



# 7<sup>th</sup> BRAZILIAN MEETING ON CHEMICAL SPECIATION

Bento Gonçalves, Brazil  
November 26<sup>th</sup> to 27<sup>th</sup>, 2023

# SCIENTIFIC PROGRAM



# Scientific Program - Schedule

## November 26<sup>th</sup>

TIME	MALBEC	PINOT CENTER	CARMÉNÈRE HALL
10:10 – 12:00 h		Short Courses 1 and 2	
14:00 – 15:45 h	Workshop		
17:30 – 19:10 h	Opening Ceremony		
19:30 – 23:00 h			Welcome Cocktail

## November 27<sup>th</sup>

TIME	MALBEC	CARMÉNÈRE HALL
09:10 – 10:30 h	Session 1	
10:30 – 11:00 h		Coffee-break
11:00 – 12:05 h	Session 2	
14:00 – 15:00 h	Session 3	
15:00 – 16:30 h		Poster Session
16:00 – 16:30 h		Coffee-break
16:30 – 18:10 h	Session 4	
18:00 – 18:40 h	Closing Conference	
18:45 – 19:30 h	Closing Ceremony	



## November 26<sup>th</sup> (Sunday)

9:00 - 17:00 h

**Registration**  
Carménère Hall

### Short Courses (10:00 - 12:00 h)

**Short course 1: Chemical speciation in environmental studies: strategies, challenges and instrumental advances**

**Room:** Pinot Center

**Speakers:** Cláudia Carvalhinho Windmoller (UFMG, Brazil) and Daniela Santos Anunciação (UFAL, Brazil)

**Short course 2: Chemical speciation for nutritional and food analysis**

**Room:** Pinot Center

**Speakers:** Kelly da Graças Fernandes Dantas (UFPA, Brazil) and Letícia Malta Costa (UFMG, Brazil)

### Workshop (14:00 - 15:45 h)

**Workshop: Trends in chemical speciation analysis**

**Room:** Malbec

**Coordinator:** Amauri Antonio Menegário (UNESP, Brazil)

14:00 - 14:05 h

**Opening:** Amauri Antonio Menegário (UNESP, Brazil)

14:05 - 14:25 h

**Trends in chemical speciation analysis: in-situ measurements using DGT**

**Speaker:** Marco Tadeu Grassi (UFPR, Brazil)

14:25 - 14:45 h

**Studies on chemical speciation in biological and environmental systems: the influence of experimental models**

**Speaker:** Josué Carinhanha Caldas Santos (UFAL, Brazil)

14:45 - 15:05 h

**Advances in arsenite determination by ion chromatography and electrochemical detection in water for human consumption**

**Speaker:** Alicia Mollo (Universidad de la República, Uruguay)

15:05 - 15:25 h

**Exploring beyond the four arsenic species commonly reported in rice**

**Speaker:** Mirna Sigrist (Universidad Nacional del Litoral, Argentina)

15:25 - 15:45 h

**Discussion**



## Opening Ceremony

Room: Malbec

17:30 - 18:00 h	<b>Opening and Welcome</b> Márcia Foster Mesko (UFPEL, Brazil) <i>Chair of the 7<sup>th</sup> EspeQBrazil</i>  <b>Tributes</b> Honored 1: Joanna Szpunar (French National Research Center, France) Honored 2: Jörg Feldmann (University of Graz, Austria) Honored 3: Marco Aurélio Zezzi Arruda (UNICAMP, Brazil) Honored 4: Maria das Graças Andrade Korn (UFBA, Brazil)
18:00 - 18:30 h	<b>Cultural presentation</b>
18:30 - 19:10 h	<b>Opening conference:</b> <b>Speciation, where it came from and where it is going?</b> Ewa Bulska (University of Warsaw, Poland)
19:30 - 23:00 h	<b>Welcome cocktail</b> Carménère Hall

## November 27<sup>th</sup> (Monday)

### Session 1 (9:00 - 10:30 h)

**Chair:** Paola de Azevedo Mello (UFMS, Brazil)

**Room:** Malbec

9:00 - 9:40 h	<b>From fractionation to speciomics: to infinity and beyond</b> <b>Plenary lecturer:</b> Marco Aurélio Zezzi Arruda (UNICAMP, Brazil) Sponsored by <b>Nova Analítica</b>
9:40 - 10:05 h	<b>Isotope probes in iron speciation analysis in plants and bacteria</b> <b>Invited speaker 1:</b> Joanna Szpunar (French National Research Center, France)
10:05 - 10:30 h	<b>A traditional tool for elemental speciation: HPLC-ICP-MS and its use for the characterisation of nanomaterials</b> <b>Invited speaker 2:</b> Jörg Bettmer (University of Oviedo, Spain)
10:30 - 11:00 h	<b>Coffee-break</b>



**Session 2 (11:00 - 12:05 h)**

**Chair:** Wladiana Oliveira Matos (UFC, Brazil)

**Room:** Malbec

11:00 - 11:10 h	<b>Oral presentation 1: Mass balance analysis of PFAS in communal waters</b> <u>Viktoria Müller</u> , Andrew Kindness, Jörg Feldmann The James Hutton Institute, United Kingdom/ University of Graz, Austria
11:10 - 11:20 h	<b>Oral presentation 2: DGT with ferrihydrite binding phase for analysis of labile species of Ge in freshwater and determination by ICP OES</b> <u>Mayara P. dos Santos</u> , Shelden M. de Paula, Rafael G. Dolatto, Éder J. dos Santos, Marco T. Grassi UFPR, Brazil
11:20 - 11:30 h	<b>Oral presentation 3: Chemical speciation of hexavalent chromium in organic fertilizer by LC-ICP-MS and spectrophotometry</b> <u>Ívero P. Sá</u> , Samara Gomes Banhos, Mykaelli Andrade Santos, Pascoal F. Nhamue, Ana Rita A. Nogueira UFSCar, Brazil
11:30 - 11:40 h	<b>Oral presentation 4: Specimics analysis of transgenic soybean somatic embryogenesis using HILIC coupled simultaneously with TQ-ICP-MS and ESI-HRMS/MS</b> Lilian Seiko Kato, <u>Vinnícius Henrique da Silva</u> , Ana Beatriz Santos da Silva, Jorge Henrique Pedrobom, Diego Campaci de Andrade, Guilherme Crispim de Faria Cruz, Marco Aurélio Zezzi Arruda UNICAMP, Brazil
11:40 - 12:05 h	<b>Phosphorus speciation as tool to improve nutrients recovery from agricultural wastes</b> <b>Invited speaker 3:</b> Fabiane Goldschmidt Antes (Embrapa, Brazil)

**12:05 - 14:00 h**      **Lunch**

**Session 3 (14:00 - 14:25 h)**

**Chair:** Marco Tadeu Grassi (UFPR, Brazil)

**Room:** Malbec

14:00 - 14:25 h	<b>Nanomaterials in non-chromatographic speciation analysis of arsenic</b> <b>Invited speaker 4:</b> Wladiana Oliveira Matos (UFC, Brazil)
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**Flash poster presentation (14:30 - 15:00 h)**

**Coordinators:** Rochele Sogari Picoloto and Alessandra Schneider Henn (UFMSM, Brazil)

**Room:** Malbec

14:30 - 15:00 h

**Flash poster presentation 1: Selenium species As urease inhibitors for the development of fertilizers with increased efficiency**

Aryanna Sany Pinto Nogueira Costa, Maria de Fátima Correia da Silva Neta, Josué Carinhanha Caldas Santos, Daniela Santos Anunciação  
UFAL, Brazil

**Flash poster presentation 2: Speciation and chemical fractionation of REE in water samples from the Paraíba do Sul River**

Raquel C. Gradwohl, Luiz Felipe P. P. Moreira, Melina B. T. Zanatta, Amauri A. Menegário  
UNESP, Brazil

**Flash poster presentation 3: Stability thiomersal in simulated vaccine samples: A speciation study made using cold vapour techniques**

Jarol R. Miranda-Andrades, Rodrigo A. Gonçalves, Joseane A. Mendes, Douglas F. Oliveira, José Marcus de Oliveira Godoy, Ricardo Q. Aucelio  
PUC-Rio, Brazil

**Flash poster presentation 4: Two-dimensional paper-based device for evaluating Ni and V porphyrins through laser ablation inductively coupled plasma mass spectrometry**

Eduarda Quadros Machado, Julián Eduardo Bállen Castiblanco, Leandro Wang Hantao, Marco Aurélio Zezzi Arruda  
UNICAMP, Brazil

**Flash poster presentation 5: Rhodamine-derived fluorescent probe for redox speciation of ionic iron in environmental samples**

Sângela Ferreira da Silva, Amanda Luise Alves Nascimento, Karrolyne Rocha da Costa, Ari Souza Guimarães, Josué Carinhanha Caldas Santos  
UFAL, Brazil

**Flash poster presentation 6: Influence of exposure to gold nanoparticles on proteins and iron metalloproteins distribution in bean sprouts**

Aline P. Oliveira, Juliana Naozuka, Cassiana S. Nomura  
USP, Brazil



15:00 - 16:30 h	<b>Poster session</b> Carménère Hall
16:00 - 16:30 h	<b>Coffee-break</b>
<b>Session 4 (16:30 - 17:45 h)</b>	
<b>Chair:</b> Josué Carinhanha Caldas dos Santos (UFAL, Brazil) <b>Room:</b> Malbec	
16:30 - 16:55 h	<b>From tofu to black fly larvae: metal speciation in novel protein sources</b> <b>Invited speaker 5:</b> Zoltan Mester (National Research Council Canada, Canada)
16:55 - 17:20 h	<b>Chemical speciation analysis by HPLC-ICP-MS: from environmental to foodstuff samples</b> <b>Invited speaker 6:</b> Rodrigo Moreto Galazzi (UNICAMP, Brazil) Sponsored by <b>Analytik Jena</b>
17:20 - 17:45 h	<b>Speciation and fractionation of rare earth elements in the environment: state of art and new challenges</b> <b>Invited speaker 7:</b> Amauri Antonio Menegário (UNESP, Brazil)
<b>Closing Conference</b>	
<b>Chair:</b> Érico M. M. Flores (UFMS, Brazil) <b>Room:</b> Malbec	
18:00 - 18:40 h	<b>Closing conference:</b> <b>Could whales suffer from decommissioning of oil and gas pipelines – a bedtime story?</b> Jörg Feldmann (University of Graz, Austria)
<b>Closing Ceremony</b>	
<b>Room:</b> Malbec	
18:45 - 19:30 h	Márcia Foster Mesko (UFPEL, Brazil) <i>Chair of the 7<sup>th</sup> EspeQBrazil</i>  Information and remarks of the 7 <sup>th</sup> EspeQBrazil Poster Awards Closing



# Sponsors Technical Lectures

<b>Diamond Sponsor technical lecture: Analytik Jena</b>	
<b>November 30<sup>th</sup>, 2023</b>	
<b>Room: Pinot Center - Room A</b>	
<b>15:30 - 15:55 h</b>	<b>High resolution inductively coupled plasma optical emission spectroscopy: technology and special applications.</b> <b>Speaker: Júlio Cezar Paz de Mattos (Analytik Jena, Brazil)</b>
<b>Gold Sponsor technical lecture: Perkin Elmer</b>	
<b>November 27<sup>th</sup>, 2023</b>	
<b>Room: Pinot Center - Room A</b>	
<b>12:15 - 12:40 h</b>	<b>Updates on new technologies present in Perkin Elmer systems that contribute to analyzes focused on chemical speciation.</b> <b>Speaker: Marcelo Anselmo Oseas da Silva (Perkin Elmer, Brazil)</b>
<b>Gold Sponsor technical lecture: Agilent Technologies</b>	
<b>November 27<sup>th</sup>, 2023</b>	
<b>Room: Pinot Center - Room A</b>	
<b>14:30 - 14:55 h</b>	<b>Hyphenated systems for elemental speciation: advances in HPLC and ICP-MS/MS.</b> <b>Speaker: Bruno Menezes (Agilent Technologies, Brazil)</b>
<b>Gold Sponsor technical lecture: Nova Analítica</b>	
<b>November 29<sup>th</sup>, 2023</b>	
<b>Room: Pinot Center - Room A</b>	
<b>12:15 - 12:40 h</b>	<b>Total workflow approach to sample preparation for ICP analysis.</b> <b>Speaker: Mariana Ortega Garcia (Nova Analítica, Brazil)</b>
<b>Gold Sponsor technical lecture: Thermo Fisher Scientific</b>	
<b>November 29<sup>th</sup>, 2023</b>	
<b>Room: Pinot Center - Room C</b>	
<b>15:00 - 15:25 h</b>	<b>Analytical technologies - boost your productivity.</b> <b>Speaker: Felipe Rezende (Thermo Fisher, Brazil)</b>
<b>Sponsor technical lecture: Vert</b>	
<b>November 29<sup>th</sup>, 2023</b>	
<b>Room: Pinot Center - Room C</b>	
<b>12:00 - 12:25 h</b>	<b>Simplify digester: a reliable alternative for sample preparation aiming at elemental analysis by ICP techniques.</b> <b>Speaker: Gabriel Gustinelli Arantes de Carvalho (Vert, Brazil)</b>