

Training Course Information

(Version 05/07/10)

23.-26. January 2011

The PRELIMINARY Program

Sunday, 23 Jan, 2011

From 15:00: Arrival and check-in at hotel "Austrotel"

[Austrotel Innsbruck](#), Bernhard-Höfel-Straße 16, 6020 Innsbruck, Austria ([directions](#))

Monday, 24 Jan, 2011

6:30-9:30: breakfast

09:30-13:00 (incl. coffee break at 11:00):

[Armin Wisthaler](#), Institute for Ion Physics and Applied Physics, University of Innsbruck, Austria

- 1. Introduction**
 - basics of vacuum technology
 - basics of quadrupole mass spectrometry
 - basics of time-of-flight mass spectrometry
- 2. Tutorial in ion chemistry**
 - electron ionization vs. chemical ionization
 - kinetics of ion-molecule reactions
 - ion chemistry of H_3O^+ , NO^+ and O_2^+
- 3. Analytical characterization of PTR-QMS and PTR-TOFMS**
 - qualitative analysis (detectability, selectivity)
 - quantitative analysis (calibration, accuracy, precision, detection limit, linearity)
 - application examples

13:00-14:30: lunch break (lunch included)

14:30: Your personal choice of workshops start:

“hands-on” training in small groups with an experienced IONICON PTR-MS expert (approximately 1.5 hours per group, per workshop).

14:30-16:00: Workshop

16:00: coffee break

16:30 -18:00: Workshop

Tuesday, 25 Jan, 2011

6:30 - 9:30: breakfast

9:30-11:00: Workshop

11:00: coffee break

11:30-13:00: Workshop

13:00 - 14:30: lunch break (lunch included)

14:30-16:00: Workshop

16:00: coffee break

16:30-18:00: Workshop

18:00-18:30: after all groups have finished: get together and feedback

Wednesday, 26 Jan, 2011

6:30 - 10:30: breakfast

10:30-11:30 Optional activity: Visit of the [IONICON headquarter](#) offices & labs (5 minutes walk from the hotel)

→ Check out until 12:00

IONICON will provide a courtesy shuttle to the [5th International PTR-MS Conference](#) (University Center Obergurgl, approximately 1.5 hours from Innsbruck).

Shuttle departs at 12:15 in front of the hotel lobby.

Featured workshops:

According to your picks of recommended and optional workshops, you will be assigned to groups taking into account the PTR-MS instrument you are interested in and the skill level you assess yourself. You will be able to attend a maximum of 6 workshops and your personal workshop schedule will be prepared for "hands-on" PTR-MS.

Our aim is to provide as much flexibility and individual training as possible but a final program and workshop assignment can only be made when the major part of participants will have registered and we know your interests. **Please note that although we will do our best to build homogenous groups for each session, we cannot guarantee that all optional workshops will take place/can be combined with each other** and that other participants in your group, are interested in the same type of instrument, having the same skill level as you have. Thank you for your understanding!

Workshops (please opt for 6; recommended sessions highlighted in grey, optional in white):

<p>WS1a: Introduction to PTR-QMS operation & software usage (recommended for novice PTR-QMS users)</p> <ul style="list-style-type: none"> • Introduction to hardware • Start-up of measurements • Usage of PTR-MS and software 	<p>WS1b: Introduction to PTR-TOFMS operation & software usage (recommended for novice PTR-TOFMS users)</p> <ul style="list-style-type: none"> • Introduction to hardware • Start-up of measurements • Usage of PTR-MS and software
<p>WS2: Inlet, ion source and reaction chamber (recommended for all users)</p> <ul style="list-style-type: none"> • Discussion of the inlet system • Inlet system layout • Ion Source • Reaction chamber • Troubleshooting 	
<p>WS3: Professional maintenance workshop (recommended for all users)</p> <ul style="list-style-type: none"> • Maintenance of the turbomolecular pumps (oil reservoir exchange) • Maintenance of membrane pumps • Cleaning and maintenance of the PKR pressure gauge • Exchange of the detector • Cleaning and exchange of the Ion Source • Troubleshooting 	

<p>WS4a: Advanced topics workshop for PTR-QMS (recommended for all PTR-QMS users)</p> <ul style="list-style-type: none"> • Detector check and tuning • Instrument optimization • Calibration of the mass scale • Troubleshooting 	<p>WS4b: Advanced topics workshop for PTR-TOFMS (recommended for all PTR-TOFMS users)</p> <ul style="list-style-type: none"> • Detector check and tuning • Instrument optimization • Calibration of the mass scale • Troubleshooting
<p>WS5: PTR-QMS software interfaces and sequencing</p> <ul style="list-style-type: none"> • API functionality • PTR-MS automation with PTR-MS Control and Quadstar sequencer 	<p>WS6: PTR-TOFMS data handling & advanced operation</p> <ul style="list-style-type: none"> • TOF Daq, TOF Viewer, PTR Manager, Sampler, Automation Center, MID Calculator
<p>WS7: Advanced calibration</p> <ul style="list-style-type: none"> • Theory • Calibration tips & tricks • k-rate and sensitivity • Determination of limit-of-detection (LOD) and limit-of-quantification (LOQ) • Use of a calibration system 	
<p>WS8: SRI - Switchable Reagent Ions</p> <ul style="list-style-type: none"> • Ion molecule reactions • H_3O^+, NO^+ and O_2^+ reactions with aldehydes & ketones, alcohols, carboxylic acids & esters, aromatic compounds, halogenated compounds, organosulphur compounds, amines & nitriles 	

If you have any questions or need more information do not hesitate to contact the IONICON team.

[Sign-up for “hands-on PTR-MS” 2011!](#)