, Seibersdorf, AT)
Keynote speaker: Luana Bontempo (Fondazione Edmund Mach, IT)

Session 6: Biogeochemistry: carbon, nitrogen, sulfur and other cycles
Pascal Boeckx (UGent, Gent, B)
Lucia Fuchslueger (Vienna University, Vienna, AT)
Keynote speaker: Tobias Rütting (University of Gothenburg, SE)

Session 7: Geosciences and Hydrology
Jeroen van der Lubbe (Free University, Amsterdam, NL)
Paul Königer (BGR, Berlin, DE)
Keynote speaker: Stefan Terzer-Wassmuth (IAEA, VIenna, AT)

Session 8: Health, Nutrition, Medical Sciences
Dewi van Harskamp (UMC, Amsterdam, NL)
Gertjan van Dijk (UoG, Groningen, NL)
Keynote speaker: Luc van Loon (Maastricht University, NL)

Session 9: Ecology: marine, aquatic and terrestrial
Loïc Michel (U. Liège, Liège, BE)
Nemiah Ladd (U. Basel, Basel CH)
Keynote speaker: Chris Harrod (University of Glasgow, UK)

Sponsor Session
Farilde Steur (CIO, RuG, Groningen)
Anita Aerts-Bijma (CIO, RuG, Groningen)

The Venue

JESIUM 2025 will be held at the University of Groningen,
Zernike Campus.
Address: Energy Academy Europe, Nijenborgh 6, 9747 AG, Groningen

How to get there:
By Car: Park at P+R Reitdiep and take bus 1 or 2 to bus stop Nijenborgh (4 minutes), since there is very limited parking space at the University itself. We will be able to arrange parking spaces for people with disabilities (advance notice is appreciated).

By Train: From Schiphol airport you can travel to Groningen Europapark (the main station is closed for construction work) by train.
From Europapark there are buses to the main station, and from there to the city centre. Tickets can be purchased at the ticket machines at the station or online via the website of NS (https://www.ns.nl/en/tickets). You cannot reserve seats in the trains, and it is therefore not necessary to purchase the tickets in advance. (Side note: Dutch trains have designated silent compartments. Talking in these is frowned upon, so pay attention to the silence/talking icons on the train windows.)

By Bike: Zernike campus lies North of the city center. The best way to travel in the city of Groningen is to go by bicycle. Often bicycles can be rented at hotels, or else the following bike rental shop is close to the main train station:
https://www.fietsverhuurgroningen.com/en/homepage-english/.

By Bus: From the inner city, bus lines 1,2 and 9 have regular service to the campus. If traveling from the main train station, bus 15 is also a possibility. For more information, see the website of Qbuzz: https://www.qbuzz.nl/gd/direct-naar/english

TAKE YOUR RESEARCH IN ANY DIRECTION

Many applications in a tiny footprint

As your research grows into new and novel areas, answering questions you do not yet know means that you need an instrument which can grow with your research.

The Elementar **isoprime precisION** is the highest performing stable isotope ratio mass spectrometer that offers complete flexibility to move in any direction that your research leads.

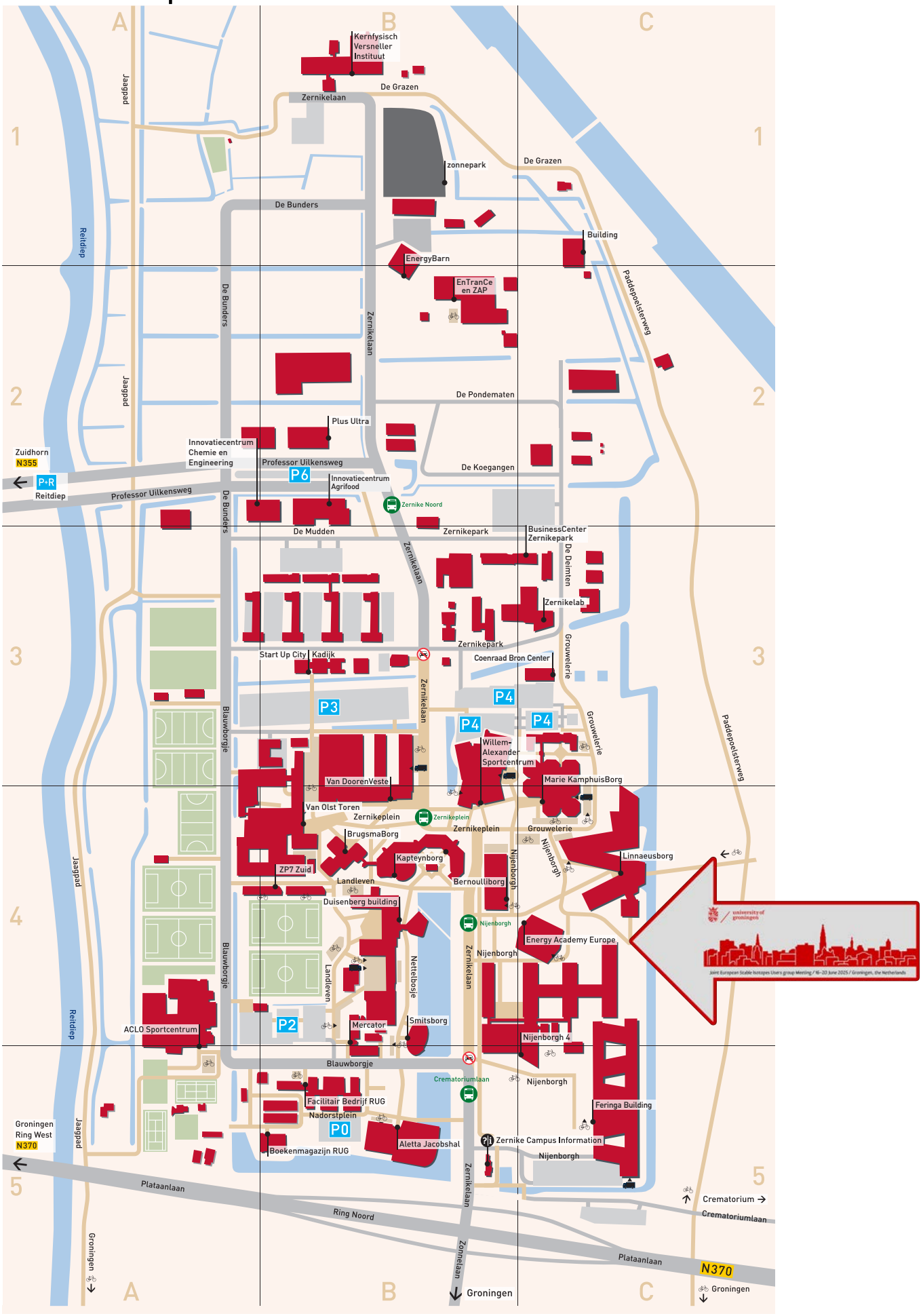
isoprime precisION is the most flexible, yet powerful IRMS ever created.

elementar

EXCELLENCE IN ELEMENTS

info@elementar.com | www.elementar.com

Zernike Campus



	Address	Building name
B5	Blauwborgje 4	Aletta Jacobshal
B5	Blauwborgje 8-10	Facilitair Bedrijf RUG
A4	Blauwborgje 16	ACLO Sportcentrum
A4	Blauwborgje 22	
A3	Blauwborgje 26a	
A2	De Bunders 1	
C3	De Deimten 1	
C3	De Deimten 3	
C3	De Deimten 5	
C2	De Deimten 9	
C2	De Deimten 10	
C2	De Deimten 11	
C2	De Deimten 15	
B3	De Mudden 1	Innovatiecentrum Chemie en Engineering

	Address	Building name
B3	De Mudden 10	
B3	De Mudden 14	
B3	De Mudden 16	
A3	De Mudden 18	
B3	Kadijk 1	
B3	Kadijk 2-4	Start-up City
B3	Kadijk 3	
B3	Kadijk 5	
A3	Kadijk 7	
A3	Kadijk 7d	
B4	Landleven 1	Mercator
B4	Landleven 12	Kapteynborg
B5	Nadorstplein 2	Boekenmagazijn RUG
B4	Nettelbosje 1	Smitsborg
B4	Nettelbosje 2	Duisenberg building

	Address	Building name
C5	Nijenborgh 3	**Feringa Building**
C5	Nijenborgh 4	
C4	Nijenborgh 6	Energy Academy Europe
C4	Nijenborgh 7	Linnaeusborg
B4	Nijenborgh 9	Bernoulliborg
B5	Zernikelaan 1	Zernike Campus Information
B3	Zernikelaan 6	
B2	Zernikelaan 8	Innovatiecentrum Agrifood
B1	Zernikelaan 17	EnergyBarn + IPO
B2	Zernikelaan 17	EnTranCe
C1	Zernikelaan 17	Building
B1	Zernikelaan 25	Kernfysisch Versneller Instituut
B3	Zernikepark 1	
B3	Zernikepark 2	
C3	Zernikepark 6-8	Zernikelab

	Address	Building name
B3	Zernikepark 10	Digital Society Hub
B3	Zernikepark 12	BusinessCenter Zernikepark
B3	Zernikepark 16	
B3	Zernikepark 21	
B2	Zernikepark 14	Plus Ultra
B4	Zernikeplein 7	Van OlstToren + U gebouw
B4	Zernikeplein 9	BrugsmaBorg
B4	Zernikeplein 11	Van DoorenVeste
B4	Zernikeplein 17	Studentarts Zernike
B4	Zernikeplein 17	Willem-Alexander Sportcentrum
B3	Zernikeplein 17a	P-Gebouw
C4	Zernikeplein 23	Marie KamphuisBorg

THIS CAMPUS IS SMOKE-FREE

The Energy Academy building is in C4; bus stop is "Nijenborgh"

Isotope Ratio MS

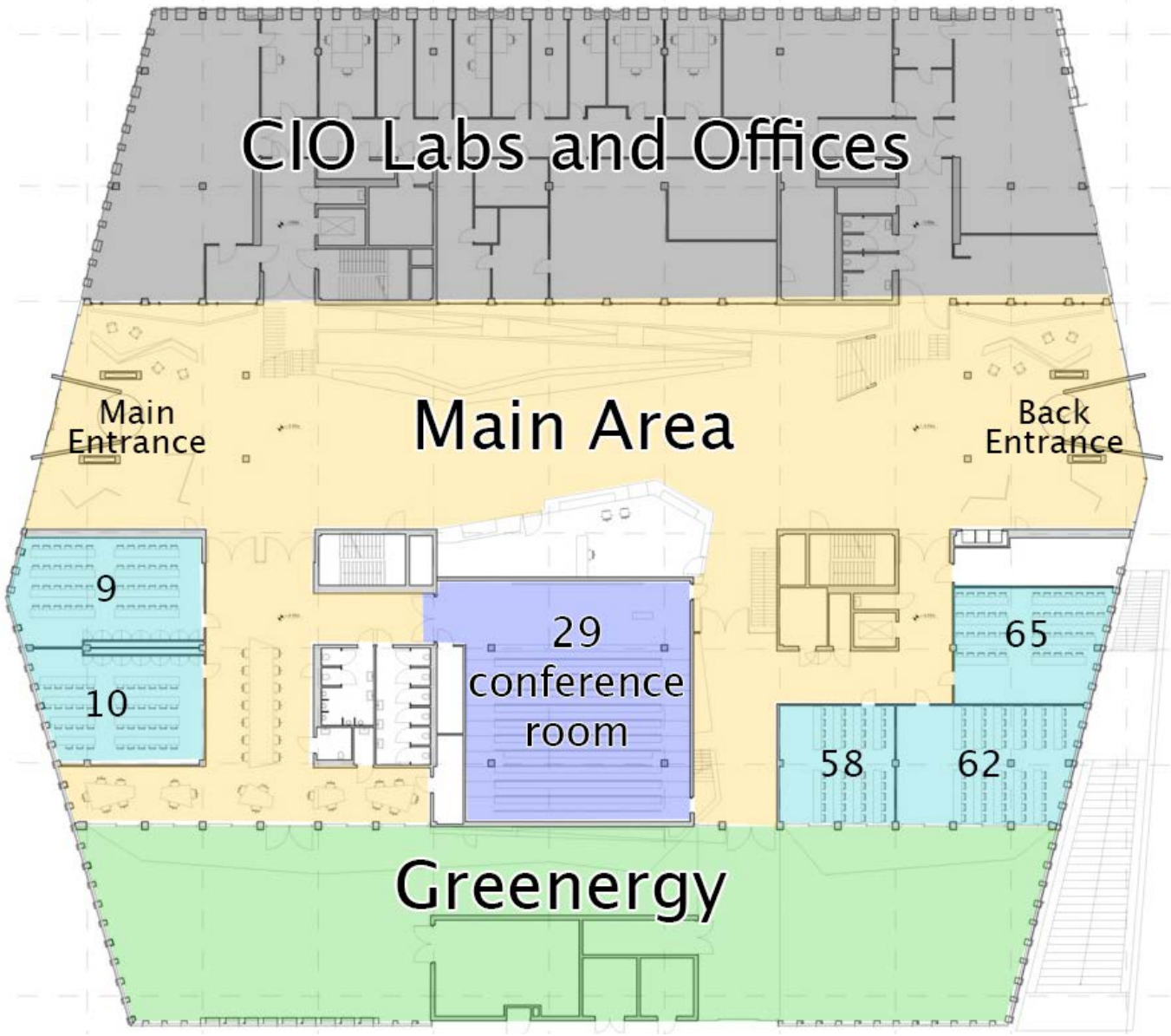
Driving evolution in isotope analysis

DELTA Q IRMS driven by Qtegra ISDS Software

For laboratories investigating isotope fingerprints in a variety of applications, the Thermo Scientific™ DELTA™ Q IRMS provides high quality, robust data on an easy-to-use innovative Thermo Scientific™ Qtegra™ Intelligent Scientific Data Solution Software platform. The DELTA Q IRMS is designed to be seamlessly connected with a wide range of Thermo Scientific peripherals, including gas or liquid chromatographers, elemental analyzers and on-line gas preparation and introduction systems. Bring high throughput, automated operation and flexibility to your laboratory with DELTA Q IRMS Systems.

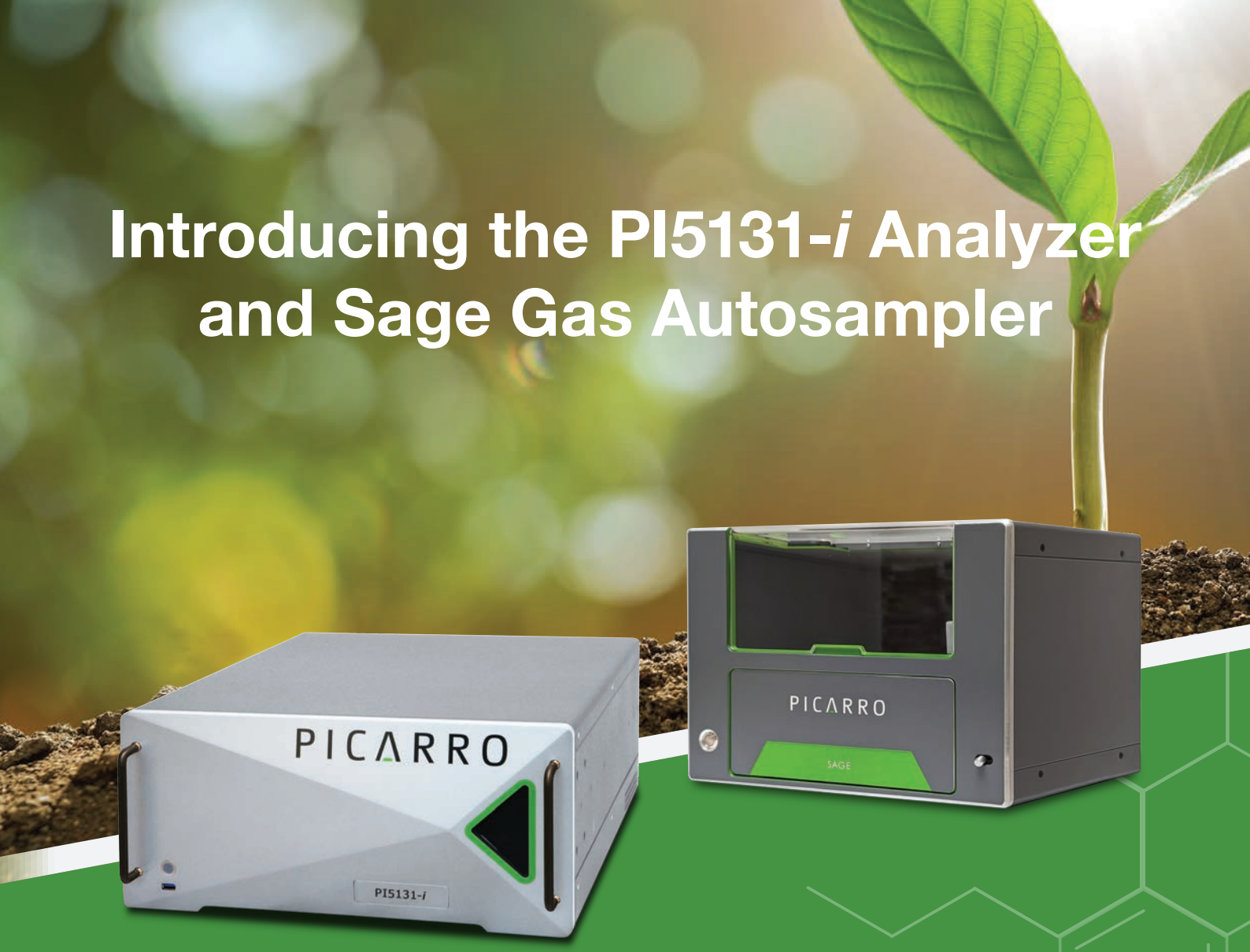
Learn more at **thermofisher.com/DELTAQ**

Map of Energy Academy Europe



All talks will be in room 5159.00**29.**
The poster sessions will be in rooms 5159.00**09**, **62** and **65**.
Room 5159.00**58** can be used as a workspace. Room 5159.00**10** will be used as a wardrobe and storage for materials. This room will be locked in the evening. Lunch will be served in the main area of the building, here you can also find our sponsors. The greenergy can be used to sit, chill and eat lunch.

Introducing the PI5131-*i* Analyzer and Sage Gas Autosampler



Simultaneous Measurements of Discrete Samples of $\delta^{15}N$, $\delta^{15}N\alpha$, $\delta^{15}N\beta$, and $\delta^{18}O$ for N_2O

Visit our booth to learn more

PICARRO

www.Picarro.com/environmental

Special events

Sunday 15 June 17.00 - 19.00 h

Icebreaker in the Academy building:

Broerstraat 5 9712 CP Groningen

Tuesday 17 June 18.30 - 22.00 h (doors open at 18:00 h)

Dinner in the Martini church:

Martinikerkhof 3, 9712 JG Groningen

Wednesday 18 June 12.30 - 13.45 h (take your lunch along)

IAEA side event on isotope delta scales

Room 5159.0291 (on the second floor)

Wednesday 18 June 14.00 h

Excursions

Tour to Lutjewad atmospheric measurement station from Energy Academy Europe:
Nijenborgh 6, 9747 AG Groningen

Groninger Museum:
Museumeiland 1, 9711 ME Groningen

Boat tour jetty opposite to the central station:
Stationsweg 1012, 9726 AZ Groningen

Walking tour at Peerd (Horse) van Ome Loek:
Stationsweg 13, 9726 AE Groningen

Programme (Scheme)

Opening, closing and all talks will be in room 5159.00**29**, Ton Schoot Uiterkamp zaal.

Monday June 16	Opening	Session 1: Methodological Advances	Session 2: Progress in Reference Materials	Poster sessions (1, 2, 6, 7, 9) Rooms: 58, 62, 65 Optional Lab Tour at CIO
Tuesday June 17	Session 7: Geosciences and Hydrology	Session 6: Biogeochemistry: Carbon, Nitrogen, Sulfur and Other Cycles Optional Lab Tour at CIO (during lunch)	Session 9: Ecology: Marine, Aquatic and Terrestrial	Dinner at Martinikerk in city center
Wednesday June 18	Session 3: Atmospheric Sciences: Greenhouse and Other Tracer Gases, Air Quality and Aerosols	Sponsor session 1	Optional Lab Tour at CIO IAEA side event on isotope delta scales (Room 5159.0291)	Excursions: - Lutjewad - Boat trip - Museum - City walk
Tuesday June 17	Session 5: Food Authenticity, Forensics, Isoscapes	Session 8: Health, Nutrition, Medical Sciences Optional Lab Tour at CIO (during lunch)	Sponsor session 2	Poster sessions (3, 4, 5) Rooms 58, 62, 65
Friday June 18	Session 4: Paleoclimatology and Archaeology	Closing	Optional Lab Tour at CIO	

Latest updates
https://jesium2025.org/programme---sessions.html

Programme (Monday 16 June)

Monday 16 June				
09:00 - 09:20	Opening by Harro A. J. Meijer			
Session 1	*Methodological Advances*	Chair: Joachim Moon and Heiko Moossen		
09:20 - 09:50	***Keynote**: A Beginner's Guide to Isotopocule Analysis Using Orbitrap IRMS*			Kristyna Kantnerova
09:50 - 10:10	*Electrospray-Orbitrap is a revolutionary tool for oxyanion clumped isotopologue analysis. How does it perform for natural samples?*			Jack Saville
10:10 - 10:30	*ESI-Orbitrap-MS as a tool for isotopocule analysis on organic molecules*			Nils Johannes Kuhlbusch
10:30 - 11:00	Morning Break			
11:00 - 11:20	*Oxygen Isotope Analyses of Phosphate and Organophosphorus Compounds by Orbitrap Mass Spectrometry*			Nora M. Bernet
11:20 - 11:40	*The fascinating world of hydrogen isotopes: innovative techniques illustrated with applications for geochemistry and archeology.*			Francois Paul Fourel
11:40 - 12:00	*Development and Exploration of a ^{1}H NMR Spectroscopy Method for Position-Specific ^{15}N Isotope Analysis*			Illa Tea
12:00 - 12:20	*Recent Advances in Analytical Methods for Carbonate and Water Samples at McMaster University*			Sang-Tae Kim
12:20 - 12:40	*Comparison of two approaches to quantify N2O reduction in wastewater treatment: N2/Ar analysis by QMS and N2O isotope analysis by OA-ICOS*			Hannes Keck
12:40 - 13:40	Lunch Break			
13:40 - 14:00	*Method developments for the measurement of position-specific 13C isotope composition of amino acids*			Alexis Gilbert
14:00 - 14:20	*Into the ISOVERSE - open-source data tools for efficient, transparent, and reproducible processing of stable isotope data*			Sebastian Kopf

Monday 16 June continued

Session 2	*Progress in Reference Materials*	Chair: Harro A. J. Meijer and Federica Camin
14:20 - 14:50	***Keynote**: Recent developments concerning VPDB, SI-traceability and measurements of carbon isotope delta*	Philip J H Dunn
14:50 - 15:10	*Calcium carbonate and water pyrolysis measurements suggest minor adjustment to the VPDB and VSMOW-SLAP δ18O scale relation.*	Anita Aerts-Bijma
15:10 - 15:40	Afternoon Break	
15:40 - 16:00	*Evaluating the reliability of carbon isotope delta reference materials*	Michelle Chartrand
16:00 - 16:20	*New standards for isotope delta measurements of CO2 for atmospheric and biogeoscience applications*	Joële Viallon
16:20 - 16:40	*First preparation of isotopic nitrous oxide in synthetic air reference materials for underpinning measurements of δ15N-N2O, δ15N-N2OSP and δ18O-N2O*	Aimee Hillier
16:40 - 18:30	Poster Presentations	Optional Laboratory Tour

Elemtex manufactures consumables for combustion elemental analysers. We support the EA and EA-IRMS communities and ship our products worldwide. We also supply spare parts and new and used equipment. We see our role as supporting your research and look forward to being of assistance.

Elemtex

Stable Isotope & Elemental Analysis Expertise

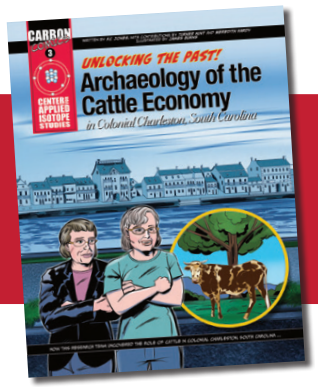
PLEASE BROWSE OUR SHOP
WWW.ELEMTEX.COM

YOUR ONE STOP SHOP FOR
CAPSULES REAGENTS QUARTZWARE
AND ACCESSORIES SUPPLIED
ANYWHERE IN THE WORLD

Center for Applied Isotope Studies
UNIVERSITY OF GEORGIA

- Radiocarbon Dating
  ^{14}C *by AMS*
- Stable Isotopes
  $\delta^{13}C$, $\delta^{15}N$, $\delta^{18}O$ *by IRMS*
  PLFAs and AA-C & N *by GC-C-IRMS*
- Major and Trace Elements
  ICP-OES and ICP-MS
- Radiogenic Isotopes
  Pb, Sr *by MC-ICP-MS*
- Soils Characterization
- LC/MS/MS

Check the newest issue of our comic series!



Mention discount code **JESIUM2025** for 15% off all services

Offer good through December 31, 2025

cais.uga.edu | (706) 542-1395

Programme (Tuesday 17 June)

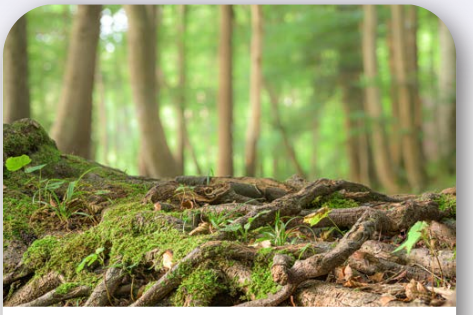
Tuesday 17 June				
Session 7	*Geoscience and Hydrology*	Chair: Jeroen van der Lubbe and Paul Koeniger		
09:00 - 09:30	***Keynote**: Expanding the Hydrological Toolbox: Triple oxygen isotopes in precipitation and surface waters.*			Stefan Terzer-Wassmuth
09:30 - 09:50	*Clumped isotope thermometry and oxygen isotopes of soil water suggest soil grain size affects season bias of carbonate formation and water isotopes*			Kathryn Elaine Snell
09:50 - 10:10	*Isotopic Disequilibrium in a Sub-Arctic Snowpack: Insights from Multi-Level Vapor Measurements*			Shaakir Shabir Dar
10:10 - 10:30	*Isotope Studies in the Lusatian Lignite Mining District (Germany)*			Maike Groeschke
10:30 - 11:00	Morning Break			
Session 6	*Biogeochemistry: Carbon, Nitrogen, Sulfur and Other Cycles*			
		Chair: Pascal Boeckx and Lucia Fuchslueger		
11:00 - 11:30	***Keynote**: Revealing global patterns of gross N transformations – need for data harmonization*			Tobias Rütting
11:30 - 11:50	*Combining different methodological isotope approaches for estimating N2O processes and N2O reduction*			Caroline Buchen-Tschiskale
11:50 - 12:10	*Tracing the sources of nitrogen and phosphorous in alpine lakes*			Maria Page
12:10 - 12:30	*Enhanced isotopic approach combined with microbiological analyses for more precise distinction of various N-transformation processes in contaminated aquifer – groundwater incubation study*			Sushmita Deb
12:30 - 13:45	Lunch Break	13:30 - 13:45	Optional Laboratory Tour	
13:50 - 14:10	*Soil texture matters: Deciphering the turnover of soil organic carbon and organic phosphorus in two C3/C4 field experiments*			Layla M. San-Emetero
14:10 - 14:30	*KONATES: A Model Experiment on the Use of Contaminated Aquifers for Heat Management with ATES Plants - Microbiological and Isotopic Investigations*			Ivonne Nijenhuis

Tuesday 17 June continued

Session 9	*Ecology: Marine, Aquatic and Terrestrial*	Chair: Loïc N Michel and Nemiah Ladd
14:30 - 15:00	***Keynote**: Using stable isotopes as tools to solve the Rumsfeld matrix in ecology*	Chris Harrod
15:00 - 15:20	*Using compound-specific stable isotope analysis to trace essential fatty acid bioconversion in invertebrates and fish*	Matthias Pilecky
15:20 - 15:50	Afternoon Break	
15:50 - 16:10	*Effects of globally invasive fish on freshwater ponds food web structure and greenhouse gas emissions*	Benjamin Lejeune
16:10 - 16:30	*Nitrogen nutrition effects on δ13C of plant respired CO2 are mostly caused by concurrent changes in organic acid utilization and remobilization*	Yang Xia
16:30 - 16:50	*Experimental results on trophic discrimination factors for ectotherms: estimates and assumptions for the case of crocodiles*	David X. Soto
16:50 - 17:10	*Mucopolysaccharides secreted by the sea slug Elysia crispata incorporate carbon from kleptoplast photosynthesis*	Joana Filipa Barata
18:30 - 22:00	Dinner at the Martinikerk (see special events page for details)	

YOUR PARTNER WORLDWIDE

FOR ANALYTICAL PRODUCTS



Elemental Analysis

Stable Isotopes

Chromatography

Sum Parameter

Element Analysis

Others

Discover our products and services
Find out more at
www.iva-analysentechnik.de

Programme (Wednesday 18 June)

Wednesday 18 June				
Session 3	*Atmospheric Sciences: Greenhouse and Other Tracer Gases, Air Quality and Aerosols*			
		Chair: Thomas Röckmann and Ulrike Dusek		
9:00 - 9:30	***Keynote**: Clumped isotopologues as tracers for atmospheric methane*			Malavika Sivan
9:30 - 9:50	*Triple oxygen isotope composition of stratospheric oxygen during the Last Glacial Maximum and implication to the global biosphere productivity*			Lekshmi Mudra Bindhu
9:50 - 10:10	*Inferring Urban CO_2 Sources Using Tall Tower $\delta^{13}C$ Measurements: Insights from the Vienna Urban Carbon Laboratory*			Kathiravan Meeran
10:10 - 10:30	*Unexpected variations in the clumped isotopic composition of O2 during the Holocene*			Thomas Röckmann
10:30 - 11:00	Morning Break			
11:00 - 11:20	*First Coupled H_2-HD Inversion with a 3D Chemical Transport Model (TM5): Constraining the global hydrogen budget*			Firmin Stroo
11:20 - 11:40	*An isotope signature of photochemical aging of organic aerosol*			Ulrike Dusek
Sponsor Session 1	Chair: Anita Aerts-Bijma and Pharahilda M. Steur			
11:40 - 12:10	*Showcasing the Elementar IRMS user community*			Toby Boocock
12:10 - 12:30	*An online preparation system for carbonate analysis at elevated temperatures*			Martin Moore
12:30 13:45	Lunch Break	13:30 - 13:45	Optional Laboratory Tour IAEA side event on isotope delta scales (Room 5159.0291, on second floor)	
14:00	Excursions	(see special events page for details)		

LI-COR®

Best-in-class PAR monitoring just got an upgrade

The new HOBO MX2308 combines the power of precise, research-grade light sensing with temperature and humidity monitoring in one compact, wireless device.

Key Features:

- High-Accuracy PAR Measurements
- Integrated Climate Monitoring
- Wireless Data Offload
- Weatherproof Design
- 2 Year Battery Life

Monitor critical metrics like vapor pressure deficit (VPD) and daily light integral (DLI), ensuring your plants receive the optimal light and climate for maximum growth and yield.

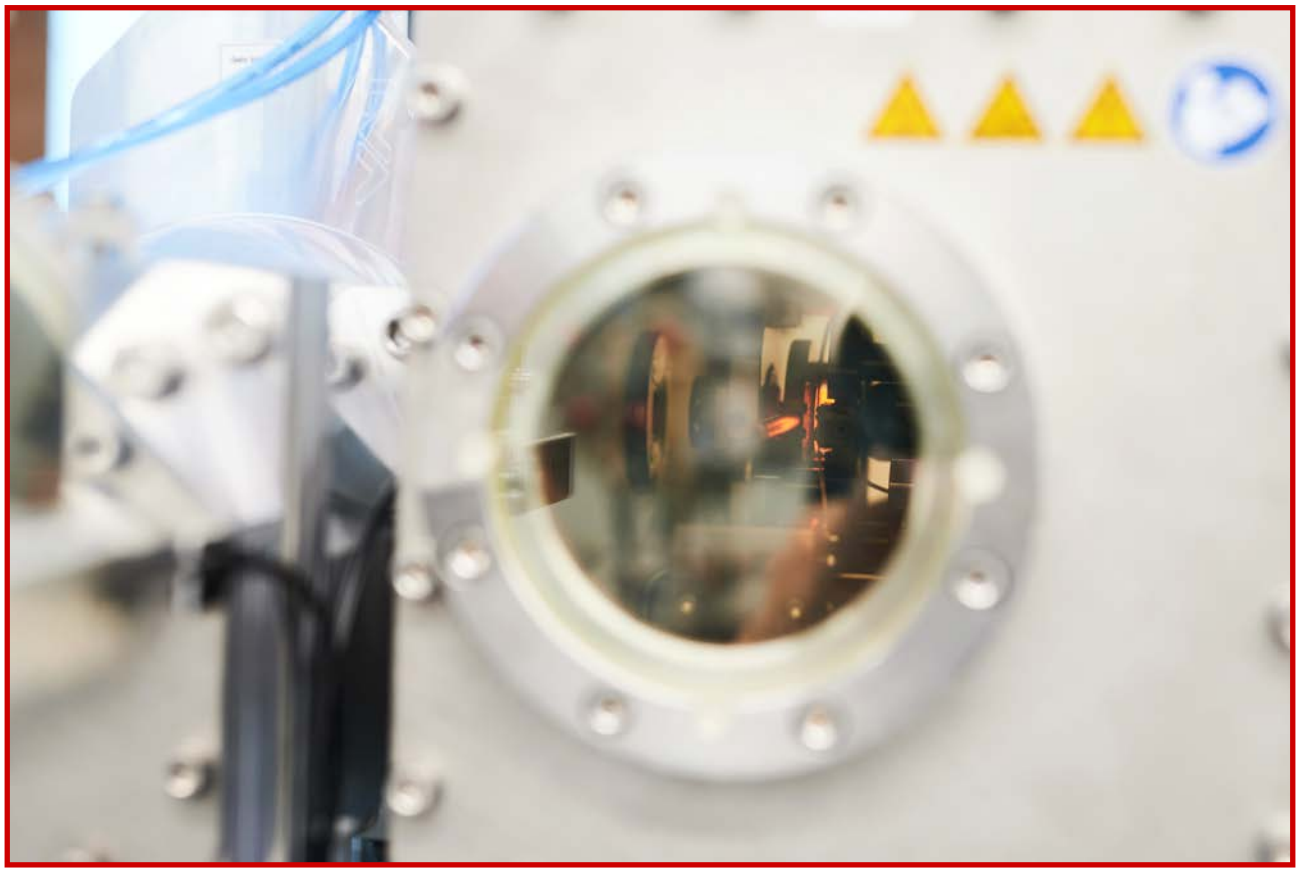
VISIT OUR BOOTH OR SCAN THE CODE TO LEARN MORE.

Programme (Thursday 19 June)

Thursday 19 June				
Session 5	*Food Authenticity, Forensics, Isoscapes*	Chair: Eva de Rijke		
9:00 - 9:30	***Keynote**: From Food to Pharmaceuticals: Exploring Stable Isotope Ratios at the Food-Pharma Interface*			Luana Bontempo
9:30 - 9:50	*A Method to Determine the Carbon Isotope Ratios of Endogenous Steroids Found in Human Serum for Doping Control Purposes*			Thomas Piper
9:50 - 10:10	*Unlocking the full potential of natural vanillin through FT ICR MS-based analysis of carbon and oxygen isotopic ratios*			José Ordaz-Ortiz
10:10 - 10:30	*Impact of ingredients and processing methods on the stable isotopic ratios (δ2H and δ18O) of wheat-derived noodles*			Jingjie Yang
10:30 - 11:00	Morning Break			
11:00 - 11:20	*Tracking tomato processing with stable isotopes: a study on fractional composition and authenticity*			Oana Romina Botoran
11:20 - 11:40	*Latest applications of the LC-co-IRMS for food and dietary supplements authentication*			Silvia Pianezze
Session 8	*Health, Nutrition, Medical Sciences*	Chair: Dewi van Harskamp		
11:40 - 12:10	***Keynote**: Post-prandial protein handling: You are what you just ate.*			Lucas van Loon
12:10 - 12:30	*Development of a GC-C-IRMS Method for Quantitative and Isotopic Analysis of Fatty Acids in Breast Cancer Patient Samples*			Louise Mangeon
12:30 - 13:50	Lunch Break	13:30 - 13:45	Optional Laboratory Tour	
13:50 - 14:10	*A Novel GC-C-IRMS Method for Isotopic Profiling of Amino Acids in Biopsies*			Fatmeh Al Rahal

Thursday 19 June continued

Sponsor Session 2	Chair: Anita Aerts-Bijma and Pharahilda M. Steur	
14:30 - 15:00	*High accuracy and precision with Orbitrap-based Isotope Ratio MS*	Andreas Hilkert
15:00 - 15:20	*The new Picarro Sage Gas Autosampler: Simple and efficient automation of discrete isotope and gas concentration measurements*	Magdalena Hofmann
15:20 - 15:50	Afternoon Break	
15:50 - 16:10	*Tracking Biogenic Carbon in Liquid Fuel Blends using Conventional Mass Spectrometry and Infrared Spectroscopy*	Scott Herndon
16:30	Poster Presentations	Optional Laboratory Tour



Programme (Friday 20 June)

Friday 20 june				
Session 4	*Paleoclimatology and Archaeology*	Chair: Margot Kuitems and Marcel van der Meer		
9:00 - 9:30	***Keynote**: Wooden cultural heritage: a high-resolution archive for paleoclimate reconstruction and stable isotope tree-ring dating.*			Kristof Haneca
9:30 - 9:50	*A hydroclimate reconstruction for medieval Flanders: insights from oxygen isotopes in oak timber tree rings.*			Lise Meir
9:50 - 10:10	*Assessing the influence of hydrology and ecology on stable carbon and nitrogen isotopes through time at three ombrotrophic raised bogs in Northern Ireland*			James Dill-Russell
10:10 - 10:30	*Vegetation corrections facilitate precipitation reconstructions from Younger Dryas and Holocene plant wax δ2H records in central Switzerland*			S. Nemiah Ladd
10:30 - 11:00	Morning Break			
11:00 - 11:20	*Feeding Through Time: δ15N Amino Acid Analysis Reveals Dietary Shifts in Ancient Green Turtles*			Willemien de Kock
11:20 - 11:40	*Reconstructing the paleoenvironment of the Gran Chaco by combining stable isotopes and zooarchaeology*			María Macarena Zarza
11:40 - 12:00	*Tracing the lives of Māori dogs by sampling kahukurī or dogskin cloaks in Aotearoa New Zealand*			Priscilla Wehi
12:00 - 12:20	Closing Remarks by Harro A. J. Meijer			
12:20 - 13:45	Lunch Break	13:30 - 13:45	Optional Laboratory Tour	

YOUR PARTNER FOR EXCELLENT ELEMENTAL ANALYSIS

Elementar is one of the leading manufacturers in high-performance analysis of organic and inorganic elements. We incorporate more than 125 years of experience in the development and manufacturing of high-class analytical instrumentation. Today, our product portfolio includes instruments for CHNOS elemental analysis, stable isotope analysis (IRMS), TOC analysis, protein analysis according to Dumas, and optical emission spectrometry (OES).

Continuous innovation, creative solutions and comprehensive support form the foundation of the Elementar brand, ensuring our products continue to advance science across agriculture, chemical, environmental, energy, materials, and forensics markets in more than 80 countries.

ELEMENTAL ANALYSIS • TOC ANALYSIS •PROTEIN ANALYSIS • OES • STABLE ISOTOPES

elementar

EXCELLENCE IN ELEMENTS

info@elementar.com | www.elementar.com

Poster Session 1

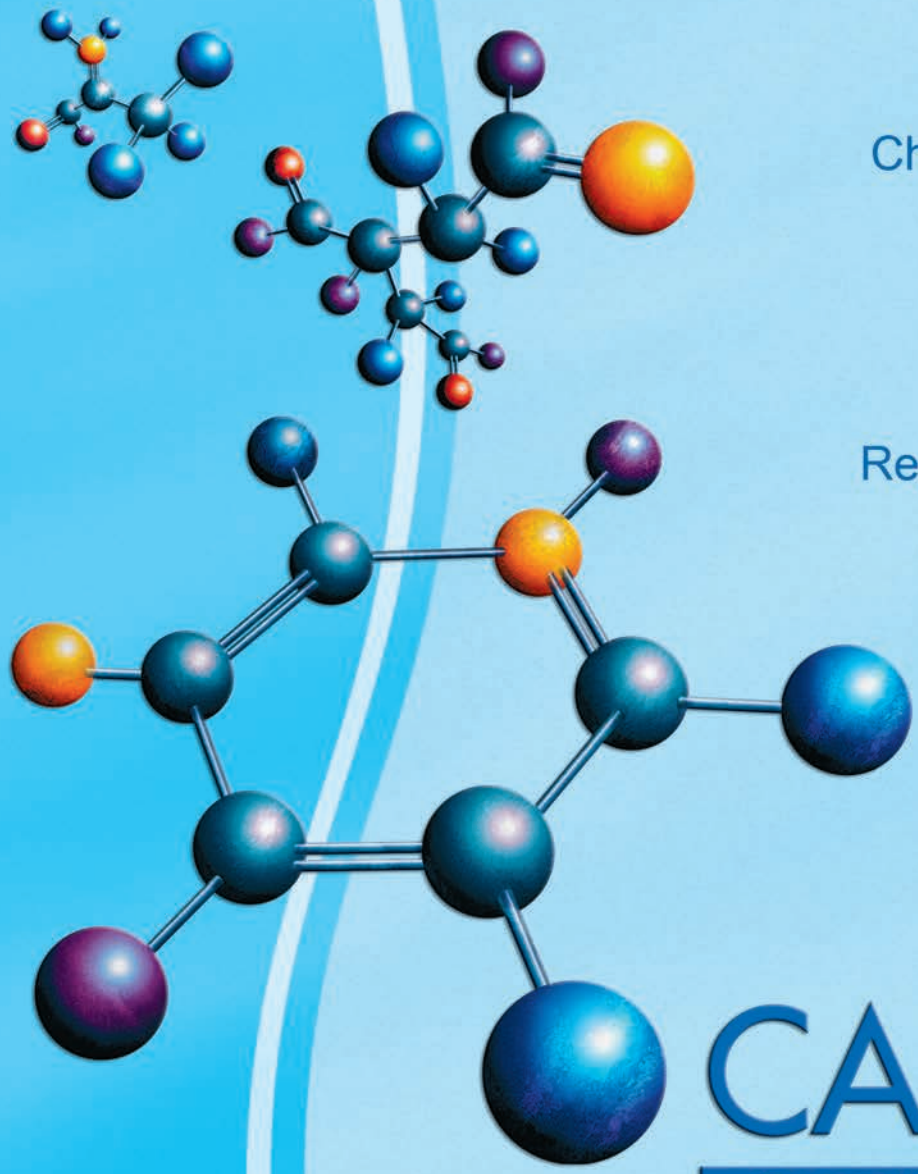
Monday 16 June (sessions 1, 2 6, 7 and 9)

Session 1	Methodological advances	Room 5159.0009
Nr.	**Title**	**Presenting Author**
1	Determining the carbon isotopic composition of inositol hexaphosphate (phytate) in soil: A novel approach to understanding organic phosphorus dynamics	Sarangi, Vijayananda
2	Continuous-flow stable sulfur isotope analysis of organic and inorganic compounds using elemental analyzer coupled with multi-collector inductively coupled plasma mass spectrometry (EA-MC-ICPMS)	Kümmel, Steffen
3	Ni-wall coated microreactor to Increase Sensitivity and Selectivity and to Facilitate GCxGC for Compound-specific Isotope Analysis (CSIA)	Al-Ghoul, Habib
4	Constraining uncertainty of in situ chamber-based estimates of the stable carbon isotope ratio of soil-respired CO2 via advances in automated sampling system technology. Keywords: flux partitioning, automated calibration, water transient, field measurement, soil gas flux chambers, carbon isotope ratio, soil respiration, carbon cycle	Smillie, Ian
5	Advancing CSIA: Overcoming LC-IRMS Limitations with 2D-LC Coupling	Rockel, Sarah Philomena
6	Life with a Clumped Isotope Mass Spectrometer in the South of France: Challenges and Lessons Learned	Jourdan, Anne-Lise
7	Understanding catalytic mechanisms with stable isotopes: SSITKA-DRIFTS and other techniques	Kosinov, Nikolay
8	GC-IRMS: optimization of injection techniques for analysis of saturated hydrocarbons, VOCs and PAHs	Tuthorn, Mario
9	Optimized N, C and S isotopic analyses of collagen using EA-IRMS	Li, Qiong
10	Low sample volume laser based analyzer for 13C/12C and 18O/16O isotope ratio determination in 1-100% CO2 samples	Kääriäinen, Teemu

Session 1	Methodological advances	Room 5159.0009
Nr.	**Title**	**Presenting Author**
11	Coping with spectral interferences when measuring water stable isotopes of vegetables	Herbstritt, Barbara
12	SIRMS Lab – a multidisciplinary research facility at the University of Southampton	Hambach, Bastian
13	An Enhanced Analyzer for High-Precision Nitrous Oxide Isotope Measurements	Hofmann, Magdalena
14	Comparison of gas matrix effects on three generations of cavity ring-down water stable isotope analyzers	Gralher, Benjamin
15	Guidance for uncertainty estimation for isotopic reference materials characterised by interlaboratory study	Dunn, Philip
16	Harmonisation of Methane Isotope Measurements	Röckmann, Thomas
17	Fully automated technique for NH2OH concentration and stable isotope measurements in the aquatic environments	MULLUNGAL, MN
18	Improving the detection of N2 and N2O fluxes from 15N-labelled N pools by mass spectrometry	Well, Reinhard

Session 2	Progress in reference materials	Room 5159.0062
Nr.	**Title**	**Presenting Author**
19	Testing unified working standards for water stable isotope analyses: Results of laboratory comparison tests of the German Isotope Network (GIN)	Koeniger, Paul
20	Facilitating the development of a global measurement infrastructure for the measurement of stable isotope ratios for greenhouse gases source apportionment	Nehrbass-Ahles, Christoph

Stable Isotopes
& Research Chemicals



Stable Isotopes

Chemical Standards

Radiochemicals

NMR Products

Research Chemicals

CAMPRO SCIENTIFIC

www.campro.eu

Germany
Tel. +49.(0)30.629.01.89.0
info@campro.eu

The Netherlands
Tel. +31.(0)318.529.437
info.nl@campro.eu

Session 7	Geosciences and Hydrology	Room 5159.0062
Nr.	Title	Presenting Author
21	Application of Water Isotopes at Riverbank Filtration Pilotsites in Germany	Gaillard, Aixala
22	Germany-wide Interpolations of Groundwater Isotopes with IsoGW	Gaillard, Aixala
23	Multi-isotope (COSH) biogeochemical and mineral phase investigations in the high-energy subterranean estuary of a barrier island	Schmiedinger, Iris
24	Impact of soil hydraulic factors on the assessment of isotope-derived recharge rates	Stadler, Susanne

Session 9	Ecology: marine, aquatic and terrestrial	Room 5159.0062
Nr.	Title	Presenting Author
25	Just Hitching a Ride: Stable Isotopes Reveal Non-Feeding Behaviour of Anisakis simplex Within Its Host Fish	Sabadel, Amandine
26	d15N values reflect "island of fertility" development in the Mojave Desert	Ehleringer, James
27	Lipid hydrogen isotope ratios reflect phytoplankton community composition	Ladd, S. Nemiah
28	Porpoise bone collagen as an indicator of North Sea ecosystem changes during the past 170 years	Riekenberg, Philip
29	Seasonal and Organ-Specific Variations in Nitrogen Dynamics of Lycopodium annotinum in Forest Ecosystems	Clarke, Anita Elizabeth
30	Kleptoplasty in Sacoglossan sea slugs: The role of algal donors	Nunes, Margarida
31	More than one fish in the lake? Unexpected isotopic diversity in the endemic fish species Orestias chungarensis from Lake Chungará (4520 m asl), northern Chile.	Harrod, Chris
32	Tracing long-term anthropogenic nitrogen input in different ecosystems using stable isotope ratios of plant biomass	Chibowski, Piotr
33	Investigating physiological responses to wet and dry years of Norway spruce in Austrian forests with stable isotope methods (13C,18O)	Schott, Katharina
34	Assessing Diachronic Shifts in Gilthead Seabream (Sparus aurata) Revealed by Amino Acid Compound Specific Isotope Analysis: Evidence Of Human Impacts In The Berre Lagoon, South Of France	Açaf, Laury

Session 6	Biogeochemistry: carbon, nitrogen, sulfur and other cycles	Room 5159.0065
Nr.	**Title**	**Presenting Author**
35	The nitrogen delta values of soil, grain and fertilizers from an agricultural field over a 20 year period	Loy, Bettina Sabine
36	A multiplexing set-up of aquatic biological chambers to study the isotopic fractionation of oxygen: application to the interpretation of the δ18O of O2 records found in deep ice cores.	BIENVILLE, Nicolas
37	Changes in the carbon cycle of Lake Plateliai, Lithuania, over the past 130 years	Barisevičiūte, Rūta
38	Modern carbonate sinter formation: Insights from trace element and multi-isotope partitioning	Schmiedinger, Iris
39	Can Isotopic Maps Reveal Soil N2O Hotspots?	Matthiesen, Maria
40	Is there evidence of significant contributions of fungal denitrification to nitrous oxide emissions in different soils?	Rohe, Lena
41	Microbial communities and their role in the carbon cycle in groundwater remediation – synergistic impact of biofilm and biochar in PCE degradation	Watzinger, Andrea
42	Tracing the microbial assimilation of geogenic nitrogen using 15N amino sugars	Čápová, Kateřina
43	Biofilters, a self-sustaining system for the purification of contaminated groundwater?	Leitner, Simon
44	Application of Compound-Specific Stable Isotope Analysis in Isotopic Mixing Models to Decipher the Effect of Priming in Coastal Sediments	Mirzaei, Yeganeh
45	Real-time in situ monitoring of biogeochemical processes in aquatic ecosystems: Nitrous oxide and methane concentrations and isotopic signatures	Shorter, Joanne H.
46	Sulfamethoxazole Transformation by Heat-Activated Persulfate: Linking Transformation Products Patterns with Carbon Compound-Specific Isotope Analysis	Liu, Xiao
47	A trans-European decomposition study, focusing on the impact of plant diversity using a common 13C-labelled litter in arable soils.	Hood-Nowotny, Rebecca
48	Isotopic Analysis of Organic Matter in a Stratified Marine Lake: Evaluating Environmental Shifts and Eutrophication Drivers	Simonović, Niki
49	Clumped isotope measurements reveal aerobic oxidation of CH4 below the Greenland ice sheet	Röckmann, Thomas

Poster Session 2

Thursday 19 June (sessions 3, 4 and 5)

Session 3	Atmospheric sciences: greenhouse and other tracer gases, air quality and aerosols	Room 5159.0009
Nr.	**Title**	**Presenting Author**
50	Development of an Aerosol Collector to Investigate Non-Mass-Dependent S Isotopic Fractionation Mechanisms in the Stratosphere	Gaulin, Maylis
51	Comparative Analysis of Isotopic Composition of Aerosols from Biomass and Coal Burning under Controlled and Uncontrolled Conditions	Habib, Durre Nayab
52	Continuous methane isotope measurements in Lindenberg, Germany	van Es, Jacoline
53	Overcoming sulphate isotopologues measurement challenges in Electrospray-Orbitrap using Higher-energy Collisional Dissociation	Witwicky, Julien
54	Implementing a setup for continuous, long-term, high-frequency flux measurements of CO2 and H2O isotopologues using eddy covariance	Boersma, Oisín Jelle
55	Rapid MIR laser spectroscopy for methane clumped isotopes: development and first applications	Mohn, Joachim
56	Temporal trends in δ13C- and δD-CH4 and C2H6 / CH4 in ambient air at a suburban site in Switzerland	Mohn, Joachim
57	Long-Term Trends in PM2.5 and Nitrogen Isotope Ratios of Water-Soluble Ions in Dhaka, Bangladesh: Implications for Source Contributions	Kawashima, Hiroto
58	Tracing the sources and dynamics of SO2 and PM1 sulfate in Vilnius, Lithuania through stable sulfur isotope analysis	Bučinskas, Laurynas
59	Semi-continuous Δ17O measurements of atmospheric CO2 from the North coast of the Netherlands	Steur, Pharahilda M.
60	Assessing the impact of uncertainties in prior sector level flux and atmospheric transport models on modelling of methane in regional scale	Chung, Eunchong

Session 3	Atmospheric sciences: greenhouse and other tracer gases, air quality and aerosols	Room 5159.0009
Nr.	**Title**	**Presenting Author**
61	Measurement and Source Determination of Particulate Matter, and CO2 in Air Quality Studies: Insights from Stable Isotope Analysis and Black Carbon Observations	Krajnc, Bor
62	Revising the 13C KIE and D KIE values for the CH_4-OH Sink	Chen, ChihChang
63	Isotope evidence for increasing biogenic methane emissions at high northern latitudes	Yu, Xietiancheng
64	Utilizing tropospheric CO isotope observations from a low-latitude Atlantic sampling network to constrain the oxidative chlorine sink	Brashear, Chloe
65	High-precision measurements of the atmospheric δ13C(CO2) and δ18O(CO2) using Tunable Infrared Laser Direct Absorption Spectroscopy	van Rijswijk, Cornelis
66	Atlantic Meridional Transect of polyisotopic carbon dioxide: Challenges of ship-based laser spectroscopy and implications for atmosphere-biosphere exchange	Kaiser, Jan
67	Laser absorption spectrometry measurements of polyisotopic carbon dioxide at Weybourne Atmospheric Observatory (north Norfolk, United Kingdom)	Kaiser, Jan

Tunable Infrared Laser Direct Absorption Spectroscopy

TILDAS

Laser Trace Gas Analyzers

A WORLD OF ISOTOPIC APPLICATIONS

Marine Carbonate

Geochemistry

Atmospheric Sources, Sinks and Transport

Paleothermometry

Breath Analysis

Biosphere Exchange

Geologic Altimetry

Burial, Diagenesis and Metamorphism

Carbon Capture and Sequestration Monitoring

Stratosphere-Troposphere Exchange

CO_2 Isotopes: $\delta^{13}C$, $\delta^{18}O$ and NOW $\Delta^{17}O$

Also, CH_4 and N_2O Isotopes

AerodyneResearch

45 Manning Road Billerica, MA 01821 * 978-663-9500 * www.aerodyne.com

Isotope ratio MS

New dimensions in isotope ratio analysis

Orbitrap Exploris Isotope Solutions

Discover a new, comprehensive approach to IRMS using electrospray ionization (ESI) Thermo Scientific™ Orbitrap™ MS technology that gives access to a wide range of isotopic information from a variety of polar compounds in liquid samples.

Thermo Scientific™ Orbitrap Exploris™ Isotope Solutions for natural abundance isotope ratio analysis opens new dimensions for deriving intramolecular isotopic information in a variety of applications such as geology, ecology, metabolism research and forensics.

Explore an innovative workflow to convert isotopologue intensities to accurate isotope ratios!

Learn more at **thermofisher.com/orbitrap-for-isotopes**

Session 4	Paleoclimatology and Archaeology	Room 5159.0065
Nr.	**Title**	**Presenting Author**
68	δ18O Measurements on Tree Ring Cellulose at the Centre for Isotope Research, University of Groningen	du Plessis, John
69	Isotopic approach to study the provenance and growth media of flax fibres produced in Ancient Egypt: first steps of the ISOPALIN project with a focus on modern linen	Ferrant, Marie
70	High precision stable isotope analysis of carbonate and water samples for paleoclimate applications using the Elementar iso DUAL INLET	Rosenthal, Kathrin
71	Effect of sodium hypochlorite pretreatment on carbonate isotopic values (δ13C and δ18O) in lacustrine and wetland sediment, and laboratory standards.	Brown, Julie C S
72	Using CNOS isotopes to fingerprint the Messinian Salinity Crisis in the South Asian Monsoon	Kunkelova, Terezia
73	Advancing stable isotope dendrochronology for dating historic timbers in the continental Euro-Atlantic region	Domínguez-Delmás, Marta
74	Decoupling of oxygen and hydrogen isotope ratios in tree ring cellulose: Why and when?	Saurer, Matthias
75	Zooarchaeology and trophic ecology of wild and domestic animals in Neolithic Istanbul, around 8.2 kya event	Cakirlar, Canan
76	Holocene variability of the Southern Hemisphere Westerly Winds on Amsterdam Island (37°S) reconstructed from peat records	Westra, Rosa E.

Session 5	Food Authenticity, Forensics, Isoscapes	Room 5159.0062
Nr.	**Title**	**Presenting Author**
77	Accelerating the Sample Preparation of Sports Drug Testing Samples Employing Supercritical Fluid Chromatography for Sample Clean-up	Piper, Thomas
78	Applications of Stable Isotope Ratio Analysis and Site-Specific Natural Isotope Fractionation-Nuclear Magnetic Resonance in Discriminating Between Synthetic and Natural Analogs	PERINI, MATTEO
79	Integrating Metabolomics and Stable Isotope Ratios (δ13C and δ15N) in Blood Fractions to Assess Dietary Changes in Iberian Pigs	Moreno-Rojas, José Manuel
80	Detection of synthetic urea in a specimen provided as human urine sample	Hülsemann, Frank
81	Authentication of essential oils using multi-isotopic approaches and molecular quantification used to highlight complex adulterations	Schiets, Frederic
82	Investigation of Oxidative Aminopolyphosphonate Degradation via LC-IRMS/HRMS	Gruhlke, Annika
83	Stable carbon isotope ratios for ascorbic acid in dietary vitamin C supplements	Suto, Momoka
84	Combining GC/MS and GC/IRMS for the Authentication of High-Value Natural Products	Roncone, Alberto
85	Nitrogen Isotope characteristics of vegetables for traceability of organic and conventional productions	Kukusamude, Chunyapuk
86	Identification of provenance of Thai Hom Mali rice grown in different regions in the Thung Kula Rong Hai area based on C, N, O, H, S stable isotopic and elemental compositions	Kongsri, Supalak

IRMS with a wide variety of prep systems to suit a range of applications

Cutting edge online carbonate analysis

- Digest samples at temperatures from 25ºC to 120ºC
- Improved sample throughput times for Dolomites and Magnesites
- Individually acidified samples removes the potential for cross contamination of samples
- Automated workflow for sample weights between 10ug and 8mg

Ember EA

- Analyse CNS/OH using one prep system
- Operated at combustion or pyrolysis temperatures
- Solid or Liquid Autosampler

GC IRMS

- Analyse the C, N, O or H content of organic species
- Ensures chromatography peaks are preserved to IRMS
- Fully automated sampling system reduces workload

Gas Prep

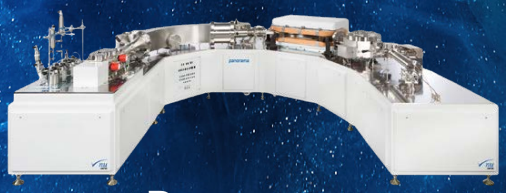
- Perform carbonate & water analysis on a single system
- Equilibrated gases for the measurement of C, O or H
- 100 position heated sample tray

At the forefront of high precision analytical technology for 30 years

Full range of IRMS solutions from Nu

Horizon 2 IRMS

Perspective SIRMS



Panorama HR IRMS

www.nu-ins.com
nu.sales@ametek.com

Imprint

Joint Europe Stable Isotope Users group Meeting 16 - 20 June 2025

Picture credits: University of Groningen, pixabay.com, the local organisers, Jan Haak, Ronald Zijlstra, Silvio Zangarini and Wutsje.


elementar
EXCELLENCE IN ELEMENTS
ThermoFisher
SCIENTIFIC
Elemtex
Stable Isotope & Elemental Analysis Expertise
Center for Applied
Isotope Studies
UNIVERSITY OF GEORGIA
1785
CAMPRO
SCIENTIFIC
Aerodyne
Research
IVA
nu
AMETEK
PICARRO
LI-COR