



Networking Activity N3:

Infrastructure Related Workshops

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Schedule for Activity N3:

<i>PROJECT MILESTONES AND DELIVERABLES</i>		<i>Year 1</i>				<i>Year 2</i>				<i>Year 3</i>				<i>Year 4</i>				<i>Year 5</i>			
		I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV
<i>N3</i>	<i>Infrastructure-Related Workshops</i>																				
	Workshop addressed to special topics (M)																				
	Proceedings of each workshop organised (D)																				

Schedule for Activity N3:

PROJECT MILESTONES AND DELIVERABLES		Year 1				Year 2				Year 3				Year 4				Year 5			
		I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV
N3	Infrastructure-Related Workshops																				
	Workshop addressed to special topics (M)																				
	Proceedings of each workshop organised (D)																				

- **EUROCHAMP** organized or supported 35 workshops, intercomparison campaigns, and meetings.
- The majority were co-sponsored by:
 - the network of excellence **ACCENT**,
 - the ESF project **INTROP**,
 - and local organisations.

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<i>PROJECT MILESTONES AND DELIVERABLES</i>		<i>Year 1</i>				<i>Year 2</i>				<i>Year 3</i>				<i>Year 4</i>				<i>Year 5</i>			
		I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV
<i>N3</i>	<i>Infrastructure-Related Workshops (plan)</i>																				
	Workshop addressed to special topics (M)					■				■				■				■			
	Proceedings of each workshop organised (D)						■				■				■				■		
<i>N3</i>	<i>Infrastructure-Related Workshops (done)</i>																				
	Workshop addressed to special topics (M)		■	■			■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Proceedings of each workshop organised (D)			■	■		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Number/year	2				6				10				9				8			

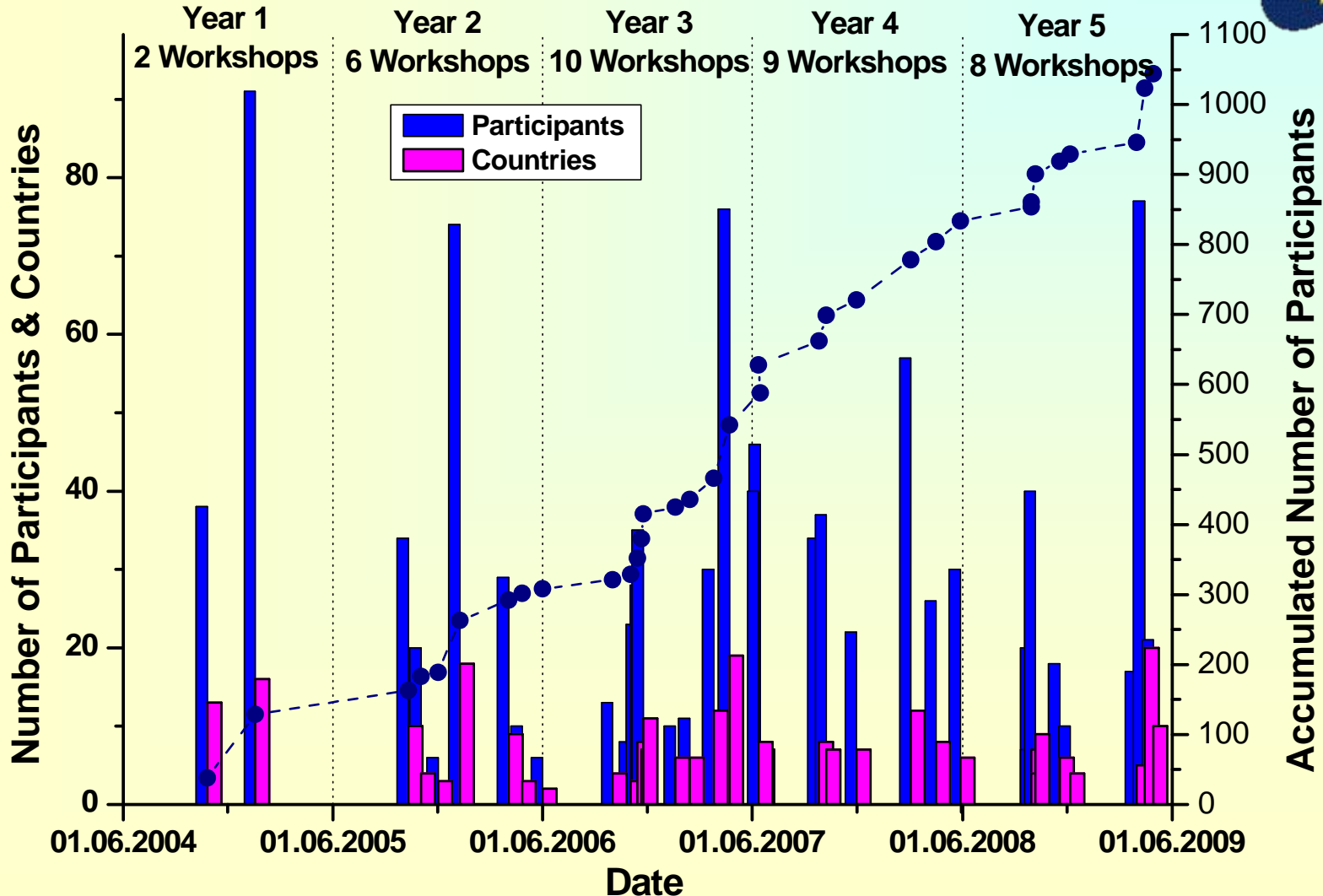
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<i>N3</i>	<i>Infrastructure-Related Workshops (done)</i>																				
	Workshop addressed to special topics (M)		■	■			■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Proceedings of each workshop organised (D)			■	■		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Number/year	2				6				10				9				8			

Additionally several ACCENT (NoE), INTROP (ESF), EUSAAR (I3) workshops contributed to EUROCHAMP goals

Participation in Activity N3:

- **EUROCHAMP** organized or supported 35 workshops with more than 1000 participants.





Types of Activities in N3:

- **One larger workshop each year** (>50 participants) addressing several topics jointly organised with the network of excellence ACCENT and the ESF project INTROP.
- **18 medium size workshops** (20-50 participants) focussing on selected scientific topics (e.g. VOC in the urban atmosphere, Humidity in the UT/LS), larger intercomparison activities (instruments, models), specific infrastructure issues (e.g. EUROCHAMP database), and special conference sessions (e.g. EGU)
- **12 smaller workshops** (<20 participants) dedicated to intercomparison studies (simulation chambers, special instruments) or preparation/analysis of larger activities.



Larger Workshops in N3:

- Measurement Techniques for Nanoparticles
- The Routes for Organics Oxidation in the Atmosphere and its Implications to the Atmosphere
- Aerosol-Properties, Processes and Climate
- Workshop on Nitrous Acid: Tropospheric Chemistry, Measurement Methods and Future Directions
- INTROP Final Conference - Tropospheric Chemistry

Measurement Techniques for Nanoparticles:



The workshop was jointly organized and funded by **EUROCHAMP** and the network of excellence **ACCENT** as well as the ESF project **INTROP**.

Villigen, January 17-19, 2005

Objectives:

- Summarise and discuss existing methods and problems associated with the measurement of nanoparticles
- Provide a forum for current and future developments
- Discuss relevant issues, exchange research experiences and formulate needs
- Prepare the ground for a joint chamber experiment with nanoparticle instrumentation



- 91 participants from 16 different countries including 30 students

The Routes for Organics Oxidation in the Atmosphere and its Implications to the Atmosphere:



The workshop was jointly organized and funded by **EUROCHAMP** and the network of excellence **ACCENT** as well as the ESF project **INTROP** and many other national and international partners.

Alpe d'Huez, January 8-11, 2006

- 74 participants from 18 different countries

Topics:

- Atmospheric fate of complex organic compounds
- Low temperature gas phase organic chemistry
- Role of organics in particle formation and growth
- High molecular weight species in aerosols
- Influence of organics on ice nucleation
- Reactive uptake of organic gases on organic or ice surfaces



Aerosol-Properties, Processes and Climate:



The workshop was jointly organized and funded by **EUROCHAMP**, the network of excellence **ACCENT**, and the ESF project **INTROP**.

Heraklion, April 22-24, 2007

Topics:

- Physical properties and chemical composition
- Aerosol radiative properties and remote sensing
- Aerosol formation and growth
- Aerosol-cloud-interaction
- Organic particle composition incl. macromolecules
- Process Models
- Aerosol representation in higher scale models



➤ 76 participants from 19 different countries

Workshop on Nitrous Acid: Tropospheric Chemistry, Measurement Methods and Future Directions



The workshop was organized and funded by **EUROCHAMP**.

Wuppertal, March 3-5, 2008

Topics:

- Atmospheric relevance of HONO measurements
- State of the art measurement methods
- Recent developments in HONO measurement methods
- Preparation of a formal intercomparison of HONO instruments (FIONA)



- 57 participants from 12 different countries

INTROP Final Conference - Tropospheric Chemistry



The workshop was jointly organized and funded by **EUROCHAMP** and the ESF project **INTROP**.

Portoroz, April 14-17, 2009

Topics:

- Prediction of the atmospheric fate of complex pollutants
- Aerosols and global change
- Remote sensing - Complex Modelling
- Technologies and the Future
 - **EUROCHAMP-2**: Atmospheric Simulation Chambers for Studying Atmospheric Chemical Processes



- 77 participants from 20 different countries

Chemistry, Transport and Impacts of Atmospheric Pollutants with Focus on Fine Particles :



The workshop was organized and funded by **EUROCHAMP**.

Andechs, October 10-12, 2005

Objectives:

- Identification & quantification of major emission sources
- Use of environmental chambers to characterise aerosol particles and their formation processes
- New technical developments for ambient measurements and emission control
- Toxicology and health effects of fine particles

Participation:

- 34 participants from 10 different countries

Workshops on intercomparison studies at simulation chambers



14 workshops were dedicated to the intercomparison of instruments and models:

- HONO, NO₃, N₂O₅, OH, H₂O, VOC
- Single particle MS, Aerosol MS, Aerosol OC
- SOA Models
 - Opportunity to compare models used to analyse chamber experiments and the chambers themselves

ACCENT / EUROCHAMP

NO₃ / N₂O₅ Instrument Intercomparison at the Atmosphere Simulation Chamber SAPHIR



The workshop was jointly organized and funded by [EUROCHAMP](#), and the network of excellence [ACCENT](#).

Jülich, June 3-21, 2007

Topics:

- perform basic instrumental tests: zero offset, inlet lines, filters, light sources, spectroscopic interference by NO₂, NO₃/N₂O₅ calibration
- investigate spectral interference by water vapour and ozone
- quantify transmission efficiencies of NO₃ and N₂O₅ through instrument inlets as a function of relative humidity
- compare dynamic response of the instruments to fast concentration changes
- determine equilibrium constant of the O₃, NO₂, NO₃, N₂O₅ system
- test surface reactivity of NO₃ and N₂O₅ on aerosol particles and instrumental performance in the presence of aerosol
- compare instruments in real air samples of full chemical complexity

➤ 46 participants from 7 different countries



AquaVIT: Intercomparison Campaign of Water Vapour Measurement Techniques



The workshop was jointly organized and funded by **EUROCHAMP**, **SPARC**, FZ Karlsruhe, and FZ Jülich. Karlsruhe, October 8-26, 2007

Objectives

Formal blind intercomparison of 22 state of the art water measurement methods and instruments for a range of well defined atmospheric conditions.

- Static intercomparison
 - Temperatures: 185-243 K
 - Pressure: 50-500 hPa
 - Water: 0.4-100 ppm
- Dynamic intercomparison:
 - Temperatures: 185-243 K
 - Pressure: 50-300 hPa
 - Water: 0.5-3742 ppm
 - Ice clouds of different density
- Calibration with national standard

- 37 participants & 3 referees from 7 different countries



Mass Spectrometer for Chemical Analysis of Organic Substances (MS-CHAOS):



The workshop was jointly organized and funded by **EUROCHAMP** and the network of excellence **ACCENT** as well as the ESF project **INTROP**:

Villigen, October 24 – November 11, 2005

Objectives:

- To detect oligomers in the aerosol phase with on-line methods
- To detect condensable species in the gas phase
- To understand the radical budget in the photooxidation of TMB and Pinene
- To compare the measured temporal evolution of products with the degradation mechanism

Participation:

- 20 participants from 4 different countries

Process studies of trace gases and aerosols in simulation chambers



Several special sessions organised at the annual conference of the EGU:

With many talks and poster contributions about recent technical and scientific achievements the progress of the EUROCHAMP collaboration was demonstrated

Information about the potential use of the simulation chamber was distributed



N3 Deliverables:

The presentations, comments and summaries of the EUROCHAMP workshops are available via the EUROCHAMP homepage e.g. as PDF files.

<http://www.eurochamp.org/events/>

Publications on workshop results appeared in peer reviewed journals and newsletters.



Conclusions:

- More workshops than planned related to special topics with high quality at the edge of science
- Good integration of workshops with other projects (e.g. ACCENT, INTROP, EUSAAR) and conferences (e.g. EGU)
- Better visibility lead to increased use of the chamber facilities by external scientists (TA)

Future Activities:

“Workshop on VOC`s”

Paris, October 2009

“HONO instrument intercomparison“

Valencia, April 2010

“1st larger interdisciplinary workshop“

Topic?, location?, date?

Studies of secondary organic aerosol in environmental chambers
– New aspects for science and policy

Interaction between air pollution and human health –
Environmental chambers as diagnostic tools

Simulation chambers between field measurements and model
development – What is the benefit for our understanding of the
atmosphere

