

TOAR-II Workshop

Cologne, Germany and online

Wed, March 8th – Friday, March 10th, 2023



Venue: University of Cologne, Meteorological Institute, Pohligstr. 3, 50969 Cologne;
Entrance: **Hönninger Weg 100** (at the corner)

Press bell for “Hörsaal Universität” and go to the 4th floor.

Online participation:

<https://fz-juelich-de.zoom.us/j/94642572672?pwd=dThqMzF1Q2Q5azh4U1VrL3F5d1dNQOT09>

Meeting-ID: 946 4257 2672 , passcode: 695893

Agenda

All times given in CET (= local time Germany)

Wednesday, March 8th, 2023

- | | |
|----------------------|--|
| 08:30 – 09.30 | Registration and check-in (lobby 4th floor) |
| 09:30 – 10:00 | Welcome and introduction to TOAR-II <ul style="list-style-type: none">- Welcome address (Martin Schultz)- TOAR-II overview and meeting goals (Helen Worden)- TOAR-II Community Special Issue (Owen Cooper) |
| 10:00 – 10:42 | Draft paper presentations, block 1
<i>4 min presentation + 2 min discussion per paper!</i> <ul style="list-style-type: none">- A. Keppens: Harmonization of tropospheric ozone data records from satellites- D. Hubert: Assessment of interannual variability and long-term changes in harmonised satellite data records of free tropospheric ozone- V. Sofieva: Variability and trends of tropospheric ozone column derived from combination of nadir and limb satellite measurements- C. Arosio: Tropospheric ozone column dataset from OMPS-LP/OMPS-NM limb-nadir matching- J. Neu: Ozone trends from satellites- G. Osterman: Update on the TROPES ozone data products: Evaluation, validation and a preliminary examination of their utility in tropospheric ozone trend analysis- K. Miyazaki: Overview of the current reanalysis products for studying global and regional variations in ozone |

Wednesday, March 8th, 2023 (continued)

10:42 – 11:10

Coffee break

11:10 – 12:34

Draft paper presentations, block 2

4 min presentation + 2 min discussion per paper!

- [B. Nelson](#): Long Term Ozone Trends in Different Urban Developments
- [D. Putero](#): Fingerprints of the COVID-19 economic downturn and recovery on ozone anomalies at remote high-altitude sites in North America and Western Europe
- [D. Poyraz/R. Van Malderen](#): Homogenization of the European ozonesonde time series
- [R. Wegener](#): Trends of Ozone Precursors in Europe
- [R. Bjorklund](#): Intercomparison of ground-based measurements of tropospheric and stratospheric ozone at Lauder
- [J. Keeble](#): Evolution of Stratosphere-to-Troposphere Transport of Ozone
- [W. Collins](#): Assessment of methods for calculating the radiative forcing of ozone
- [J. Dai](#): Long-term trends of ozone and VOC in Hong Kong
- [J. Gil](#): Estimation for two-decadal variation of surface HONO in South Korea based on the Deep Neural Network model
- [L. Zhang](#): A comparison of ozone stomatal deposition schemes over various vegetation
- [W. Gong](#): Modelling Arctic boundary layer ozone: tropospheric transport, local processes, and budget
- [Y. Zhang](#): Surface ozone concentrations response to current air pollution mitigation strategies in Chinese megacity agglomerations
- [B. Sauvage](#): Present-day distribution of tropospheric ozone and precursors in the tropics
- [A. Gaudel](#): Trends of tropical tropospheric ozone and its precursors
- [R. Sommariva](#): Ozone over the Oceans

12:40 – 13:40

Lunch break

13:40 – 14:45

Working group breakout discussions – round 1

*Room allocation will be given on the day of the meeting**Discussion notes: [WGBreakoutSession1](#)*

- Chemical Reanalysis
- Radiative Forcing
- Human Health
- Ozone over the Oceans
- TOP
- East Asia
- S. Asia
- Statistics

14:45 – 14:55

Switching of breakout rooms

Wednesday, March 8th, 2023 (continued)

- 14:55 – 16:00 Working group breakout discussions – round 1
Room allocation will be given on the day of the meeting
Discussion notes: [WGBreakoutSession2](#)
- HEGIFTOM
 - Global Models
 - ROSTEES
 - Satellite Ozone
 - Deposition
 - Urban
 - OPT
 - ML
- 16:00 – 16:30 **Coffee break**
- 16:30 – 18:00 Plenary discussions on paper drafts
- Resolve overlaps and duplications
 - Identify possible inconsistencies and address them
 - Reflect about gaps within and between draft manuscripts
- 18:00 Adjourn of day 1

Thursday, March 9th, 2023

- 09:00 – 09:30 Summary of day 1 and plans for day 2 ([Helen Worden](#))
- 09:30 – 10:30 Cross-cutting topics: breakout discussions
Topics and room allocation will be given on the day of the meeting
Discussion notes: [CrossCuttingBreakoutSession](#)
- 10:30 – 11:00 **Coffee break**
- 11:00 – 12:00 Plenary discussions on cross-cutting topics
- 12:00 – 12:30 Community Special Issue editor presentation ([Owen Cooper](#))
See draft document at
<https://drive.google.com/drive/folders/1qke8i7AkmbwWN0eWPVrlzqTmsgi-kCVQ>
- 12:30 – 13:30 **Lunch break**
- 13:30 – 14:30 Keynote lectures on data collection and analysis
- TOAR database quickstart guide ([Martin Schultz](#))
 - TOAR database data collection status and strategy ([Sabine Schröder](#))
 - Statistical analyses on TOAR data ([Kai-Lan Chang](#))
 - TOAR database statistics and analyses services ([Niklas Selke](#))
- 14:30 – 15:30 Plenary discussion on statistics and common analysis guidelines
See draft document at
<https://drive.google.com/drive/folders/1qke8i7AkmbwWN0eWPVrlzqTmsgi-kCVQ>
- 15:30 – 16:00 **Coffee break**

Thursday, March 9th, 2023 (continued)

- 16:00 – 16:45 Impromptu pitches on science topics not covered by paper presentations
3 – 8 minutes each, depending on your contributions
These pitches are supposed to widen the scope of our discussions and avoid TOAR-II ignoring important new or upcoming scientific topics. If you are interested to present an impromptu pitch, please let Helen know before day 1 of the workshop ends and prepare a “variable slide set” which you can present within 3 minutes or extend to up to 8 minutes if sufficient time is available.
- 16:45 – 18:00 Plenary discussions on science topics
- 18:00 Adjourn of day 2
- 19:30 – 22:30 **Self-pay conference dinner**
*Drinks are free up to a limit and sponsored by the ERC grant IntelliAQ. The conference dinner will take place at the restaurant **Ludwig im Museum**, Heinrich-Böll-Platz, 50667 Köln, near the Cologne cathedral. We will meet at 19:30 h CET in the restaurant. The dinner will be buffet-style (all vegetarian and vegan options) and costs **40 € per person to be paid in cash upon registration** for the meeting. Drinks (up to a limit) will be covered by the ERC project IntelliAQ.*

Friday, March 10th, 2023

- 09:00 – 09:20 Summary of day 2 and plans for day 3 ([Helen Worden](#))
- 09:20 – 09:50 Presentation on current planning status of assessment ([Martin Schultz](#))
- 09:50 – 10:45 Assessment coordination team breakout discussions
Topics and room allocation will be given on the day of the meeting
Discussion notes: [AssessCoordBreakoutSession](#)
- 10:45 – 11:15 **Coffee break**
- 11:15 – 12:30 Plenary discussions on the content and structure of the assessment
- 12:30 – 13:30 **Lunch break**
- 13:30 – 15:00 Closing plenary discussion – next steps
- 15:00 – 15:30 **Coffee break**
- 15:30 – 17:00 Optional WG or cross-cutting breakout discussions
- 17:00 Adjourn of day 3

Logistics information

Venue: see front page

Travel: It is easy to get to Cologne from almost anywhere. There are three airports within easy reach: Cologne/Bonn, Frankfurt, or Düsseldorf. You will usually find good train connections to Cologne central station (“Hauptbahnhof”); it takes about 1 hour, regardless from which airport you travel. Should you face serious delays or other problems, please contact Amirpasha Mozaffari (ph: +49-172-9541-722, accessible via call, SMS, Whatsapp, Telegram, Signal, iMessage). Please note that we cannot reimburse any travel costs.

Accommodation: Unless you have already done so, you may wish to quickly find a hotel in Cologne. There are plenty of hotels in Cologne. Prices and availability may vary depending on trade fairs etc. We suggest to look at the hotel "Ibis Koeln Centrum" (<https://all.accor.com/hotel/1449/index.de.shtml?dateIn=2023-03-05>). Rooms are around 90-100 €/night. Mention that you are a guest of the University of Cologne if you are booking. Please note that we cannot reimburse any accommodation costs.

Online participation via zoom:

<https://fz-juelich-de.zoom.us/j/94642572672?pwd=dThqMzF1Q2Q5azh4U1VrL3F5d1dNQOT09>

Meeting-ID: 946 4257 2672 , passcode: 695893

The above Zoom link will function during the core hours of the workshop beginning on Wednesday morning.

If you connect, please make sure that your full name is visible in your Zoom details.

We ask you to mute your microphones unless you are asking a question or want to contribute to a discussion. We also ask that you please turn on your camera when asking a question so that others can see who you are.

Draft documents: There are two draft documents, which shall be discussed at the workshop:

- TOAR-II Community Special Issue guidelines
- TOAR-II statistical recommendations

Both documents are available for download at <https://bit.ly/t2drftdocs> or <https://drive.google.com/drive/folders/1qke8i7AkmbwWN0eWPVrIzqTmsgi-kCVQ>

Please read through these documents and collect your comments and questions for discussion during the workshop.

Presentations (paper drafts and impromptu pitches): If you prepare a presentation for the workshop, please use 16:9 aspect ratio and pptx or pdf format. We would like to collect all presentations as a reference for discussions in the steering group.

Breakout discussions: We will either set-up breakout rooms in the main zoom meeting or arrange for individual zoom meeting rooms during the breakout sessions. Information about this will be given during the meeting.

To facilitate participation of remote participants in the breakout discussions, we have prepared google slides docs and ask the session rapporteurs to use these for note taking. The links to these docs are:

- WG breakout groups, round 1: <https://bit.ly/brkout-wg1>
- WG breakout groups, round 2: <https://bit.ly/brkout-wg2>
- Cross-cutting breakout discussions: <https://bit.ly/ccbrkout>
- Assessment coordination teams breakout discussions: <https://bit.ly/actbrkout>

Association of documents to breakout groups will be communicated at the meeting.

TOAR data analysis training after the workshop: Forschungszentrum Jülich offers up to 6 persons the opportunity to stay around for a few days after the workshop and work with the TOAR data centre team on preparing your own analysis scripts. As this requires special registration beforehand, please let Martin Schultz (m.schultz@fz-juelich.de) know **by noon, March 1st**, if you wish to participate in this exercise and how many days (Monday through Wednesday is possible). You will have to book accommodation in Jülich yourself. We recommend Stadthotel Jülich <https://www.stadthotel-juelich.de/>.

Food: All catering will be provided free of charge thanks to sponsoring by the IntelliAQ project. All food will be vegetarian and include sufficient vegan options. Gluten-free and lactose-free food shall also be available. The caterer is <https://querdurchsbeet-koeln.de/>.

Conference dinner: (self-pay)

The conference dinner will take place at the restaurant **Ludwig im Museum**, Heinrich-Böll-Platz, 50667 Köln, <https://www.ludwig-im-museum.de/> -- near the Cologne cathedral on Thursday evening (March 9th). We will meet at 19:30 h CET in the restaurant.

The dinner will be buffet-style (all vegetarian and vegan options) and costs 40 € per person. Drinks (up to a limit) will be covered by the ERC project IntelliAQ.

Please bring 40 € in cash when you check-in to the meeting. For those of you checking in already on Monday, please pay already then. Dinner participation is only possible for people who have registered their attendance.

Important links as QR codes

Draft document folder



Conference dinner restaurant web page



WG breakout discussions round 1



WG breakout discussions round 2



Cross-cutting breakout discussions



Assessment coordination teams breakout discussions

