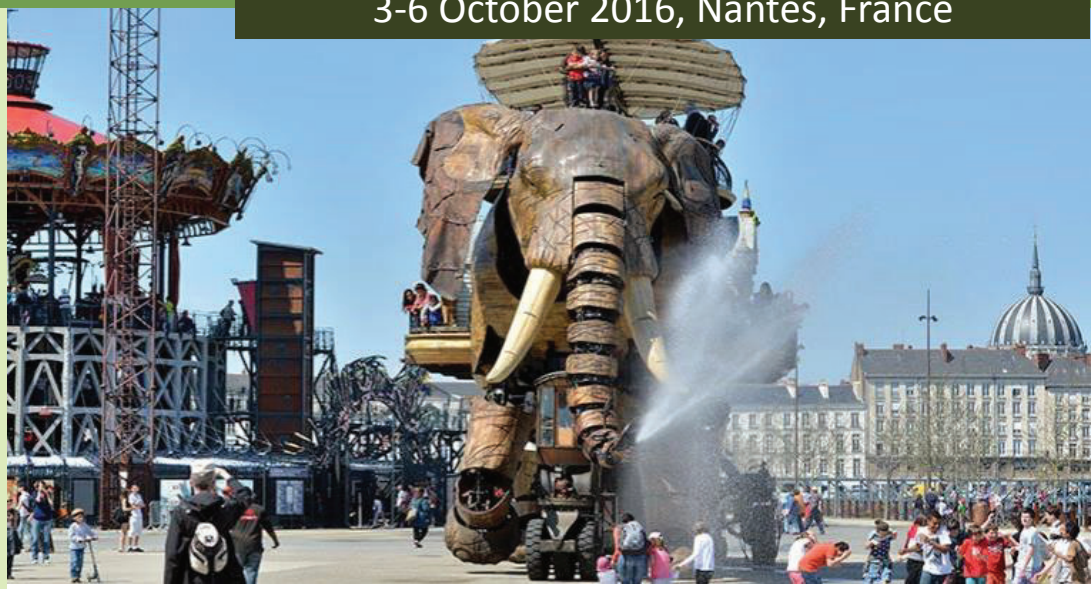
The 8th International Symposium on Isotopomers

NANTES 2016

Organized by the EBSI team (CEISAM, University of Nantes) and the LGGE (OSUG, University of Grenoble-Alpes)

3-6 October 2016, Nantes, France



8th International Symposium on Isotopomers
Welcome to Nantes!

Conference Symposia

- Molecular processes & Isotopomics
- Planetary Sciences & Geosciences
- Biogeosciences
- Climate Change
- Authentication
- Atmospheric Sciences
- Methodological Developments
- INTRA Workshop

Website: http://isi2016.univ-nantes.fr

Practical information

- Registration: from 1st February 2016
  Early Bird ends July 15th
  Normal ends August 31st
- Abstract submission dead line:
  Oral: 15th July 2016
  Poster: 31st August 2016

Where

Nantes Events Center
5 rue de Valmy
Nantes, France

ISI 2016 Program Overview – 3-6 October 2016

Monday, 3 October 2016	**La Cité (Nantes Conference Center)**
08:00 – 09:15	**Registration**
09:15 – 09:50	Opening: Gérald Remaud, Naohiro Yoshida, Patrick Giraudeau
	Public Partners: Mr André Sobczak, vice-president de Nantes Metropole. Mr Frédéric Benhamou, vice-president of the University of Nantes
09:50 – 10:20	Oral session: **Authentication** (30 min) **Michèle Lees, Chair and keynote tutorial Speaker** **Tribute to Profs Martin** ***Establishing Stable Isotope Analysis as methods of choice for food authentication***
10:20 – 10:35	Oral session: **Authentication** (15 min) Pierrick Nun ***Position Specific Isotope Analysis to authenticate Active Pharmaceutical Ingredients***
10:35 – 10:50	Oral session: **Authentication** (15 min) Virginie Ladroue ***Discrimination of New Psychoactive Substances. The case of MDMB-CHMICA and 3-fluorophenmetrazine (3-FPM).***
10:50 – 11:20	**Coffee break**
11:20 – 11:50	Oral session: **Atmospheric sciences 1** (30 min) **Mark Thiemens, Chair and keynote tutorial Speaker** ***An Overview of Recent Chemistry and Photochemistry of Mass Independent Isotope Effects and Future Areas of Research***
11:50 – 12:10	Oral session: **Atmospheric sciences 1** (20 min) Christof Janssen ***On anomalous or mass-independent isotope fractionation in recombination reactions of oxygen atoms with oxygen containing diatomic molecules***
12:10 – 12:30	Oral session: **Atmospheric sciences 1** (20 min) Sourendra K. Bhattacharya ***Ozone isotopic fractionation by photolysis in the Hartley and Chappuis bands***
12:30 – 12:50	Oral session: **Atmospheric sciences 1** (20 min) Thomas Röckmann ***Isotope effect in the visible light photolysis of O_3 and implications for the isotope effect in the O_3 formation reaction***
12:50 – 14:15	**Lunch**
14:15 – 16:15	**Poster** session 1 with coffee
16:15 – 16:35	Oral session: **Atmospheric sciences 1** (20 min) Magdalena E. G. Hofmann ***Effect of photosynthesis on the abundance of $^{18}O^{13}C^{16}O$ in atmospheric CO_2***
16:35 – 16:55	Oral session: **Atmospheric sciences 1** (20 min) Lambert Baraut-Guinet ***Unconventionnal mass-independent oxygen isotope effect in ozone by microwave discharge plasma***
16:55 – 17:15	Oral session: **Atmospheric sciences 1** (20 min) Tammarat Piansawan ***Temperature Dependence of Carbon Kinetic Isotope Effect for the Oxidation Reaction Of Ethane by OH Radicals: Experimental and Theoretical Studies***
17:15 – 17:35	Oral session: **Atmospheric sciences 1** (20 min) Martin F. Miller ***Controls on oxygen triple-isotope distributions in Antarctic precipitation and ice cores***
17:35 – 18:00	***Information + discussion***
18:00 – 20:00	Icebreaker reception

Tuesday, 4 October 2016	La Cité (Nantes Conference Center)
09:00 – 9:30	Oral session: **Atmospheric sciences 2** (30 min) **Becky Alexander, Chair and keynote tutorial Speaker** ***The application of isotope measurements in the atmospheric sciences: Tracing chemistry and transport in the Earth's atmosphere***
09:30 – 09:50	Oral session: **Atmospheric sciences 2** (20 min) Sakae Toyoda ***Vertical distributions of N_2O isotopocules in the equatorial stratosphere***
09:50 – 10:10	Oral session: **Atmospheric sciences 2** (20 min) Mao-Chang Liang ***Observations on isotopic ratios of atmospheric N_2O from western Pacific stations in northern Taiwan***
10:10 – 10:30	Oral session: **Atmospheric sciences 2** (20 min) Erwann Le Gendre ***Oxygen and sulfur mass independent signatures in sulfate aerosols from Mexico City***
10:30 – 11:00	**Coffee break**
11:00 – 11:20	Oral session: **Atmospheric sciences 2** (20 min) David Au Yang ***Multiple sulfur isotopes on sulfate aerosols in a free-anthropogenic air station***
11:20 – 11:40	Oral session: **Atmospheric sciences 2** (20 min) Matthew S. Johnson ***Chemical and isotopic composition of secondary organic aerosol generated by alpha pinene ozonolysis***
11:40 – 12:10	Oral session: **Molecular processes and isotopomics** (30 min) **Roland A. Werner, Chair and keynote tutorial Speaker** ***Exploring links between measurable in-vitro isotope effects to observable in-vivo isotope fractionation in reaction networks***
12:10 – 12:30	Oral session: **Molecular processes and isotopomics** (20 min) Alexander Braun ***Isotopomics in Saliva - Towards Non-Invasive Diabetes Diagnosis***
12:30 – 12:50	Oral session: **Molecular processes and isotopomics** (20 min) Katarzyna M. Romek ***Isotope fractionation by methionine synthase – a major cause of depletion of ^{13}C in O-methyl and N-methyl groups***
12:50 – 14:15	**Lunch**
14:15 – 15:30	**Poster** session 2
15:30 – 15:50	Oral session: **Molecular processes and isotopomics** (20 min) John M. Hayes ***Intramolecular Carbon-Isotopic Order in Fatty Acids, a Reexamination of Early Results***
15:50 – 16:10	Oral session: **Molecular processes and isotopomics** (20 min) Kawarpal Singh ***Deuterium isotope effect in chemical reactions studied by compact NMR***
16:10 – 16:30	Oral session: **Molecular processes and isotopomics** (20 min) Illa Tea ***Breast cancer isotopomics: Defining an isotopic signature for breast cancer diagnostic***
16:30 – 17:00	**Coffee break**
17:00 – 17:20	Oral session: **Molecular processes and isotopomics** (20 min) Shinkoh Nanbu ***Nonadiabatic dissociation in UV-photolysis of sulfuric acid***
17:20 – 17:40	Oral session: **Molecular processes and isotopomics** (20 min) Linhan Shen ***Temperature Dependent Kinetic Isotope Effects of Methane Oxidation by O(1D) and OH Radicals***
17:40 – 18:00	Oral session: **Molecular processes and isotopomics** (20 min) Kristie A. Boering ***Field and laboratory studies of the nitrogen and oxygen isotopic composition of N_2O: Corona discharge production, biomass burning, and ocean and "Arctic hot spot" emissions***

18:00 – 18:30	***Discussions***
Wednesday, 5 October 2016	**La Cité (Nantes Conference Center)**
09:00 – 09:30	Oral session: **Methodological developments** (30 min) **John Eiler, Chair and keynote tutorial Speaker** ***An emerging capability for mass spectrometric measurements of molecular isotopic structures***
09:30 – 09:50	Oral session: **Methodological developments** (20 min) Mathieu Daëron ***Absolute isotopic abundance ratios and the accuracy of Δ47 measurements***
09:50 – 10:10	Oral session: **Methodological developments** (20 min) Yun Liu ***A new mechanism of phosphoric acid digestion reaction and theoretical re-calibration on the carbonate ^{13}C-^{18}O clumped isotope thermometry***
10:10 – 10:30	Oral session: **Methodological developments** (20 min) Philippe Lesot ***Determination of the Molecular (D/H) Isotopic Profile by Anisotropic NAD 2D-NMR: Exploiting the Analytical Wealth of Oriented Solvents!***
10:30 – 11:00	**Coffee break**
11:00 – 11:20	Oral session: **Methodological developments** (20 min) Naohiro Yoshida ***Position-specific carbon isotope analysis of acetone by on-line pyrolysis IRMS***
11:20 – 11:40	Oral session: **Methodological developments** (20 min) Brian Fry ***An automated PSIA system for measuring $\delta^{13}C$ of carboxyl groups from amino acids***
11:40 – 12:00	Oral session: **Methodological developments** (20 min) Pierre Millard ***A ^{15}N-NMR based approach for amino acids based ^{13}C-metabolic flux analysis of microbial metabolism***
12:00 – 12:20	Oral session: **Methodological developments** (20 min) Ronan Cariou ***Screening halogenated environmental contaminants in biota based on isotopic pattern and mass defect provided by High Resolution MS profiling***
12:20 – 13:50	**Lunch**
13:50 – 14:10	Oral session: **Methodological developments** (20 min) Maud Heuillet ***A Workflow for the Assessment of the quality of Isotopologue Distribution Measurements by Mass Spectrometry***
14:10 – 14:30	Oral session: **Methodological developments** (20 min) Huiming Bao ***Redefine the utility of the three-isotope method***
14:30 – 14:50	Oral session: **Methodological developments** (20 min) Tim Stoltmann ***High precision measurements of $^{16}O^{12}C^{17}O$ using a new type of cavity ring down spectrometer***
14:50 – 15:10	Oral session: **Methodological developments** (20 min) Andreas Hilkert ***Extending the boundaries of isotope ratio MS - Latest technological improvements***
15:10 – 20:00	***Free afternoon for sightseeing***
20:00 – 23:30	Conference dinner

Thursday, 6 October 2016	La Cité (Nantes Conference Center)
09:15 – 09:45	Oral session: **Climate change** (30 min) **Graham Farquhar, Chair and keynote tutorial Speaker** ***Plant water use and carbon gain and the isotopologues of carbon dioxide***
09:45 – 10:05	Oral session: **Climate change** (20 min) Aliénor Lavergne ***Stable isotopes in tree-rings of Patagonian trees are promising proxies for reconstructing past temperature variations in the Southern Hemisphere***
10:05 – 10:25	Oral session: **Climate change** (20 min Eliza Harris ***Can semi-continuous, in-situ measurements of nitrous oxide isotopic composition at a suburban site be used to track emission processes?***
10:25 – 10:45	Oral session: **Climate change** (20 min) Joël Savarino ***Probing the terrestrial volcanism over the last 2500 years in ice-cores with the sulphur and oxygen isotopes***
10:45 – 11:15	**Coffee break**
11:15 – 11:45	Oral session: **Planetary sciences and environment** (30 min) **Kate Freeman, Chair and keynote tutorial Speaker** ***Unstable Carbon and Warm Climates of the Past***
11:45 – 12:05	Oral session: **Planetary sciences and environment** (20 min) Doug Rumble ***Measuring Clumped Isotopes with a High--Resolution Mass Spectrometer***
12:05 – 12:25	Oral session: **Planetary sciences and environment** (20 min) François Robert ***Hydrogen isotope fractionation in methane plasma***
12:25 – 13:45	**Lunch**
13:45 – 14:05	Oral session: **Planetary sciences and environment** (20 min) Pierre Cartigny ***In the search for MIF-S in the Earth's Mantle and a new view of the Earth's deep S-cycle***
14:05 – 14:25	Oral session: **Planetary sciences and environment** (20 min) Ilann Bourgeois ***Export of atmospheric NO_3^- in streams along an elevation gradient in the French Alps***
14:25 – 14:45	Oral session: **Planetary sciences and environment** (20 min) Sebastian Danielache ***UV photo-dissociation induced sulfur isotopic effects; theoretical and experimental advances***
14:45 – 15:15	Oral session: **Biogeosciences** (30 min) **Alexis Gilbert, Chair and keynote tutorial Speaker** ***Stable isotopes in biogeoscicences***
15:15 – 15:45	**Coffee break**
15:45 – 16:05	Oral session: **Biogeosciences** (20 min) Lena Rohe ***Perspectives to differentiate between microbial denitrifiers using isotopic signatures of N_2O produced***
16:05 – 16:25	Oral session: **Biogeosciences** (20 min) Mayuko Nakagawa ***Quantification of microbial activities in microbial mats from metagenomic and isotopic analyses: a case study of Nakabusa hot spring, Japan***
16:25 – 16:45	Oral session: **Biogeosciences** (20 min) Amzad H. Laskar ***Effect of photosynthesis and respiration on clumped isotopes in atmospheric CO_2***
16:45 – 17:05	Oral session: **Biogeosciences** (20 min) Patrick Höhener ***Modeling the reactive transport of isotopes and isotopomers in groundwater contaminated by organic pollutants***
17:05 – 17:30	***Closing remarks***

Friday, 7 October 2016 09:00 – 16:30	**INTRA workshop IV at CEISAM laboratory, Faculty of Sciences, Nantes (Position-specific Isotope Analysis)**
	Consult the web-site for more details