



International Isotope Society
European Division



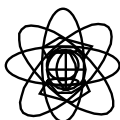
26th Workshop

*The Synthesis and Applications of
Isotopes and Isotopically Labelled Compounds*

Frankfurt, Germany

H+ Hotel

May 11 – 12, 2023



WELCOME FROM THE CONFERENCE ORGANISERS

Now, we can say – ‘We are back to normal!’. At least from a ‘Covid-infection’ point of view we reached more or less an endemic phase. But surprises are still up and running. On the course of the workshop preparation, we were informed that our traditional Bad Soden-venue will not be available as planned and that we have to change to the H+Hotel at Frankfurt Messe for the second time since 2016. Nevertheless, the organisers and the board of the IIS-ED welcome you to the “26th Workshop on the Synthesis and Applications of Isotopes and Isotopically Labelled Compounds” and are looking forward to an exciting workshop 2023!

We are very happy to present once again a very interesting and diverse program. Despite the rather late workshop announcement we have received many applications for poster and oral presentations. We would like to thank everybody for his/her efforts and active participation. With Prof. Jason Holland, talking about new tactics in radiopharmaceutical design and Prof. Siegfried Waldvogel, presenting his recent achievements in electrosynthesis, we were able to attract two distinguished scientists as plenary speakers. Dr. Davide Audisio is the 3rd recipient of the European Isotope Science Award. He will talk about recent developments in carbon isotope labelling. Additionally, lectures on Thursday will mainly focus on carbon isotope chemistry. And on Friday, we will dive into various new strategies to introduce deuterium and tritium into molecules.

Dr. Martin Sandvoss organizes an analytical workshop on Thursday morning for the 12th time. He will guide us through this preconference session around topics such as Molecular Rotational Resonance Spectroscopy for quantitative analysis of deuterated products and new two-dimensional LC strategies in MET-ID and tritium chemistry.

We would like to thank all the sponsors and the exhibiting companies, supporting the workshop. Without their financial support, this workshop would not be possible.

Take the opportunity to exchange experience, connect with each other on a scientific but also on a personal level! Coffee breaks, the social programme on Thursday evening, the poster exhibition and the company exhibition will provide enough opportunities. We are very much looking forward to meeting you all!



Ralf Kiesling



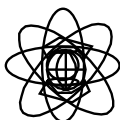
Thorsten Poethko



Dietrich Seidel



Dieter Muri



WELCOME FROM DR. VOLKER DERDAU, PRESIDENT IIS-European Division

In the name of the board of the International Isotope Society – European Division it's a great pleasure to welcome you to the 26th Workshop on the Synthesis and Applications of Isotopes and Isotopically Labelled Compounds in Frankfurt. It is tremendously important to stay engaged in our scientific and cultural exchange within our isotope society and beyond. Our society stands together with an open, respectful, and honest mindset and we all deplore discrimination, exclusion, aggression, or violence!

This meeting is only possible due to the dedication and engagement of Dieter Muri, Thorsten Poethko, Ralf Kiesling and Dietrich Seidel as the organizers and therefore first and foremost I would like to thank them for their hard and excellent work. Like in the years before, they have put together an excellent scientific program with plenary lectures from famous scientists and scientific sessions covering a broad range of research and development in the field of isotope science. The poster session/vendor exhibitions and the social event will provide additional opportunities for scientific exchange and networking.

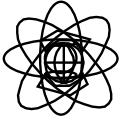
Furthermore, I would like to thank all sponsors who by their generous support are extremely important to the success of the meeting. I would like to thank the exhibitors for the presentation of products, special competencies in customer syntheses and new techniques of measurement in the field of isotope chemistry. Since active participation is essential many thanks go also to the speakers, chairs and poster presenters. Many thanks also to Martin Sandvoss for the organization of the analytical workshop.

I want to finish my welcome with a call for action. Be active in our society! Be active in sharing your knowledge. Our society is not a given, we must fight to keep it alive. What is of value is never easily achieved. There is value to give talks, to publish in JLCR and to seek responsibility in our boards or as workshop organizer. Please join the business meeting!

Finally, I would like to thank you all for your participation and to make this event a success. It is good to see you again!



Volker Derdau
President IIS-ED



THE ORGANISING COMMITTEE LIKES TO THANK OUR SPONSORS:





SCIENTIFIC PROGRAMME

Thursday, May 11, 2023

Radioanalytics: A Workshop Discussion

**Chairman &
Organiser:**

Martin Sandvoss

10:00 – 12:00 a.m. Room Spessart-Eifel

This workshop discussion is aimed at those who are dealing with the analysis / quality control of isotopically labelled synthesis products in their daily business. It is intended to provide a forum for discussion and informal scientific exchange prior to the IIS-CED meeting.

Again, this year we are pleased to announce an “Analytical Workshop Special”:

- **Joseph R. Clark (Marquette University):** *Quantitative Analysis of Precision Deuteration Reaction Products Using Molecular Rotational Resonance Spectroscopy (MRR)*

The discussion topics of our established Analytical Workshop format will this year focus on two-dimensional chromatography:

- **Matthias Schiell (Sanofi):** *In-vivo MET-ID using a Multi-Option 2D-MS-RD-UPLC*
- **Martin Sandvoss (Sanofi):** *Small-scale Two-Dimensional LC for Isotopic Enrichment of Tritium Labelled Research Compounds*

Welcome & Introduction

1:00 – 1:10 p.m.

Ralf Kiesling, Dieter Muri, Thorsten Poethko, Dietrich Seidel
(Organising Committee)

Volker Derdau, President IIS-CED e.V.

Session I

Chairman: **Anna Sib** (Sanofi, GER)

1:10 – 2:00 p.m.

Plenary Lecture

Jason Holland (University of Zürich, CH)

“New tactics in radiopharmaceutical design”



- 2:00 – 2:15 p.m. **Sean Kitson** (Almac, UK)
“Nitrilase mediated mild hydrolysis of a carbon-14 nitrile for the radiosynthesis of SHP-141”
- 2:15 – 2:30 p.m. **Christian Oettinger** (AstraZeneca, SWE)
“Stoichiometric carboxylation of arenes and styrenes via transition-metal free photocatalysis”

Exhibition - Poster session - Coffee break

- 2:30 – 3:15 p.m. **Exhibition - Poster session - Coffee break (Sponsored by RC Tritec)**

Session II

- Chairman:** **Michael Müller** (Bayer, GER)
- 3:15 – 3:30 p.m. **Michael Doyle** (University of Alberta, CAN)
“Aldehyde-catalysed carboxylate exchange in alpha amino acids with isotopically labelled CO₂”
- 3:30 – 3:45 p.m. **Ari Lehmusvuori** (Hidex, FIN)
“Atmospheric carbon sequestration towards climate change mitigation”
- 3:45 – 4.30 p.m. **3rd European Isotope Science Award Lecture**
Davide Audisio (CEA Saclay, FRA)
“Recent developments in carbon isotope labeling”
- 4:30 – 4:45 p.m. **IIS-ED Award 2023 Ceremony**

Social Programme and Congress Dinner

- 5:15 – 9:30 p.m. **Visit of the Kaiserdom and Congress Dinner**
Buses will leave on schedule – please show up on time!



Friday, May 12, 2023

Session III

- Chairman:** **Serena Monticelli** (Roche, CH)
- 8:30 – 8:45 a.m. **Martin Stinglhamer** (University of Münster, GER)
“Visible light-mediated photocatalytic benzylic deuteration”
- 8:45 – 9:00 a.m. **Gabriela Nováková** (IOCB CAS Prague, CZ)
“Facile generation of tritiated methyl iodide used for one pot alkylation”
- 9:00 – 9:20 a.m. **Ross Jansen-van Vuuren** (University of Ljubljana, SVN)
“The sustainable synthesis of deuterium-labelled organic compounds”
- 9:20 – 9:40 a.m. **Ulrich Pleiss** (Radioprotect2012, GER)
“History of tritium”
- 9:40 – 10:10 a.m. **Coffee Break**

Session IV

- Chairman:** **Grégory Pieters** (CEA Saclay, FRA)
- 10:10 – 11:00 a.m. **Plenary Lecture**
Siegfried Waldvogel (University of Mainz, GER)
“Electrosynthesis - from versatility to complex structures”
- 11:00 – 12:00 a.m. **International Isotope Society –European Division**
Business Meeting



Lunch

12:00 – 01:00 p.m. **Lunch, Hotel Restaurant**

Session V

Chairman: **Albert Zeller** (RC Tritec, CH)

1:00 – 1:30 p.m. **Joseph Clark** (Marquette University, USA)

“Precision labeling of small molecules”

1:30 – 1:45 p.m. **Luka Jedlovčnik** (University of Ljubljana, SVN)

“Towards immobilized and recyclable catalysts for H/D exchange”

1:45 – 2:00 p.m. **Viktor Pfeifer** (RC Tritec, CH)

“Method evaluation for the synthesis of catalogue products at RC-Tritec”

2:00 – 2:15 p.m. **Kevin Tatoueix** (CEA Saclay, FRA)

“Flow-enabled quantitative and selective deuteration of amines, formamides and purines”

2:15 – 2:30 p.m. **Jakob Höfferle** (University of Ljubljana, SVN)

“Toward recyclable iridium-based catalysts for H/D exchange”

2:30 – 2:45 p.m. **Maxime Jay** (CEA Saclay, FRA)

“Tritiated spies for fragment-based drug design”

Closing Remarks

2:45 p.m. **Ralf Kiesling, Dieter Muri, Thorsten Poethko, Dietrich Seidel**
(Organising Committee)