



## 4TH INTERNATIONAL RADIOCARBON IN THE ENVIRONMENT CONFERENCE



**SUNDAY, SEPTEMBER 22<sup>nd</sup>**

**18.00 -21.00** Icebreaker and registration in Piazza Sant'Oronzo (Bar Tentazioni).

**MONDAY, SEPTEMBER 23<sup>rd</sup> - CASTELLO CARLO V**

**8.30.** Registration opens

**9.30-10.15**-Opening Ceremony

**10.15-10.50**-Inaugural Concert

<b>Time (11.00-12.00)</b>	<b>Keynote speech</b>	
Chairperson	E. Boaretto	
<b>11.00-12.00</b>	W. Kutschera	Reading and interpreting the isotope language

<b>Time (12.00-13.00)</b>	<b>Session M1: Methods (machine and sample preparation)</b>	
Chairperson	M. Huels	
<b>12.00-12.30</b>	L. Kattein	A new system for Ramped pyrolysis-oxidation- <sup>14</sup> CO <sub>2</sub> analysis of sediments: Proof of concept and cross-lab comparison
<b>12.30-12.50</b>	M. A. Bolandini	Organic matter dynamics in thaw slumps: insights from online ramped oxidation- <sup>14</sup> C analysis
<b>12.50-13.10</b>	N. Tisnérat-Laborde	How to measure "active" samples without contaminating laboratory equipment

**13.15-14.30**-Lunch

<b>Time (14.30-15.30)</b>	<b>Session M1: Methods (machine and sample preparation)</b>	
Chairperson	A. Cherkinsky	
<b>14.30-14.50</b>	M. Fedi	The new sample preparation line in Italy for <sup>14</sup> C-AMS measurements on the carbonaceous fractions of atmospheric aerosol
<b>14.50-15.10</b>	H. Meijer	Inter-laboratory comparison for the <sup>14</sup> C-based measurement of the biogenic carbon fraction in biogas and blends of biogas and natural gas
<b>15.10-15.30</b>	R. Jou	Handling liquid biofuels samples for biogenic fraction determination at LAC-UFF

<b>Time (15.30-16.10)</b>	<b>Session M1: Methods (machine and sample preparation)</b>	
Chairperson	P. Ascough	
<b>15.30-15.50</b>	M. Ochocki	Acid-Base-Acid with Stepped Combustion (ABA-SC) as a Pretreatment Method for Radiocarbon Dating of Charcoal
<b>15.50-16.10</b>	K. Nakajima	Pollen separation with flow cytometry: an emerging method for radiocarbon dating



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**16.10-16.30-Coffee break**

Time (17.00-18.00)	Session P1: Past environment and climate	
Chairperson	Y. Kuzmin	
<b>16.30-16.50</b>	A. Rajoriya	Radiocarbon dating, stable and strontium isotope data of human cist-burials from Spiti valley (Himachal Pradesh, India): implications for palaeo-diets, origin and ecology of human settlements in Trans-Himalayas
<b>16.50-17.10</b>	Y. Kuzmin	Spatiotemporal patterns of existence and extinction for woolly mammoth in Siberia in the last 50,000 years

**TUESDAY, SEPTEMBER 24<sup>th</sup>**

Time (08.30-10.40)	Session A1: Atmosphere and terrestrial environment	
Chairperson	L. Wacker	
<b>08.30-09.00</b>	F. Marzaioli invited talk	Lesson learned from 1055 AD $^{14}\text{C}$ anomaly: integration of experimental data with analysis and modelling tools to infer possible causes.
<b>09.00-09.20</b>	L. Wacker	Atmospheric $^{14}\text{C}$ concentrations over the last 5600 years in annual resolution
<b>09.20-09.40</b>	Q. Hua	Sources of methane emissions from wetland tree stems
<b>09.40-10.00</b>	E. Boaretto	The carbon isotopes in Israel trees in today and in past environment: discovering of the suitable archives for paleoclimatic reconstruction.
<b>10.00-10.20</b>	M. Huels	Carbon isotopes ( $^{14}\text{C}$ , $^{13}\text{C}$ ) of Gatersleben plant tissues ( <i>Triticum aestivum</i> L., <i>Glycine max</i> (L)) grown during the bomb spike.
<b>10.20-10.40</b>	M. Seiler	Tree-ring $^{14}\text{C}$ origin seen through the bombspike magnifying glass

**10.40-11.00-Coffee break**

Time (11.00-12.40)	Session M1: Methods (machine and sample preparation)	
Chairperson	M. Molnar	
<b>11.00-11.20</b>	Daniele De Maria	Towards novel applications for high throughput AMS gas measurements
<b>11.20-11.40</b>	U. Ramsperger	LEA: a new compact 50 kv AMS system under a prolonged performance evaluation
<b>11.40-12.10</b>	Bin Yang	Development of an automated processing line for the extraction of dissolved inorganic carbon from underground water for radiocarbon analysis
<b>12.10-12.40</b>	Konrad Tudyka	$\mu$ GRAPHILINE: a high-throughput, low-maintenance, fully automated $^{14}\text{C}$ graphitization system

**12.45-14.00-Lunch**

Time (14.00-15.40)	Session P1: Past environment and climate	
Chairperson	I. Hajdas	
<b>14.00-14.20</b>	W. Margielewski	Palaeohydrological changes of polish peatlands during the holocene, inferred from subfossil pine ( <i>pinus sylvestris</i> ) and oak ( <i>quercus</i> sp.) dendrochronology and peat multiproxy analysis



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<b>14.20-14.40</b>	Natalia Piotrowska	High resolution $^{14}\text{C}$ and OSL chronology of the aeolian-soil succession in the Łaskarzew site, East Poland.
<b>14.40-15.00</b>	Alexander Cherkinsky	Comparative $^{14}\text{C}$ Analysis of Different Materials in Lake Sediments
<b>15.00-15.20</b>	J. Pilch	the Bølling-Older dryas-allerød transition in multi-proxy paleo-record of two neighbouring landslide fens, kotoń and klaklowo, the outer western carpathians, s poland - regional similarities and local differences in plant succesion.
<b>15.40-16.00</b>	J. Palli	Radiocarbon dating and tree longevity: state of the art with a focus on Italian case studies

**16.00-16.20-Coffee break**

Time (16.20-17.30)	Poster Session I	
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Time (17.30-18.30)	Special Lecture	
<b>17.30-18.30</b>	P. Arthur	"What's in a wall? A Brief story of Lecce's medieval fortifications"

Time (18.30-19.30)	Lecce City Tour	
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### **WEDNESDAY, SEPTEMBER 25<sup>th</sup>**

Time 8.30	Bus transfer to Hotel Costa Brada-Gallipoli Meeting point: Main gate of the Castello Carlo V	
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Time (10.00-11.00)	Special session: Alternative Methods to AMS	
Chairperson	W. Kutschera	
<b>10.00-10.20</b>	Saverio Bartalini	The impact of $^{14}\text{C}$ quantification by Saturated-absorption CAvity Ring-down (SCAR) spectroscopy for environmental applications.
<b>10.20-10.40</b>	Wei Jiang	Atom Trap Trace Analysis of $^{41}\text{Ca}$
<b>10.40-11.00</b>	Tamás Varga	A novel, laser-based saturated-absorption cavity ring-down technology for precise biobased content analysis of plastic samples

**11.00-11.30-Coffee break**

Time (11.30-13.10)	Marine M1: Marine environment	
Chairperson	C. Hatté	
<b>11.30-11.50</b>	S. Lindauer	Marine Shells as indicators for environmental changes in SE Arabia
<b>11.50-12.10</b>	B. M. Netto	Age discrepancies among co-existing planktonic foraminifera: species, shell size and sample size problems
<b>12.10-12.30</b>	Naiana Dias	Impact of oil spill on mangrove sediments: study of $\Delta^{14}\text{C}$ and $\delta^{13}\text{C}$ in the laboratory
<b>12.30-12.50</b>	Andrea Göhring	Sea spray and physiologically induced effects on $^{14}\text{C}$ composition in modern coastal plants uncovered by a greenhouse experiment
<b>12.50-13.10</b>	Maria Zucchi	Development of a protocol to measure radiocarbon by AMS in water samples at LAPAC-UFBA, Brazil

**13.15-14.30-Lunch**



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Time (14.30-17.30)	Discussions OTB
17.30-20.30	Gallipoli Old City tour
20.30	Return to Lecce

**THURSDAY, SEPTEMBER 26<sup>th</sup>**

Time (08.30-10.40)	Session A2: Anthropogenic effects	
Chairperson	A. Rakowsky	
08.30-09.00	S. Hammer <i>Invited Talk</i>	Ingeborg Levin's Legacy in Atmospheric $^{14}\text{CO}_2$ Research: A Retrospective of Her Scientific Life
09.00-09.20	I. Hajdas	Bomb Peak Fading – a memoir written in leaves
09.20-09.40	M. Molnar	Advances in atmospheric methane $^{14}\text{C}$ analyses at HEKAL AMS Facility
09.40-10.00	K. Eriksson Stenström	Radiocarbon in the marine environment of Ringhals nuclear power plant, Sweden
10.00-10.20	S. Bjarheim	The potential of blue mussel shells for retrospective analysis of marine $^{14}\text{C}$ discharges from nuclear power plants
10.20-10.40	K. Silva	Radiocarbon dating and the Schreger pattern as essential tools in combating elephant ivory trafficking in Brazil

**10.40-11.00-Coffee break**

Time (11.00-13.00)	Session A1: Atmosphere and terrestrial environment	
Chairperson	Q. Hua	
11.00-11.20	P. Ascough	Insights into the Residence Time and Stability of Soil Organic Carbon through Ramped Oxidation and Radiocarbon Analysis
11.20-11.30	C. Heusser	Molecular-level Soil Carbon Turnover Unveiled with Amino Acid-Specific $^{14}\text{C}$
11.30-11.50	C. S. Hadden	Radiocarbon age offsets in post-bomb terrestrial snails from south Florida, USA
11.50-12.10	T. M. Y. Rhyner	Radiocarbon signatures in Swiss Rivers under hydrological extremes
12.10-12.30	E. Zazovskaya	Radiocarbon age and properties of organic matter of supraglacial organomineral formations
12.30-12.50	L. Scott Cummings	Dead Carbon in Living Individuals

**13.00-14.00-Lunch**

Time (14.00-16.00)	Session A1: Atmosphere and terrestrial environment	
Chairperson	N. Piotrowska	
14.00-14.20	A. Smith	Using ANSTO's micro- $^{14}\text{C}$ capability to improve understanding of the atmospheric methane budget
14.20-14.40	I. Kontul	Seasonal variation of fossil and non-fossil fractions of carbonaceous aerosols in an urban area of Slovakia
14.40-15.00	Z. Niu	Temporal and vertical measurements of atmospheric $\text{CO}_2$ and $^{14}\text{CO}_2$ at the Northern foot of the Qinling mountains in China

<b>15.00-15.20</b>	P. Ciffroy	Combining microscopic and macroscopic diffusion theories to evaluate $^{14}\text{C}$ transfers at the water-atmosphere interface downstream of a nuclear plant
<b>15.20-15.40</b>	I. Chanca	Estimation of the fossil-fuel fraction of $\text{CO}_2$ measured in Paris based on radiocarbon, and co-emitted species ( $\text{NO}_x$ , $\text{CO}$ , $\text{BC}$ )
<b>15.40-16.00</b>	A. Panzitta/ D. Sanghez	Comparative study of waste analysis methods for biogenic fraction quantification in waste-to-energy plants

**16.00-16.30-Coffee break**

<b>Time (16.30-17.30)</b>	<b>Poster Session II</b>
<b>Time (17.30-19.30)</b>	<b>Transfer to Brindisi-Visit of CEDAD laboratories</b>
<b>Time (20.00-23.00)</b>	<b>CONFERENCE DINNER AT CASTELLO MONACI</b>

**FRIDAY, SEPTEMBER 27<sup>th</sup>**

<b>Session T1: Tropical Environments</b>		
Chairperson	K. Macario-G. Macedo dos Santos	
<b>08.30-09.00</b>	C. Carvalho <i>Invited Talk</i>	Biomonitoring Fossil Fuel Contamination on an Eutrophic Coastal Estuary: The RADICAL Project
<b>09.00-09.20</b>	K. Macario	Itaipu Region in Niterói, Brazil: Cultural and Natural Heritage Under Threat from Land Speculation
<b>09.20-09.40</b>	I. Chanca	How long does carbon stay in a near-pristine central amazon forest? an empirical estimate with radiocarbon
<b>09.40-10.00</b>	G. M. Santos	Lower latitudes atmospheric post-AD 1950 high-precision tree ring $^{14}\text{C}$ records: challenges and surprises
<b>10.00-10.20</b>	J. Griffin	Evaluating a simplified $\alpha$ -cellulose extraction procedure on pantropical woods via FTIR characterization for use in atmospheric $^{14}\text{C}$ reconstructions

**10.20-10.40-Coffee break**

<b>Marine M1: Marine environment</b>		
Chairperson	J. Baresic	
<b>10.40-11.00</b>	M. Ruben	The age predicament in microbial organic matter degradation
<b>11.00-11.20</b>	B. Philippsen	Human-environmental interactions in a prehistoric fjord
<b>11.20-11.40</b>	N. Wang	Radiocarbon character in amphipod exoskeletons from hadal trenches
<b>11.40-12.00</b>	M. Al-Sid-Cheikh	Nanoplastics Uptake Dynamics in Mussels: Unveiling first Sub-ppb toxicokinetics
<b>12.00-12.20</b>	H Grotheer	High resolution mapping of DIC, DOC and POC radiocarbon distribution in the Northwest African Upwelling system off Mauritania

<b>Summary and closing remarks</b>		
<b>12.20-12.50</b>	T. AJ Jull	Summary and closing remarks