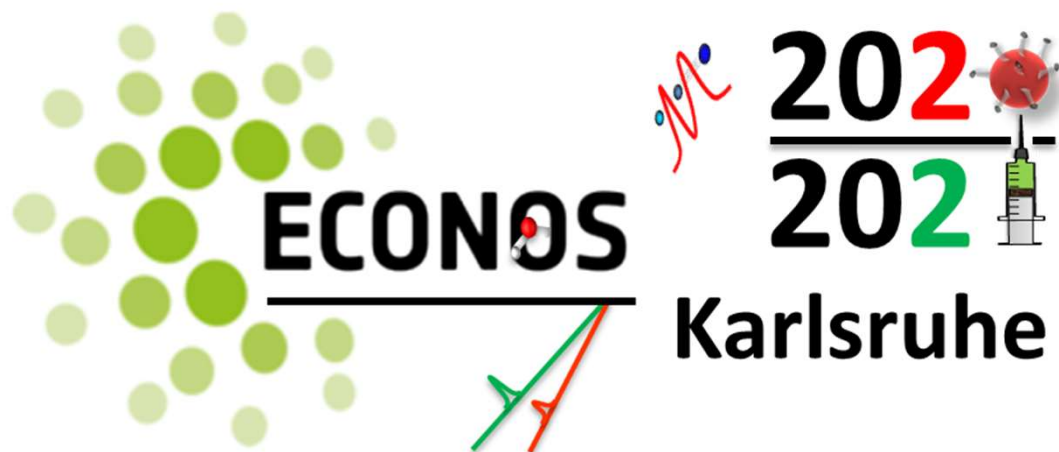


# 19<sup>th</sup> European Conference On Non-Linear Optical Spectroscopy (ECONOS 2020/2021)

26<sup>th</sup> to 29<sup>th</sup> September 2021, Karlsruhe, Germany



## OPENING SESSION

## INDUSTRIAL PARTNERS





ECONOS 2020/2021 is hosted by:

Atmospheric Surface Science  
(A.S.S.)

@ Atmospheric Aerosol Research  
(AAF) department

@ Institute of Meteorology and  
Climate Research (IMK)

@ Karlsruhe Institute of Technology  
(KIT)

@ Karlsruhe



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(KIT)

@ Karlsruhe

**Karlsruhe** is the second-largest city in the state of Baden-Württemberg in southwest Germany near the French-German border.

Historically, Karlsruhe owns the Karlsruhe palace which was erected in 1715 by Margrave Charles III William of Baden-Durlach.

The two highest courts in Germany (the Federal Constitutional Court and Federal Court of Justice) are located in Karlsruhe, which is therefore also called the city of law.

Scientifically, Karlsruhe is characterized by research and education institutions of international reputation (e.g. Karlsruhe Institute of Technology (KIT), Fraunhofer Institute, and in particular also the Karlsruhe School for Optics and Photonics (KASOP) at KIT).



ECONOS 2020  
PhotoGrid





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(KIT)

@ Karlsruhe

**Karlsruhe Institute of Technology (KIT)** was established by the merger of the Karlsruhe Research Center (FZK) GmbH and the University of Karlsruhe (TH) on October 01, 2009.



KIT combines the tasks of a university of the state of Baden-Württemberg with those of a research center of the Helmholtz Association in the areas of research, teaching, and innovation.

The University of Karlsruhe was founded in 1825 as a Poly technical School and has developed into a modern location of research and education in natural sciences, engineering, economics, social sciences, and the humanities. The Karlsruhe Research Center was founded in 1956 as the Nuclear Reactor Construction and Operation Company and later turned into a multidisciplinary large-scale research center of the Helmholtz Association.



**Campus Nord**



**Campus Süd**



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(KIT)

@ Karlsruhe

The Institute of Meteorology and Climate Research (IMK) consists of four divisions, two of which are jointly operated by the KIT-Campus South (former University of Karlsruhe) and the KIT-Campus North (former Karlsruhe Research Centre).

**IMK-TRO** works on atmospheric processes of the troposphere

**IMK-ASF** works on atmospheric trace gases and remote sensing.

**IMK-AAF** works on Atmospheric Aerosol Research and is jointly operated with the environmental physics of the University of Heidelberg.

**IMK-IFU** works on Atmospheric Environment Research at KIT-Campus Alpin in Garmisch-Partenkirchen.





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(AAF) department

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@ Karlsruhe Institute of Technology  
(KIT)

@ Karlsruhe

The department **Atmospheric Aerosol Research (AAF)** focuses on the role of aerosols in the climate system, the hydrological cycle, and the environment.



The AAF..

- operates the internationally renowned AIDA aerosol and cloud simulation chamber
- runs laboratories for aerosol and cloud research
- participates in ground-based and aircraft field campaigns around the world

The head of AAF division, ***Thomas Leisner***, is professor at the Institute of Environmental Physics, University of Heidelberg





ECONOS 2020/2021 is hosted by:

Atmospheric Surface Science  
(A.S.S.)

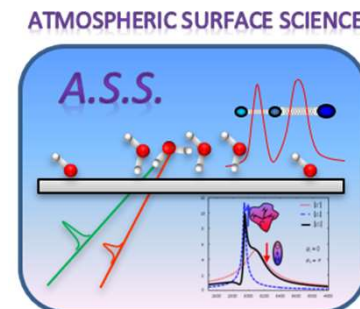
@ Atmospheric Aerosol Research  
(AAF) department

@ Institute of Meteorology and  
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@ Karlsruhe Institute of Technology  
(KIT)

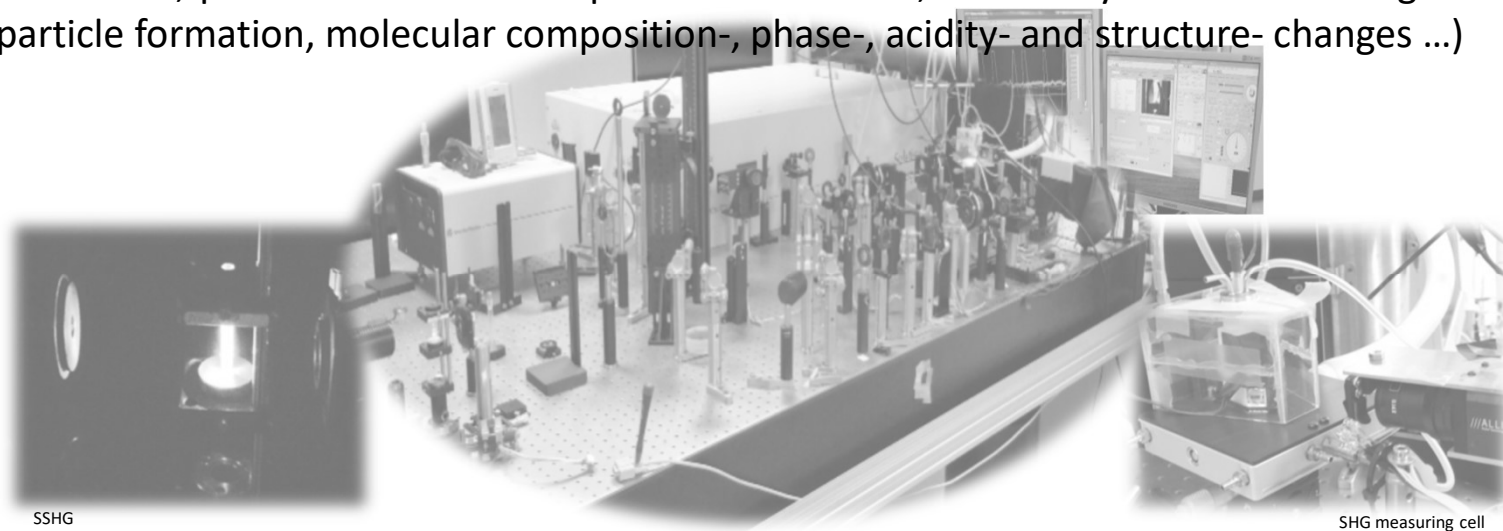
@ Karlsruhe Institute of Technology  
(KIT)

**Atmospheric Surface Science (A.S.S.)** is a new research line set out in the Institute of Meteorology and Climate Research – Atmospheric Aerosol Research (IMK-AAF) at KIT after three successful grants from Helmholtz association and the German Research Foundation (DFG).



The aim of this research is to investigate atmospheric aerosol-cloud-climate interactions on the molecular level using ***NLO spectroscopy***.

Atmospheric interactions of interest include, but are not limited to heterogeneous ice nucleation, particle oxidation and photo-sensitization, secondary aerosol and biogenic particle formation, molecular composition-, phase-, acidity- and structure- changes ...)



SSHG

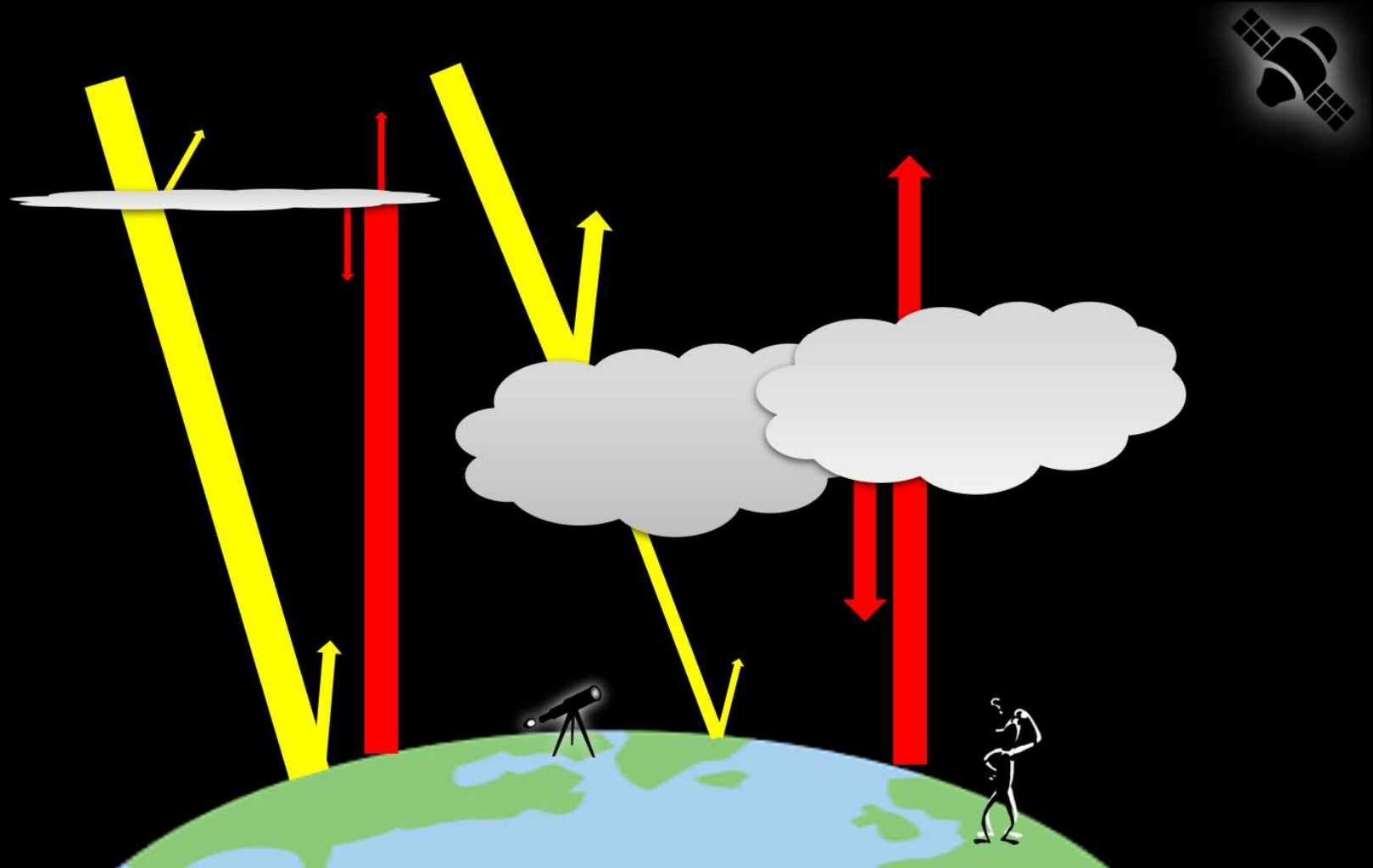
SHG measuring cell

Abdelmonem et al. (2015), Abdelmonem et al. (2017), Abdelmonem et al. (2018a), Abdelmonem et al. (2018b), Lützenkirchen et al. (2018), Abdelmonem et al. (2019), Abdelmonem et al. (2021)



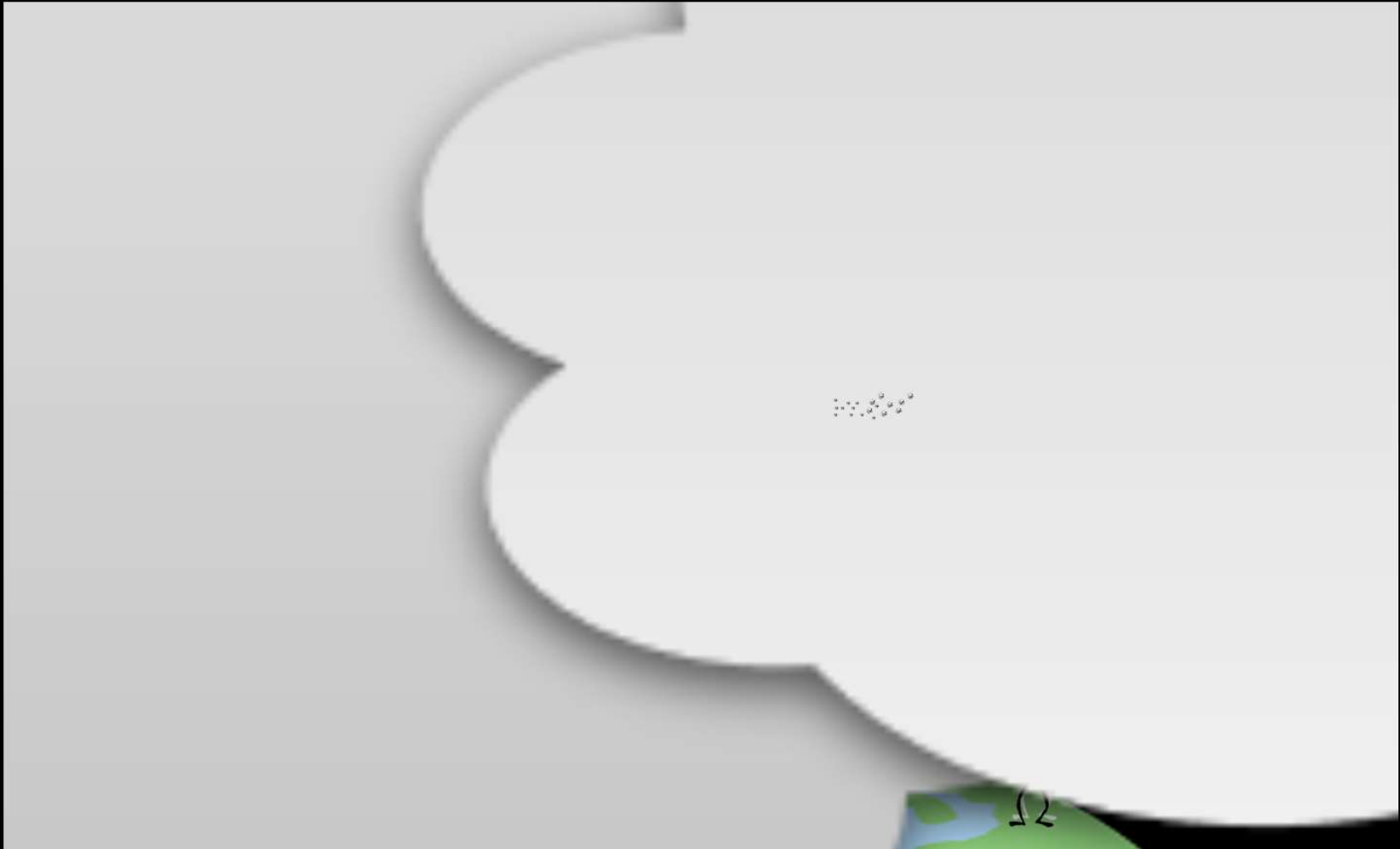
Historical background

# Macro- level atmospheric science



Historical background

# Macro- level atmospheric science



# Micro-level atmospheric science

Recommendation: "Performing experiments with pure and homogeneous materials to improve the understanding of the basic physical principles of heterogeneous ice nucleation".  
→ "Explain the wide scatter of onset conditions for heterogeneous ice nucleation".

*C. Hoose and O. Möhler (2012)*

Which physical, Structural and Chemical characteristics of the INPs account for their IN ability.



Lab. and field measurements



Cloud microphysics  
Cloud aerosol content  
Particle size distribution  
Particle - light interaction ....etc.



## Historical background

# Micro-level atmospheric science

Recommendation: "Performing experiments with pure and homogeneous materials to improve the understanding of the basic physical principles of heterogeneous ice nucleation".  
→ "Explain the wide scatter of onset conditions for heterogeneous ice nucleation".

*C. Hoose and*

Which physical, Structural and Chemical characteristics of the ... count for their IN ability.



Lab. and field measurements



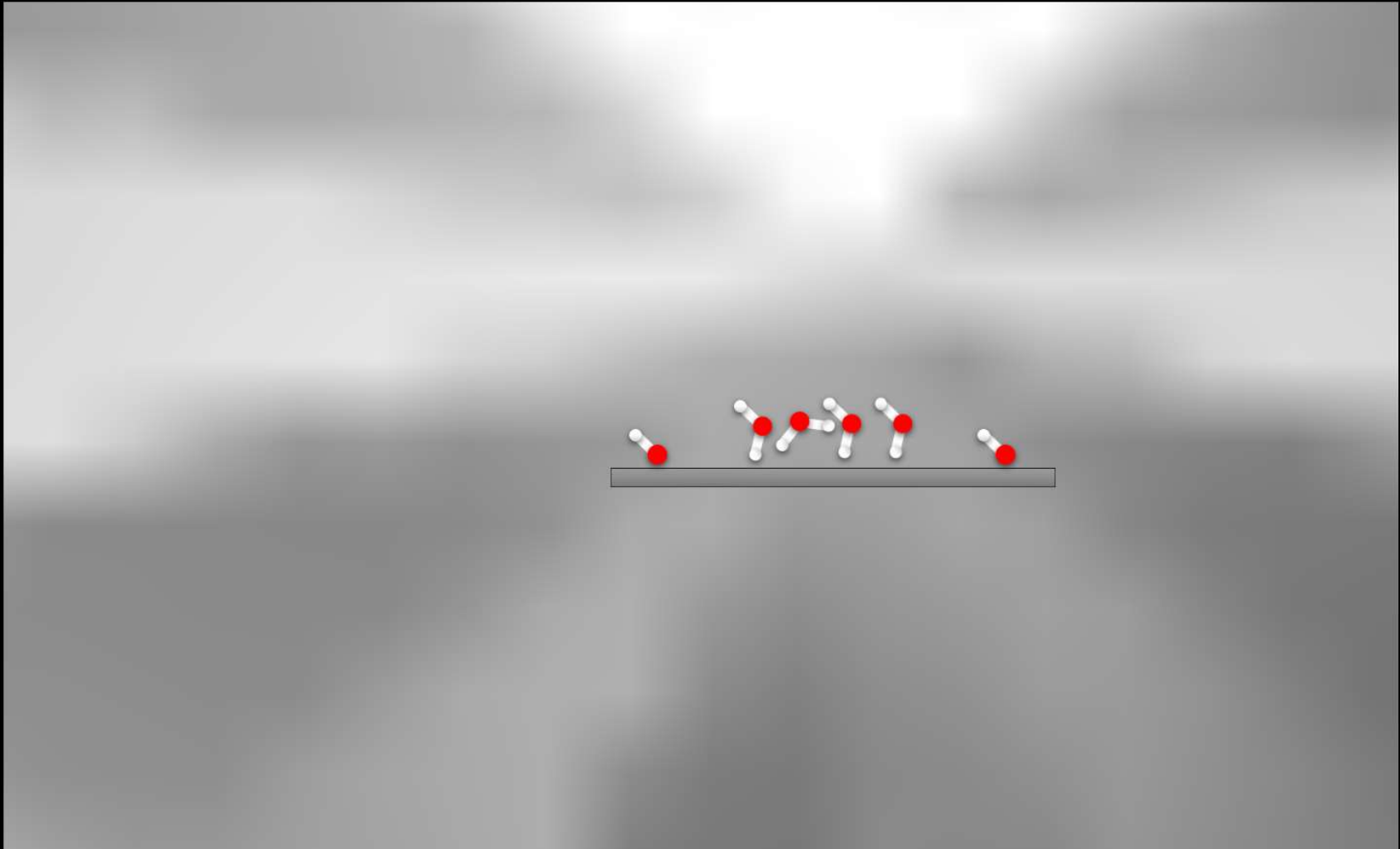
ICS  
Content  
Distribution  
Particle ... interaction ....etc.





Historical background

# Molecular- level atmospheric science



# Molecular- level atmospheric science @ IMKAAF

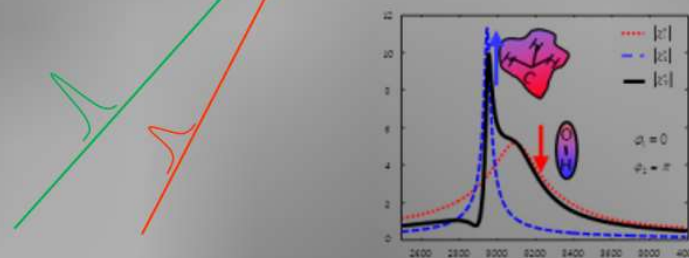
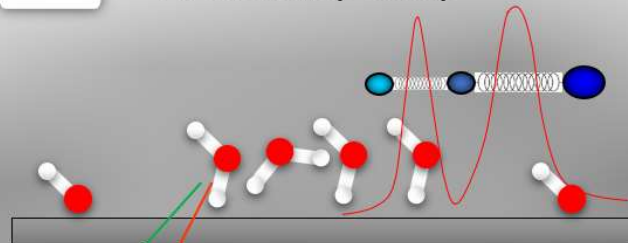


1

**STUB-2012** (C.F. "Earth and Environment" @ KIT)

→ Build Setup

→ Feasibility study



# Historical background

## Molecular-level atmospheric science @ IMKAAF

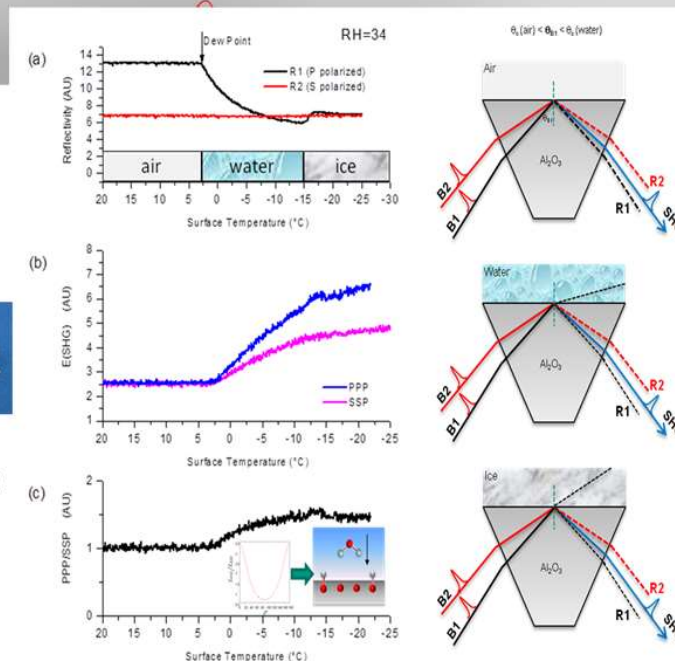
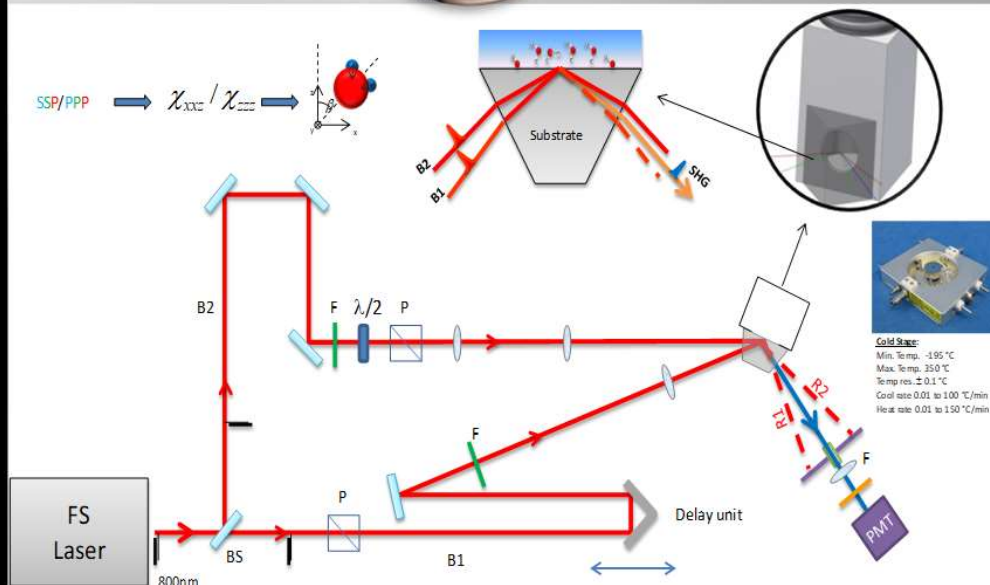


1

STUB-2012 (C.F. "Earth and Environment" @ KIT)

→ Build Setup

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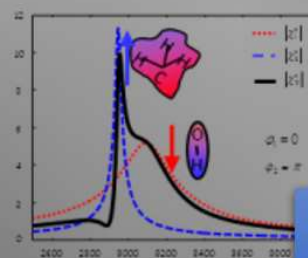
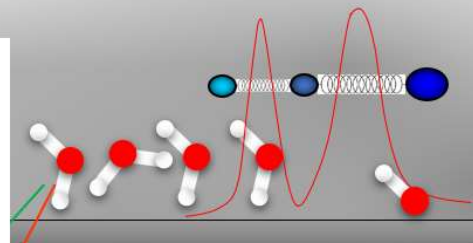
# Molecular- level atmospheric science @ IMKAAF



## 2

### DFG Proposal

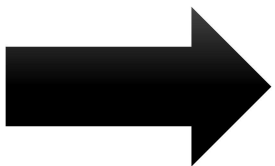
“Elementary processes of heterogeneous ice nucleation observed by NLO”



DFG Proposal 2014

**DFG Project**  
ab Jan 2015





See the presentation...

**Atmospheric Surface Science research project (Story and Goals)**

SCIENTIFIC PROGRAM

	Sun 26-Sep	Mon 27-Sep	Tue 28-Sep	Wed 29-Sep
08:00		Registration		
08:20				
08:40		MARCUS MOTZKUS*		
09:00		Arnulf Materny	Ali Dhinojwala	Rosa Santagata (Rep. Elodie Lin)
09:20		Michele Marrocco	Daria Maltseva	Francesco Mazza
09:40		Francesco Tani	Malik Nafa	Roland Ackermann
10:00			Imran Aslam	Xiaodong Zhao
10:20		Coffee Break @ Exhibition Room	Coffee Break @ Exhibition Room	Coffee Break @ Exhibition Room
10:40				
11:00		Ellen Backus	Majed Chergui	Björn Braunschweig
11:20		Julien Rehault	Jan-Christoph Deinert	Ahmed M. El-Zohry
11:40		Elisa Palacino-González	Hanieh Fattahi	Monika
12:00				Stijn Van Cleuvenbergen
12:20		LUNCH	LUNCH	LUNCH
12:40				
13:00				
13:20				
13:40				
14:00		AMPLITUDE (Gabriel Loata)	Anna-Lena Sahlberg	Webinar Presentations
14:20		ZURICH INST. (C.Riek)	Mikhail Shevchenko "	<small>Originally poster presenters, are not able to come due to COVID-19 travel restrictions</small>
14:40		TELEDYNE (Norbert Gulde)	Aleksei Smirnov "	Closing Session
15:00		EKSPLA (R.Januskevicius)		Acknowledgments
15:20	Registration		Poster Session	Honouring the Invited Speakers
15:40		Poster Session	Exhibition	Student Poster Awards
16:00		Exhibition	Coffee	Conference End
16:20		Coffee		
16:40				
17:00	Opening	DUAL-COMB	Conference Photo	
17:20		Nathalie Picqué	Social Event	
17:40	Mischa Bonn Keynote	Oliver Heckl	Discovering Karlsruhe in a double-decker bus **	
18:00		Day End	Conference dinner	
18:20		Steering Committee Meeting		
18:40				
19:00	Welcome			
19:20				
19:40				
21:00	Day End		Day End	

Registration

Invited Talk

Ordinary Talk

Coffee Poster Exhib.

Lunch

Social/Intertainment

Day End

Changes?

	Sun 26-Sep	Mon 27-Sep	Tue 28-Sep	Wed 29-Sep
08:00		Registration		
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08:40		MARCUS MOTZKUS*		
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11:40		Elisa Palacino-González	Hanieh Fattahi	Monika
12:00				Stijn Van Cleuvenbergen
12:20				
12:40		LUNCH	LUNCH	LUNCH
13:00				
13:20				
13:40				
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15:00		EKSPLA (R.Januskevicius)		Closing Session
15:20	Registration		Poster Session	Acknowledgments
15:40		Poster Session	Exhibition	Honouring the Invited Speakers
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17:40	Mischa Bonn Keynote		Discovering Karlsruhe in a double-decker bus **	
18:00		Day End	Conference dinner	
18:20		Steering Committee Meeting		
18:40	Welcome			
19:00				
19:20				
19:40				
21:00	Day End		Day End	

Sunday 26-Sep	
15:00	Registration
17:00	Opening (Conference Chair: Ahmed Abdelmonem, KIT)
17:40	Mischa Bonn Keynote Novel Molecular Terahertz Spectroscopies
18:20	Welcome
20:00	Day End

### At the registration desk:

1. Mark on the participants list in front of your name
2. Pick up your Name Tag
3. Pick up your Conference bag (includes Book of Abstracts, program booklet and conference pen)

Note: The registration desk is open again from Monday to Wednesday from **8:00 am to 8:40 am**

### Welcome reception:

- In the restaurant of Achat – Hotel (6:20 pm)
- Food and Soft drinks are covered by ECONOS



	Sun 26-Sep	Mon 27-Sep	Tue 28-Sep	Wed 29-Sep
08:00		Registration		
08:20		Registration		
08:40		High-order responses in t & f domain	MARCUS MOTZKUS*	
09:00		Arnulf Materny	Chi2 NLO Spec. 2	Ali Dhinojwala
09:20		Michele Marrocco		Daria Maltseva
09:40		Francesco Tani		Malik Nafa
10:00				Imran Aslam
10:20		Coffee Break @ Exhibition Room	Coffee Break @ Exhibition Room	Coffee Break @ Exhibition Room
10:40		Chi2 NLO Spec. 1	Ellen Backus	Chi2 NLO Spec. 3
11:00		Julien Rehaut	CARS+Other Ram	Majed Chergui
11:20		Elisa Palacino-González		Jan-Christoph Deinert
11:40				Hanieh Fattahi
12:00				Stijn Van Cleuvenbergen
12:20		LUNCH	LUNCH	LUNCH
12:40				
13:00				
13:20				
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14:00		INDUSTRIAL	AMPLITUDE (Gabriel Loata)	Anna-Lena Sahlberg
14:20			ZURICH INST. (C.Riek)	Mikhail Shevchenko "
14:40			TELEDYNE (Norbert Gulde)	Aleksei Smirnov "
15:00			EKSPLA (R.Januskevicius)	
15:20	Registration		NL Spectroscopy	Webinar Presentations
15:40				Originally poster presenters, are not able to come due to COVID-19 travel restrictions
16:00		Poster Session Exhibition Coffee	Poster Session Exhibition Coffee	Closing Session
16:20				Acknowledgments
16:40				Honouring the Invited Speakers
17:00	Opening			Student Poster Awards
17:20		DUAL-COMB		Conference End
17:40	Mischa Bonn Keynote	Nathalie Picqué		
18:00		Oliver Heckl		
18:20		Day End		
18:40	Welcome	Steering Committee Meeting		
19:00				
19:20				
19:40				
21:00	Day End			

Registration
Invited Talk
Ordinary Talk
Coffee Poster Exhib.
Lunch
Social/Entertainment
Day End

## Monday 27-Sep

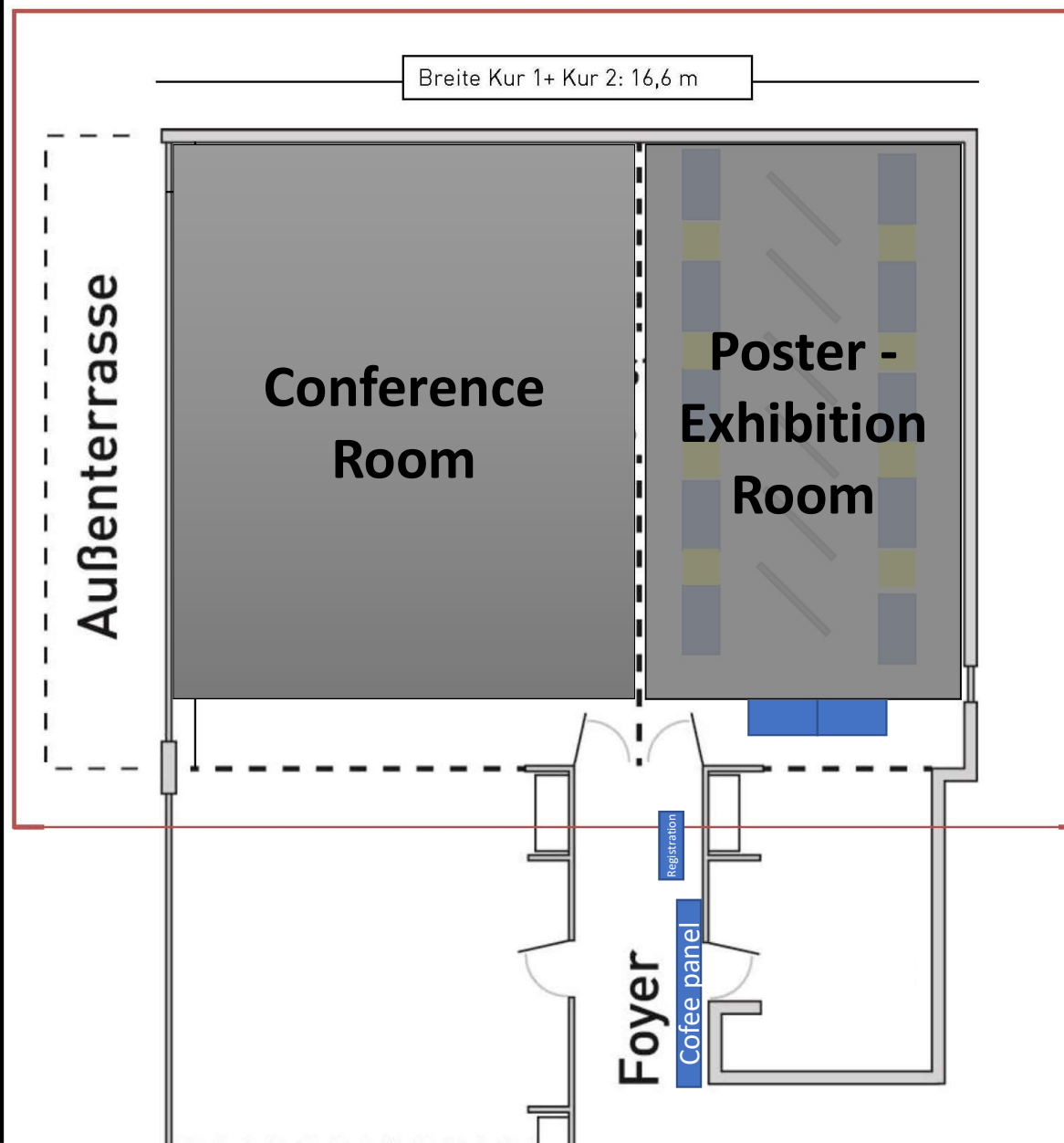
08:00	Registration	
08:40	High-order responses in t & f domain	MARCUS MOTZKUS*
08:50		An obituary of MARCUS MOTZKUS
09:25		Arnulf Materny
10:00		Michele Marrocco
10:20	Coffee Break @ Exhibition Room	
11:00	Chi2 NLO Spec. 1	Ellen Backus
11:40		Julien Rehaut
12:00		Elisa Palacino-González
12:20		LUNCH

- Please **copy, paste and test your presentation** on the Conference Laptop (during registration, coffee break or launch times)
- As ECONONS is multidisciplinary conference, we encourage all participants to join all presentations.
- @ Speakers: Please hold on the oral slot time (40 min for invited talk and 20 min for standard talk). Please leave few minuets for questions (5 min for invited talk and 3 min for standard talk).



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08:20				
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12:00				Stijn Van Cleuvenbergen
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12:40		LUNCH	LUNCH	LUNCH
13:00				
13:20				
13:40				
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14:20		ZURICH INST. (C.Riek)	Mikhail Shevchenko "	<small>Originally poster presenters, are not able to come due to COVID-19 travel restrictions</small>
14:40		TELEDYNE (Norbert Gulde)	Mikhail Smirnov "	
15:00		EKSPLA (R.Januskevicius)		Closing Session
15:20	Registration		Poster Session Exhibition Coffee	Acknowledgments
15:40		Poster Session Exhibition Coffee		Honouring the Invited Speakers
16:00				Student Poster Awards
16:20				Conference End
16:40				
17:00	Opening	Nathalie Picqué	Conference Photo	
17:20				
17:40	Mischa Bonn Keynote	Oliver Heckl	Social Event	
18:00		Day End	Discovering Karlsruhe in a double-decker bus **	
18:20		Steering Committee Meeting		
18:40				
19:00	Welcome		Conference dinner	
19:20				
19:40				
21:00	Day End		Day End	

Registration
Invited Talk
Ordinary Talk
Coffee Poster Exhib.
Lunch
Social/Entertainment
Day End



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13:00				
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15:40				Honouring the Invited Speakers
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18:20		Steering Committee Meeting		
18:40	Welcome			
19:00				
19:20				
19:40				
21:00	Day End		Day End	

Registration
Invited Talk
Ordinary Talk
Coffee Poster Exhib.
Lunch
Social/Entertainment
Day End

## Monday 27-Sep (Afternoon sessions)

14:00	INDUSTRIAL	AMPLITUDE Gabriel Loata	High Energy & High Repetition Rate Femtosecond Laser Systems for Nonlinear Spectroscopic Applications
14:20		ZURICH INSTRUMENTS Claudius Riek	Maximize measurement performance for periodic signals by optimized use of lock-in amplifiers and boxcar averagers
14:40		TELEDYNE Norbert Gulde	Advances in camera and spectrograph technologies for low light detection
15:00		EKSPLA R.Januskevicius	High spectral resolution picosecond and femtosecond SFG spectrometers
15:20			
15:40	Poster Session, Exhibition, Coffee		
16:00			
17:00	DUAL-COMB	Nathalie Picqué	Laser frequency combs for nonlinear spectroscopy of molecules
17:40		Oliver Heckl	Robust and Flexible Yb: fiber Laser Source for Single- and Dual-Comb Spectroscopy Applications
18:00	Day End		
18:20	Steering Committee Meeting		

- We encourage all participants to join the poster sessions.
- Exhibition and Posters are in the same area.
- Exhibitors expect you visiting their booth during the poster/exhibition sessions and also the coffee breaks.
- Students can apply in the Student Poster Award (SPA), please hang the label "SPAC" at your poster.

	Sun 26-Sep	Mon 27-Sep	Tue 28-Sep	Wed 29-Sep	
08:00	Registration				
08:20					
08:40	High-order responses in t & f domain	MARCUS MOTZKUS <sup>+</sup>	Chi2 NLO Spec. 2	CARS	
09:00		Arnulf Materny			Ali Dhinojwala
09:20		Michele Marrocco			Daria Maltseva
09:40		Francesco Tani			Malik Nafa
10:00			Imran Aslam	Xiaodong Zhao	
10:20	Coffee Break @ Exhibition Room		Coffee Break @ Exhibition Room	Coffee Break @ Exhibition Room	
10:40					
11:00	Chi2 NLO Spec. 1	Ellen Backus	CARS-Other Ram	Chi2 NLO Spec. 3	
11:20		Julien Rehault			Majed Chergui
11:40		Elisa Palacino-González			Jan-Christoph Deinert
12:00			Hanieh Fattahi	Ahmed M. El-Zohry	
12:20				Monika	
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13:00	LUNCH		LUNCH	LUNCH	
13:20					
13:40					
14:00	INDUSTRIAL	AMPLITUDE (Gabriel Loata)	NL Spectroscopy	Webinar Presentations <small>Originally poster presenters, are not able to come due to COVID-19 travel restrictions</small>	
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14:40		TELEDYNE (Norbert Gulde)			Mikhail Shevchenko "
15:00		EKSPLA (R.Januskevicius)	Aleksei Smirnov "	Closing Session	
15:20	Registration	Poster Session Exhibition Coffee		Acknowledgments	
15:40				Honouring the Invited Speakers	
16:00				Student Poster Awards	
16:20				Conference End	
16:40					
17:00	Opening	DUAL-COMB	Conference Photo  Social Event <i>Discovering Karlsruhe in a double-decker bus **</i>  Conference dinner	Registration	
17:20				Nathalie Picqué	Invited Talk
17:40	Mischa Bonn Keynote	Oliver Heckl		Ordinary Talk	
18:00	Day End			Coffee Poster Exhib.	
18:20	Welcome	Steering Committee Meeting		Lunch	
18:40				Social/Intertainment	
19:00				Day End	
19:20					
19:40					
21:00	Day End			Day End	

Registration
Invited Talk
Ordinary Talk
Coffee Poster Exhib.
Lunch
Social/Entertainment
Day End

## Tuesday 28-Sep

08:00	Registration		
08:40	Chi2 NLO Spec. 2	Ali Dhinojwala	Understanding Acid-Base Interactions at Solid-Liquid Interfaces
09:20		Daria Maltseva	Interaction of the TRPML1 Ion Channel's N-terminus with Biomembranes
09:40		Malik Nafa	Optically rectified comb for THz-QCL precision spectroscopy
10:00		Imran Aslam	Unique Non-Linear White Light Emission from Combustion-Derived Particles to Develop Diagnostic Biomedical Assays
10:20	Coffee Break @ Exhibition Room		
11:00	CARS+Other Raman	Majed Chergui	Non-linear effects with ultrashort X-ray and optical pulses
11:40		Jan-Christoph Deinert	Exploring nonlinear THz-driven dynamics on sub-cycle timescales at the TELBE facility: From Dirac materials to Higgs spectroscopy
12:00		Hanieh Fattahi	Near-Infrared Molecular Fieldoscopy
12:20	LUNCH		
14:00	NL Spectroscopy	Anna-Lena Sahlberg	Non-linear mid-infrared laser techniques for combustion diagnostics
14:40		Mikhail Shevchenko "	Effective Anti-Stokes Component of Low-Frequency Raman Scattering Generation under Biharmonic Excitation
15:00		Aleksei Smirnov "	Anisotropic gold nanoparticles conjugates as a prospective tool of tumor cells imaging: study by stimulated surface-enhanced Raman microscopy
15:20	Poster Session, Exhibition, Coffee		
16:20	Social Events and Conference dinner**		
22:00	Day End		

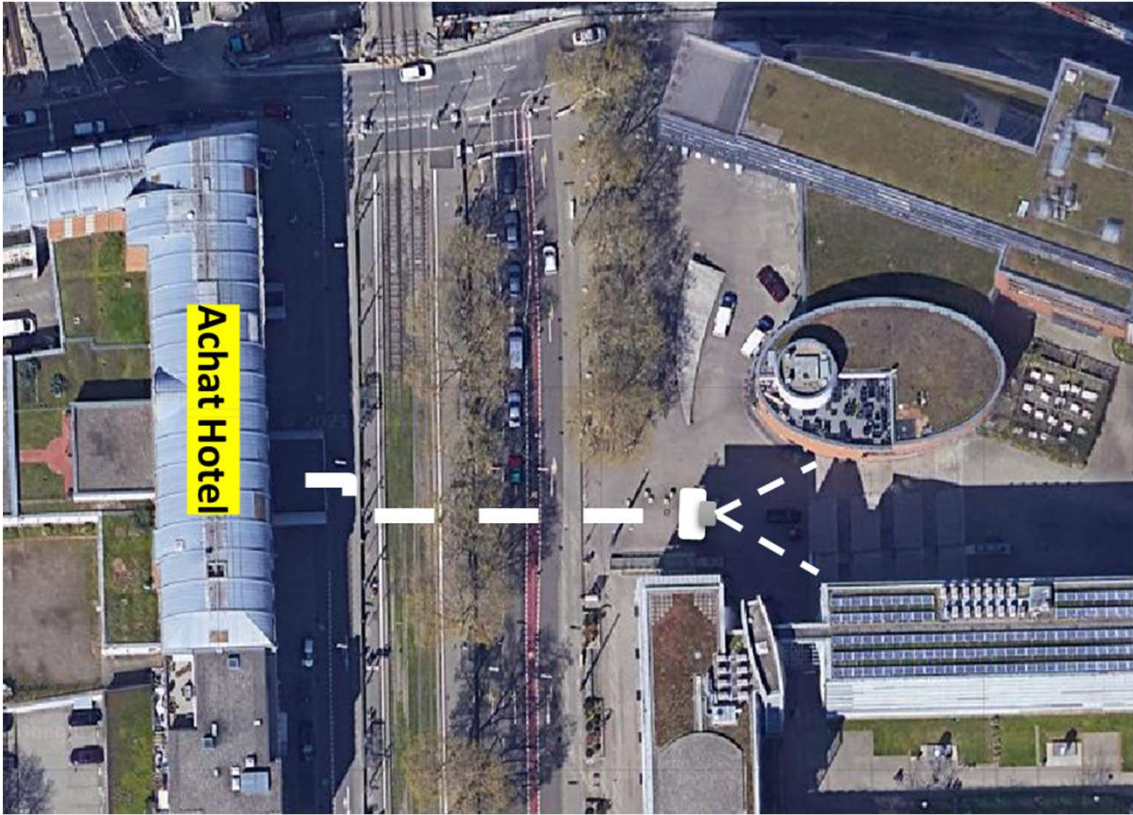


	Sun 26-Sep	Mon 27-Sep	Tue 28-Sep	Wed 29-Sep
08:00		Registration		
08:20				
08:40		MARCUS MOTZKUS*		
09:00		Arnulf Materny	Ali Dhinojwala	Rosa Santagata (Rep. Elodie Lin)
09:20		Michele Marrocco	Daria Maltseva	Francesco Mazza
09:40		Francesco Tani	Malik Nafa	Roland Ackermann
10:00			Imran Aslam	Xiaodong Zhao
10:20		Coffee Break @ Exhibition Room	Coffee Break @ Exhibition Room	Coffee Break @ Exhibition Room
10:40				
11:00		Ellen Backus	Majed Chergui	Björn Braunschweig
11:20		Julien Rehault	Jan-Christoph Deinert	Ahmed M. El-Zohry
11:40		Elisa Palacino-González	Hanieh Fattahi	Monika
12:00				Stijn Van Cleuvenbergen
12:20				
12:40		LUNCH	LUNCH	LUNCH
13:00				
13:20				
13:40				
14:00		AMPLITUDE (Gabriel Loata)	Anna-Lena Sahlberg	Webinar Presentations
14:20		ZURICH INST. (C.Riek)	Mikhail Shevchenko "	<small>Originally poster presenters, are not able to come due to COVID-19 travel restrictions</small>
14:40		TELEDYNE (Norbert Gulde)	Aleksei Smirnov "	
15:00		EKSPLA (R.Januskevicius)		Closing Session
15:20			Poster Session	Acknowledgments
15:40		Poster Session	Exhibition	Honouring the Invited Speakers
16:00		Exhibition	Coffee	Student Poster Awards
16:20		Coffee		Conference End
16:40				
17:00	Registration			
17:20	Opening	Nathalie Picqué		
17:40	Mischa Bonn Keynote	Oliver Heckl		
18:00		Day End		
18:20		Steering Committee Meeting		
18:40				
19:00	Welcome			
19:20				
19:40				
21:00	Day End			

# Social events on Tuesday, September 28<sup>th</sup>

- Conference Photo (4:20 pm):

Please be at the photosite on time





	Sun 26-Sep	Mon 27-Sep	Tue 28-Sep	Wed 29-Sep
08:00		Registration		
08:20				
08:40		MARCUS MOTZKUS*		
09:00		Arnulf Materny	Ali Dhinojwala	Rosa Santagata (Rep. Elodie Lin)
09:20		Michele Marrocco	Daria Maltseva	Francesco Mazza
09:40		Francesco Tani	Malik Nafa	Roland Ackermann
10:00			Imran Aslam	Xiaodong Zhao
10:20		Coffee Break @ Exhibition Room	Coffee Break @ Exhibition Room	Coffee Break @ Exhibition Room
10:40				
11:00		Ellen Backus	Majed Chergui	Björn Braunschweig
11:20		Julien Rehault	Jan-Christoph Deinert	Ahmed M. El-Zohry
11:40		Elisa Palacino-González	Hanieh Fattahi	Monika
12:00				Stijn Van Cleuvenbergen
12:20				
12:40		LUNCH	LUNCH	LUNCH
13:00				
13:20				
13:40				
14:00		AMPLITUDE (Gabriel Loata)	Anna-Lena Sahlberg	Webinar Presentations
14:20		ZURICH INST. (C.Riek)	Mikhail Shevchenko "	<small>Originally poster presenters, are not able to come due to COVID-19 travel restrictions</small>
14:40		TELEDYNE (Norbert Gulde)	Aleksei Smirnov "	
15:00		EKSPLA (R.Januskevicius)		Closing Session
15:20			Poster Session	Acknowledgments
15:40		Poster Session	Exhibition	Honouring the Invited Speakers
16:00		Exhibition	Coffee	Student Poster Awards
16:20		Coffee		Conference End
16:40				
17:00	Opening	Nathalie Picqué	<div> <div>Conference Photo</div> <div>Social Event Discovering Karlsruhe in a double-decker bus **</div> <div>Conference dinner</div> </div>	
17:20	Mischa Bonn Keynote	Oliver Heckl		
17:40		Day End		
18:00		Steering Committee Meeting		
18:20				
18:40	Welcome			
19:00				
19:20				
19:40				
21:00	Day End		Day End	

Registration
Invited Talk
Ordinary Talk
Coffee Poster Exhib.
Lunch
Social/Entertainment
Day End

## Social events on Tuesday, September 28<sup>th</sup>

- *Conference Photo (4:20 pm):*

Please be at the photosite on time



- *Discovering Karlsruhe in a double-decker bus (5:00 – 7:00 pm):*

Please be in front of

Hotel main entrance on time (5:00 pm)

Don't forget your FFP2 or surgery mask



- *Conference Dinner (7:00 – 10:00 pm):*

*@ Aurum Eventlocation Karlsruhe  
Alter Schlachthof 45, 76131 Karlsruhe*

The Bus will drop us at the restaurant.  
You can come back by tram\* (2, 6 or S4)  
or 20 min walking.

\* Restaurant tram station: "Tullastraße /  
Verkehrsbetriebe". Hotel tram station: "Rüppurer  
Tor". Tram tickets will be handed over during the  
dinner.

Dinner and "Soft drinks" are covered by ECONOS



## Social events on Tuesday, September 28<sup>th</sup>

Your Ticket to all social events and session



	Sun 26-Sep	Mon 27-Sep	Tue 28-Sep	Wed 29-Sep
08:00		Registration		
08:20				
08:40		MARCUS MOTZKUS*		
09:00		Arnulf Materny	Ali Dhinojwala	Rosa Santagata (Rep. Elodie Lin)
09:20		Michele Marrocco	Daria Maltseva	Francesco Mazza
09:40		Francesco Tani	Malik Nafa	Roland Ackermann
10:00			Imran Aslam	Xiaodong Zhao
10:20		Coffee Break @ Exhibition Room	Coffee Break @ Exhibition Room	Coffee Break @ Exhibition Room
10:40				
11:00		Ellen Backus	Majed Chergui	Björn Braunschweig
11:20		Julien Rehault	Jan-Christoph Deinert	Ahmed M. El-Zohry
11:40		Elisa Palacino-González	Hanieh Fattahi	Monika
12:00				Stijn Van Cleuvenbergen
12:20				
12:40		LUNCH		
13:00		LUNCH		
13:20		LUNCH		
13:40				
14:00		AMPLITUDE (Gabriel Loata)	Anna-Lena Sahlberg	Webinar Presentations
14:20		ZURICH INST. (C.Riek)	Mikhail Shevchenko "	Originally poster presenters, are not able to come due to COVID-19 travel restrictions
14:40		TELEDYNE (Norbert Gulde)	Aleksei Smirnov "	
15:00		EKSPLA (R.Januskevicius)		Closing Session
15:20	Registration		Poster Session	Acknowledgments
15:40		Poster Session	Exhibition	Honouring the Invited Speakers
16:00		Exhibition	Coffee	Student Poster Awards
16:20		Coffee		Conference End
16:40				
17:00	Opening	Nathalie Picqué	<div>Conference Photo</div> <div>Social Event</div> <div>Discovering Karlsruhe in a double-decker bus **</div> <div>Conference dinner</div>	
17:20	Mischa Bonn Keynote	Oliver Heckl		
17:40	Day End			
18:00	Steering Committee Meeting			
18:20				
18:40				
19:00	Welcome			
19:20				
19:40				
21:00	Day End		Day End	

Registration
Invited Talk
Ordinary Talk
Coffee Poster Exhib.
Lunch
Social/Entertainment
Day End

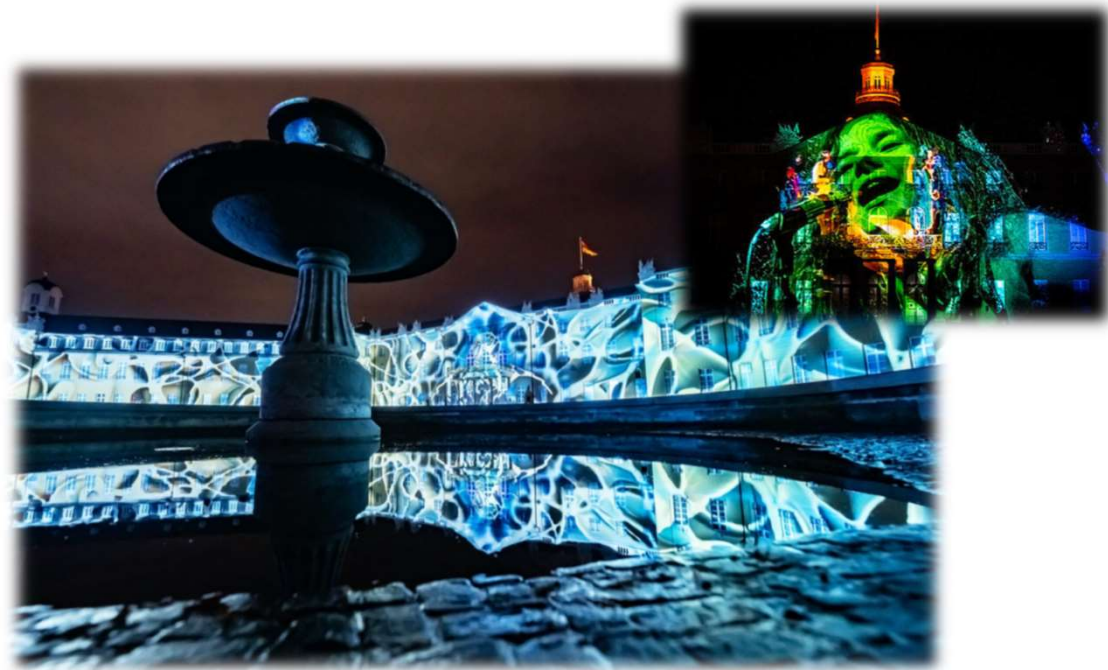
	Sun 26-Sep	Mon 27-Sep	Tue 28-Sep	Wed 29-Sep
08:00		Registration		
08:20				
08:40		MARCUS MOTZKUS*		
09:00		Arnulf Materny	Ali Dhinojwala	Rosa Santagata (Rep. Elodie Lin)
09:20		Michele Marrocco	Daria Maltseva	Francesco Mazza
09:40		Francesco Tani	Malik Nafa	Roland Ackermann
10:00			Imran Aslam	Xiaodong Zhao
10:20		Coffee Break @ Exhibition Room	Coffee Break @ Exhibition Room	Coffee Break @ Exhibition Room
10:40				
11:00		Ellen Backus	Majed Chergui	Björn Braunschweig
11:20		Julien Rehault	Jan-Christoph Deinert	Ahmed M. El-Zohry
11:40		Elisa Palacino-González	Hanieh Fattahi	Monika
12:00				Stijn Van Cleuvenbergen
12:20				
12:40		LUNCH	LUNCH	LUNCH
13:00				
13:20				
13:40				
14:00		AMPLITUDE (Gabriel Loata)	Anna-Lena Sahlberg	Webinar Presentations
14:20		ZURICH INST. (C.Riek)	Mikhail Shevchenko "	<small>Originally poster presenters, are not able to come due to COVID-19 travel restrictions</small>
14:40		TELEDYNE (Norbert Gulde)	Aleksei Smirnov "	
15:00		EKSPLA (R.Januskevicius)		Closing Session
15:20			Poster Session	Acknowledgments
15:40		Poster Session	Exhibition	Honouring the Invited Speakers
16:00		Exhibition	Coffee	Student Poster Awards
16:20		Coffee		Conference End
16:40				
17:00	Opening	Nathalie Picqué	<div> <div>Conference Photo</div> <div>Social Event Discovering Karlsruhe in a double-decker bus **</div> <div>Conference dinner</div> </div>	
17:20		Oliver Heckl		
17:40	Mischa Bonn Keynote	Day End		
18:00		Steering Committee Meeting		
18:20				
18:40	Welcome			
19:00				
19:20				
19:40				
21:00	Day End	22:00	Day End	

Registration
Invited Talk
Ordinary Talk
Coffee Poster Exhib.
Lunch
Social/Entertainment
Day End

## Tourist tip!

### SCHLOSSLICHTSPIELE

The SCHLOSSLICHTSPIELE Karlsruhe is a festival of wonder full light show projected 3D video mapping to be projected on to the façade of the Schloss Karlsruhe (Karlsruhe Palace) every evening in the period from 18th August to 3rd October. During the days of the ECONOS 2020/2021 all shows will start 7:30 pm. The event as a whole is one of the largest audiovisual digital artworks in Europe. No tickets are required.



How to reach?



	Sun 26-Sep	Mon 27-Sep	Tue 28-Sep	Wed 29-Sep
08:00	Registration			
08:20	High-order responses in t & f domain	MARCUS MOTZKUS*	Chi2 NLO Spec. 2	CARS
08:40		Arnulf Materny		
09:00		Michele Marrocco		
09:20		Francesco Tani		
09:40				
10:00			Imran Aslam	Xiaodong Zhao
10:20	Coffee Break @ Exhibition Room		Coffee Break @ Exhibition Room	Coffee Break @ Exhibition Room
10:40	Chi2 NLO Spec. 1	Ellen Backus	CARS+Other Ram	Chi2 NLO Spec. 3
11:00		Julien Rehault		
11:20		Elisa Palacino-González		
11:40			Majed Chergui	Björn Braunschweig
12:00			Jan-Christoph Deinert	Ahmed M. El-Zohry
12:20			Hanieh Fattahi	Monika
12:40				Stijn Van Cleuvenbergen
13:00	LUNCH		LUNCH	LUNCH
13:20				
13:40				
14:00	INDUSTRIAL	AMPLITUDE (Gabriel Loata)	NL Spectroscopy	Webinar Presentations
14:20		ZURICH INST. (C.Riek)		
14:40		TELEDYNE (Norbert Gulde)		
15:00	Registration	EKSPLA (R.Januskevicius)	Poster Session Exhibition Coffee	Closing Session Acknowledgments Honouring the Invited Speakers Student Poster Awards Conference End
15:20				
15:40				
16:00				
16:20				
16:40				
17:00	Opening	DUAL-COMB	Conference Photo Social Event Discovering Karlsruhe in a double-decker bus ** Conference dinner	
17:20				
17:40	Mischa Bonn Keynote			
18:00		Nathalie Picqué		
18:20		Oliver Heckl		
18:40	Day End			
19:00	Steering Committee Meeting			
19:20				
19:40				
21:00	Day End			

Registration
Invited Talk
Ordinary Talk
Coffee Poster Exhib.
Lunch
Social/Entertainment
Day End

## Wednesday 29-Sep

08:00	Registration	
08:40	CARS	Rosa Santagata (Rep. Elodie Lin)
09:20		fs/ps-CARS spectroscopy platform for combustion thermometry and hyperspectral microscopy
09:40		Francesco Mazza
10:00		Ultrabroadband fs/ps coherent Raman spectroscopy behind optical windows via in-situ fs laser-induced filamentation
10:20	Chi2 NLO Spec. 3	Roland Ackermann
11:00		A Study on Carbon Gasification Dynamics using Ultrabroadband Coherent Anti-Stokes Raman Scattering
11:20		Xiaodong Zhao
11:40		Picosecond Optical Parametric Amplifier Pumped by A Thin-disk Laser at 1 μm for Coherent Anti-Stokes Raman Scattering
12:00	Coffee Break @ Exhibition Room	
12:20	Chi2 NLO Spec. 3	Björn Braunschweig
12:40		Remote Control of Photoswitchable Amphiphiles at Aqueous Interfaces
13:00		Ahmed M. El-Zohry
13:20		Revisiting the Redox Behavior of Gold Surfaces via Sum Frequency Generation
13:40	Chi2 NLO Spec. 3	Monika
14:00		Amino Acid Based Carbon Quantum Dots for Heavy Metal Ions Sensing Studied by Sum Frequency Generation Spectroscopy
14:20		Stijn Van Cleuvenbergen
14:40		Nucleation and crystal growth stages of gold nanoparticles probed by harmonic light scattering
15:00	LUNCH	
15:20	Webinar Presentations	
15:40	Originally poster presenters, are not able to come due to COVID-19 travel restrictions	
16:00	Closing Session ***	
	Acknowledgments - Honouring the Invited Speakers - Student Poster Awards	
	Conference End	



Webinar presentations (originally Oral)



Webinar presentations (originally Poster)

	Sun 26-Sep	Mon 27-Sep	Tue 28-Sep	Wed 29-Sep
08:00	Registration			
08:20	Registration			
08:40	High-order responses in t & f domain	MARCUS MOTZKUS*	Chi2 NLO Spec. 2	CARS
09:00		Arnulf Materny		
09:20		Michele Marrocco		
09:40		Francesco Tani		
10:00	Chi2 NLO Spec. 1	Ellen Backus	CARS+Other Ram	Chi2 NLO Spec. 3
10:20		Julien Rehault		
10:40		Elisa Palacino-González		
11:00				
11:20	Coffee Break @ Exhibition Room		Coffee Break @ Exhibition Room	
11:40	Coffee Break @ Exhibition Room		Coffee Break @ Exhibition Room	
12:00	Coffee Break @ Exhibition Room		Coffee Break @ Exhibition Room	
12:20	Coffee Break @ Exhibition Room		Coffee Break @ Exhibition Room	
12:40	Coffee Break @ Exhibition Room		Coffee Break @ Exhibition Room	
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Registration
Invited Talk
Ordinary Talk
Coffee Poster Exhib.
Lunch
Social/Entertainment
Day End

## Wednesday 29-Sep

08:00	Registration	
08:40	CARS	Rosa Santagata (Rep. Elodie Lin)
09:20		fs/ps-CARS spectroscopy platform for combustion thermometry and hyperspectral microscopy
09:40		Francesco Mazza
10:00		Ultrabroadband fs/ps coherent Raman spectroscopy behind optical windows via in-situ fs laser-induced filamentation
10:20		Roland Ackermann
10:40	Chi2 NLO Spec. 3	Xiaodong Zhao
11:00		A Study on Carbon Gasification Dynamics using Ultrabroadband Coherent Anti-Stokes Raman Scattering
11:20		Picosecond Optical Parametric Amplifier Pumped by A Thin-disk Laser at 1 μm for Coherent Anti-Stokes Raman Scattering
11:40		Björn Braunschweig
12:00		Remote Control of Photoswitchable Amphiphiles at Aqueous Interfaces
12:20		Ahmed M. El-Zohry
12:40	LUNCH	Monika
13:00		Amino Acid Based Carbon Quantum Dots for Heavy Metal Ions Sensing Studied by Sum Frequency Generation Spectroscopy
13:20		Nucleation and crystal growth stages of gold nanoparticles probed by harmonic light scattering
13:40		Stijn Van Cleuvenbergen
14:00		Webinar Presentations
14:20	Originally poster presenters, are not able to come due to COVID-19 travel restrictions	
14:40	Closing Session ***	
15:00	Acknowledgments - Honouring the Invited Speakers - Student Poster Awards	
16:00	Conference End	



	Sun 26-Sep	Mon 27-Sep	Tue 28-Sep	Wed 29-Sep
08:00		Registration		
08:20				
08:40		MARCUS MOTZKUS*		
09:00		Arnulf Materny	Ali Dhinojwala	Rosa Santagata (Rep. Elodie Lin)
09:20		Michele Marrocco	Daria Maltseva	Francesco Mazza
09:40		Francesco Tani	Malik Nafa	Roland Ackermann
10:00			Imran Aslam	Xiaodong Zhao
10:20		Coffee Break @ Exhibition Room	Coffee Break @ Exhibition Room	Coffee Break @ Exhibition Room
10:40				
11:00		Ellen Backus	Majed Chergui	Björn Braunschweig
11:20		Julien Rehault	Jan-Christoph Deinert	Ahmed M. El-Zohry
11:40		Elisa Palacino-González	Hanieh Fattahi	Monika
12:00				Stijn Van Cleuvenbergen
12:20				
12:40		LUNCH	LUNCH	LUNCH
13:00				
13:20				
13:40				
14:00		AMPLITUDE (Gabriel Loata)	Anna-Lena Sahlberg	Webinar Presentations
14:20		ZURICH INST. (C.Riek)	Mikhail Shevchenko "	Originally poster presenters, are not able to come due to COVID-19 travel restrictions
14:40		TELEDYNE (Norbert Gulde)	Aleksei Smirnov "	
15:00		EKSPLA (R.Januskevicius)		Closing Session
15:20			Poster Session	Acknowledgments
15:40		Poster Session	Exhibition	Honouring the Invited Speakers
16:00		Exhibition	Coffee	Student Poster Awards
16:20		Coffee		Conference End
16:40				
17:00	Opening	Nathalie Picqué	Conference Photo	
17:20		Oliver Heckl	Social Event	
17:40	Mischa Bonn Keynote	Day End	Discovering Karlsruhe in a double-decker bus **	
18:00		Steering Committee Meeting	Conference dinner	
18:20	Welcome			
18:40				
19:00				
19:20				
19:40				
21:00	Day End	22:00	Day End	

**Wednesday, September 29th from 3:20 to 4:00 pm**

- *Acknowledgements*

- *Honouring Invited Speakers*

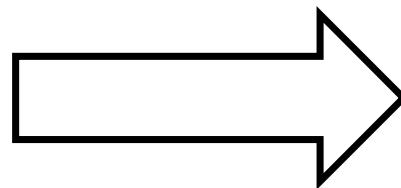
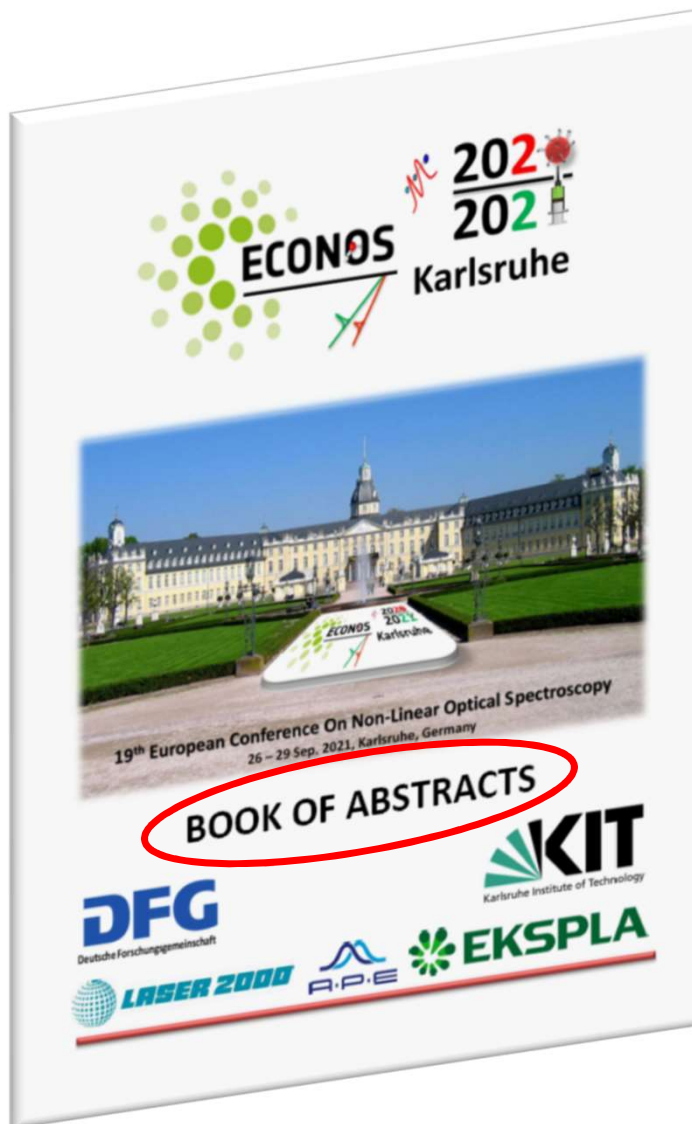
We will honour our invited speakers who were keen to support our conference with their time and knowledge.



- *Student Poster Awards*

Three students will be awarded for the best three posters in terms of poster quality, content, and presentation skill.





## **ECONOS has a multidisciplinary nature!**

- It is probable that a presentation is not relevant to your field of research, however it could be the nucleolus of future work or cooperation
- The first time I attended ECONOS (2014) there was no single talk on SFG.
- Today we have about 10 SFG presentations between Oral and Poster.
- One of the most useful cooperations I have in my work has been started in ECONOS 2015
- In spite of the broad multidisciplinary nature of ECONOS, atmospheric research has never been in the scope (at least in the events I attended since 2014). Today we host ECONOS in Karlsruhe to draw the attention of this great community of the magic tool (NLO spectroscopy) to environmental applications in general and atmospheric problems in particular.



**Be keen to attend all scientific and industrial oral and poster presentations.**

**Give yourself time at the stands of the exhibitors to follow the state-of-the-art in relevant technologies.**

## **Internet Access**

Network: ACHAT

Password:



