

# Agenda of the ITMS General Assembly 2024

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**24-26 September 2024**

**Aula of the "Fortbildungszentrum für Technik und Umwelt (FTU)" KIT Campus Nord, Karlsruhe, Germany**

Please click on the session to navigate.

Time	Day 1 (Tuesday 24.09.2024)	Day 2 (Wednesday 25.09.2024)	Day 3 (Thursday 26.09.2024)
09:00		ITMS-Q&S Talks - Overview and selected talks	SAB Feedback
09:30			
10:00	Welcome Address		Outlook to Phase 2
10:30		Coffee	
11:00	Keynote Talks (Start ~10:45)	New in ITMS: Module-M WPs and Module-V	Parallel Module Sessions
11:30		Poster Session 02 - Cross-module mixed	
12:00	ITMS-M Talks (Start ~11:45) Overview and selected talks		
12:30	Lunch with Catering (1st floor)	Lunch with Catering (1st floor)	
13:00			
13:30	ITMS-M Talks continued		
14:00		ITMS-B Talks - Overview and selected talks	
14:30	Elevator Pitches for Q&S_II and B_II projects		
15:00			
15:30	Coffee		
16:00	Poster Session 01 - The new ITMS-B_II and ITMS-Q&S_II projects, ITMS-K & Icebreaker	Poster Session 03 - Cross-module mixed	
16:30			
17:00		Open Discussion	SAB Meeting
17:30			
18:00			
18:30			
19:00	Joint Dinner at the Restaurant Aposto (self-paid)	Open Dinner Options (self-paid)	
19:30			

# Day 1

## Day 1 - Welcome Address

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Welcome, logistics, and speeches from the KIT representatives and Mrs Baron from the BMBF.

**Start:** 10:00 | **Room:** Aula | **Chair:** @Andrea Kaiser-Weiss (DWD) | **Notes:** @Navid Mouji

#	Duration	Title	Author/Presenter
	5	Welcome by ITMS Coordinator	Christoph Gerbig (MPI-BGC)
	10	Welcome & Logistics	Roland Ruhne (KIT IMK)
	20	Welcome Address	Peter Braesicke (KIT IMK/DWD)
	10	Welcome Address	Birgit Nabbefeld (DLR-PT) on behalf of Sonja Baron (BMBF)

## Day 1 - Keynote Talks

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Keynote talks will be given by the ITMS project leaders and our new Science Advisory Board member, Anita Ganesan (University of Bristol).

**Start:** 10:40 | **Room:** Aula | **Chair:** @Heinrich Bovensmann IUP | **Notes:** @Max Reuter

#	Duration	Title	Author/Presenter
D1OM01	20 + 10	ITMS - what have we achieved so far?	Andrea Kaiser-Weiss (DWD) & Christoph Gerbig (MPI-BGC)
D1OM02	20 + 10	European research landscape PARIS/AVENGER/EYE-CLIMA	Anita Ganesan (University of Bristol)

## Day 1 - ITMS-M Talks

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**Start:** 11:40 | **Room:** Aula | **Chair:** @Rachael Akinyede | **Notes:** @Valentin Bruch

#	Duration	Title	Author/Presenter
D1OM01	15+5	ITMS-M Overview: status and recent progress	Christoph Gerbig
D1OM03	10+5	CH <sub>4</sub> fluxes from ICON-ART based inversion	Valentin Bruch
Lunch Break			

D1OM0 7	10+5	GHG data assimilation at DWD	Niklas Becker
D1OM0 4	8+2	CH4 decay rates over Europe	Philipp Dietz
D1OM0 5	10+5	Improvement of Vertical Transport – updates from WP-M.4	Michal Galkowski
D1OM0 6	10+5	Monitoring Urban CO2 Emissions	Sanam Vardag

## Day 1 - Elevator Pitches for Q&S\_II and B\_II projects

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2-minute talks of the PIs of the new ITMS-Q&S\_II and -B\_II projects.

**Start:** 14:30 | **Room:** Aula | **Chair:** @Michael Weimer | **Notes:** @Max Reuter

#	Participating Partners	Project	Poster / Talks
D1EQ0 1	KIT IMK-IFU: Ralf Kiese, Clemens Scheer, NN FZJ: Harrie-Jan Hendricks-Franssen, Michael Herbst, Theresa Boas TI: Roland Fuß, Wolfgang Stümer, Steffen Herrmann	Q&S_II Agri-For-Life	FZJ: P_Q&S.01 TI: P_Q&S.02, P_Q&S.03
D1EQ0 2	FUB: Martijn Schaap, Sabine Banzhaf	Q&S_II Artemis	P_Q&S.04
D1EQ0 3	KIT IMK-IFU: Ralf Kiese, Clemens Scheer, Sergey Blagodatsky HSWT: Matthias Drößler, Janina Klatt, Sebastian Friedrich, Florian Braumann	Q&S_II MODELPEAT	P_Q&S.05
D1EQ0 4	AWI Helgoland: Ingeborg Bußmann HEREON: Tina Sanders	Q&S_II Coast GeM	P_Q&S.XX
D1EQ0 5	IOW: Gregor Rehder	Q&S_II ATMOSHIP	
D1EB0 1	Looking beyond our Eddy-Covariance backyard – vertical profiles at ecosystem stations	ITMS-B_II FeaViTa	Alexander Graf, Lediane Marcon, et al.
D1EB0 2	Ground-based FTIR measurements of XCO <sub>2</sub> , XCH <sub>4</sub> and XCO for cross-scale analysis	ITMS-B_II FTIR	Benedikt Löw
D1EB0 3	Mapping CO <sub>2</sub> and Methane Emissions: Simulations Using the TANGO Satellite Initiative.	ITMS-B_II HISAT	Harikrishnan Charuvil Asokan
D1EB0 4	Isotope-specific monitoring of atmosphere-ecosystem exchange of greenhouse gases	ITMS-B_II ISOMONEAE	Oisin Boersma and Matthias Claß
D1EB0 5	Peatland in-situ Measurement Setup and Correlations with Remote Sensing Data	ITMS-B_II PeatSens	Katrin Krzepek
D1EB0 6	Top-down CH <sub>4</sub> emission estimates of localized emitters using in-situ and remote sensing ground based and aircraft data	ITMS-B_II TEGAD	Heinrich Bovensmann

## Day 1 - Poster Session 01 - Afternoon

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**Start:** 16:00 | **Room:** Aula

#	Title	Module/WP	Author/Presenter
D1PB01	Looking beyond our Eddy-Covariance backyard – vertical profiles at ecosystem stations	ITMS-B_II FeaViTa	Alexander Graf, Lediane Marcon, et al.
D1PB02	Ground-based FTIR measurements of XCO <sub>2</sub> , XCH <sub>4</sub> and XCO for cross-scale analysis	ITMS-B_II FTIR	Benedikt Löw
D1PB03	Mapping CO <sub>2</sub> and Methane Emissions: Simulations Using the TANGO Satellite Initiative.	ITMS-B_II HISAT	Harikrishnan Charuvil Asokan
D1PB04	Isotope-specific monitoring of atmosphere-ecosystem exchange of greenhouse gases	ITMS-B_II ISOMONEAE	Oisin Boersma and Matthias Claß
D1PB05	Peatland in-situ Measurement Setup and Correlations with Remote Sensing Data	ITMS-B_II PeatSens	Katrin Krzepek
D1PQ01	Progress of eCLM – Domain Customization and Integration of Organic Fertilization	ITMS-QS_II Agri-For-Live	Theresa Boas (FZJ)
D1PQ02	Prediction of carbon exchange in forest biomass	ITMS-QS_II Agri-For-Live	Steffen Herrmann and Wolfgang Stümer (TI)
D1PQ03	Implementation of manure transports in the GasEm model.	ITMS-QS_II Agri-For-Live	Sebastian Grayek (TI)
D1PQ04	Update of the dynamic spatio-temporal emission profiles for CH <sub>4</sub> and CO <sub>2</sub>	ITMS-QS_II ARTEMIS	Sabine Banzhaf & Matteo Urzì (FUB)
D1PQ05	Progress and Planning of MODELPEAT	ITMS-QS_II MODELPEAT	Florian Braumann (HSWT) & Sergey Blagodatskiy (KIT IMK-IFU)
D1PQ06	Greenhouse Gas Emissions from German Coastal Waters (Coast GeM)	ITMS-QS_II Coast GeM	Ingeborg Bussmann (AWI) and Tina Sanders (HEREON)
D1PQ07	Progress and Planning of AGRIO	AGRIO	Ingeborg Bussmann (AWI) and Tina Sanders (HEREON)
D1PQ08	Progress and Planning of ATMOSHIP	ITMS-QS_II ATMOSHIP	Gregor Rehder (IOW)
D1PK01	KPIs at the example of Module B	ITMS-K	Max Reuter
D1PK02	ITMS Project Progress: Structural Traceability Matrix	ITMS-K	Rachael Akinyede

D1PK03	Feedback on confluence	ITMS-K	Jennifer Mueller-Williams and Hannes Imhof
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## Day 2

### Day 2 - ITMS-Q&S Talks

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**Start:** 09:00 | **Room:** Aula | **Chair:** @Clemens Scheer | **Notes:** @Hannes Imhof

#	Duration	Title	Author/Presenter
D2OQ01	15+5	<b>ITMS Q&amp;S Overview with Link to Posters</b>	Ralf Kiese (KIT IMK-IFU)
D2OQ02	15+5	<b>Overview of the CAMS emission products</b> <i>Recent developments on a-priori emissions for the European emission verification within CAMS. Philosophy of the European products, discussing key assumptions and approaches for a consistent inventory for Europe. Uptake strategy in ITMS as planned within the Q&amp;S project (FUB).</i>	Martijn Schaap (FUB/TNO)
D2OQ03	10+5	<b>Spatial distribution of GHG emissions - Greta improvements and integration of LULUCF emissions</b> <i>This presentation will inform about the Greta improvements (and data package for Modul M) and the integration of LULUCF emission (from TI).</i>	Stefan Feigenspan (UBA)
D2OQ04	10+5	<b>Challenges for LULUCF Reporting = Opportunities for ITMS?</b>	Roland Fuß (TI)
D2OQ05	8+2	<b>First results of process-based modelling via LandscapeDNDC for N2O &amp; NEE from agricultural soils</b> <i>This is a presentation of the flexible framework for calculating GHG emission and deposition fields, using the example of agricultural soils and ingesting activity data of different WPs.</i>	Andrew Smerald (KIT IMK-IFU)
D2OQ06	8+2	<b>eCLM Setup and Technical Model Developments</b> <i>We present the DE-0055 high-resolution simulation domain, customized for the local FZJ branch of the Community Land Model (eCLM), covering Germany and neighboring regions. This setup integrates detailed inputs, particularly for agricultural practices, and soil data provided by the Thünen Institute. Additionally, we highlight ongoing technical advancements focused on improving the representation of key cash crops and incorporating organic carbon dynamics from fertilization, which are crucial steps before initiating the model spin-up for nutrient pools and subsequent production runs.</i>	Theresa Boas (FZJ)

### Day 2 - New in ITMS: Module-M WPs and Module-V

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**Start:** 11:00 | **Room:** Aula | **Chair:** @Dagmar Kubistin | **Notes:** @Niklas Becker

Duration	Title	Author/Presenter
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D2OM0 1	8+2	System structure and information flow at ITMS-M-DWD	Diego Jiménez de la Cuesta Otero
D2OM0 2	8+2	On the potential of radon to improve CH <sub>4</sub> emission estimates	Fabian Maier
D2OV0 1	8+2	Introduction to Module-V	Elena Zwerschke

## Day 2 - Poster Session 02 - Noon

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**Start:** 11:30 | **Room:** Aula

#	Title	Module/WP	Author/Presenter
D2PQ0 1n	The German a-priori emission database	ITMS-Q&S Coordination	Hannes Imhof (KIT IMK-KIFU)
D2PQ0 2n	The Q&S input database on DKRZ with Metadata/Descriptions on Confluence	ITMS-Q&S WP2	John Akubia (TI) and Hannes Imhof (KIT)
D2PM0 1n	Mixing height – uncertainty estimation	ITMS-M WP4	Navid Moujji
D2PM0 2n	Model and Observation: When and Where to Compare	ITMS-M	Niklas Becker
D2PM0 3n	PARIS project – an option for European comparison	Paris	Maya Harms
D2PM0 4n	Estimating European CH <sub>4</sub> fluxes using the CarboScope Regional atmospheric inversion system 2006-2021	ITMS-M WP2	Thomas Koch
D2PM0 5n	Discrepancies between ICOS measurements and modelled greenhouse gas concentrations: characterizing the parametrization error for greenhouse gas emission verification	ITMS-M WP13	Diego Jiménez de la Cuesta Otero
D2PM0 6n	EnVar developments for DWD GHG data assimilation	ITMS-M WP10	Niels Heinrich Keil
D2PM0 7n	Sectoral differentiation of CH <sub>4</sub> by using ICON-ART – A feasibility study	ITMS-M	Buhalqem Mamtimin
D2PM0 8n	An observation operator for satellite data assimilation of methane vertical columns in ICON-ART	ITMS-M WP9	Anne-Marlene Blechschmidt
D2PB0 1n	ICOS Atmosphere Observation Network for ITMS	ITMS-B WP2	Jennifer Müller-Williams et al.
D2PB0 2n	In-situ NO <sub>x</sub> observations using the German ICOS tall tower setup	ITMS-B WP2	Tobias Kneuer et al.
D2PB0 3n	Improved AMF for tropospheric NO <sub>2</sub> columns retrieved from TROPOMI using MODIS BRDF kernel coefficients	ITMS-B WP6	Thomas Visarius

D2PE01	The VERBE Project - an introduction to the Belgian GHG monitoring system	VERBE	Filip Desmet (Royal Belgian Institute for Space Aeronomy & University of Antwerp, VERBE project)
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## Day 2 - ITMS Events

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**Start:** 14:00 | **Room:** Aula | **Chair:** @Max Reuter | **Notes:** @Michael Weimer

#	Duration	Title	Author/Presenter
D2OB01	25+5	Observation Data for ITMS - initial achievements and new activities	Heinrich Bovensmann
D2OB02	15+5	Satellite data of carbon gases for ITMS applications	Oliver Schneising
D2OB03	15+5	Ground-based FTIR measurements of XCO <sub>2</sub> , XCH <sub>4</sub> , and XCO (FTIR) and High-resolution satellite images of XCO <sub>2</sub> and XCH <sub>4</sub> (HISAT) in support of ITMS	Andre Butz
D2OB04	15+5	Towards operational generation of robust data-driven biogenic flux priors	Sophia Walter

## Day 2 - Poster Session 03 - Afternoon

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**Start:** 16:00 | **Room:** Aula

#	Title	Module/WP	Author/Presenter
D2PQ01a	Progress of process-based modelling via LandscapeDNDC for N <sub>2</sub> O & NEE from forest ecosystems	ITMS-Q&S WP4	Hassane Moutahir (KIT IMK-IFU)
D2PQ02a	GHG emissions from river systems - upscaling by remote sensing	ITMS-Q&S	Ricky Mwanake (KIT IMK-IFU)
D2PM01a	Limitations on the accuracy of point-source emission estimation due to atmospheric turbulence	ITMS-M WP4	Michał Gałkowski (MPI-BGC)
D2PM02a	Unlocking Insights: Evaluating Simulated CO <sub>2</sub> Over Europe Through Aircraft Observations and Error Apportionment	ITMS-M WP5	Đanilo Custódio (MPI-BGC)
D2PM03a	Towards regional CH <sub>4</sub> inversions with ICON-ART assimilating satellite TROPOMI data over Europe	ITMS-M (RIGOROUS)	David Ho (MPI-BGC)
D2PM04a	CarboScope-Regional inversions of biogenic CO <sub>2</sub> 2006-2023	ITMS-M WP2	Saqr Munassar (MPI-BGC)
D2PM05a	The Potential of night-time observation applications in atmospheric inversions based on CarboScope-Regional system	ITMS-M WP5	Yang Xu (MPI-BGC)
D2PM06a	Urban WRF simulations	ITMS-M WP12	Lukas Pilz

D2PM0 7a	Urban hotspot monitoring - OSSEs in Munich and Berlin	ITMS-M WP12	Christopher Lüken-Winkels
D2PM0 8a	A super-simplified OH chemistry for ICON-ART	ITMS-M WP7	Philipp Dietz
D2PB0 1a	XCH4 and XCO retrieved from TROPOMI on the Sentinel-5P satellite	ITMS-B WP4 + WP6	Oliver Schneising
D2PB0 2a	Satellite XCO2 from OCO-3 and CO2M: Update and Performance	ITMS-B WP5	Michael Weimer
D2PB0 3a	Preparatory Activities for the Upcoming MERLIN XCH4 Data	ITMS-B WP8	Sebastian Wolff

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**Start:** 17:00 | **Room:** Aula | **Chair:** @Michał Gałkowski | **Notes:** @Dr. Diego Jiménez de la Cuesta Otero

## Day2 - SAB Meeting

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**Start:** 17:00 | **Room:** 155 | **Chair:** @Christoph Gerbig | **Notes:** @Rachael Akinyede

## Day 3

### Day 3 - SAB Feedback

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**Start:** 09:00 | **Room:** Aula | **Chair:** @Christoph Gerbig | **Notes:** @Rachael Akinyede

Duration	Title	Presenter
40+20	SAB Feedback + Q&A	TBD

### Day 3 - Outlook to Phase 2

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**Start:** 10:00 | **Room:** Aula | **Chair:** @Christoph Gerbig | **Notes:** @Rachael Akinyede

Duration	Title	Presenter
15+15	Presentation of Concept Phase 2 + Q&A	Christoph Gerbig

### Day 3 - Parallel Module Sessions

**Start:** 11:00

Module M	Module Q&S	Module B
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<b>Room:</b> 156   <b>Chair:</b> @Christoph Gerbig   <b>Notes:</b> @Rachael Akinyede	<b>Room:</b> 155   <b>Chair:</b> @Ralf Kiese / @Clemens Scheer   <b>Notes:</b> @Hannes Imhof	<b>Room:</b> 221   <b>Chair:</b> @Heinrich Bovensmann IUP   <b>Notes:</b> @Rachael Akinyede
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## Day 3 - Closing and Farewell

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**Start:** 12:00 | **Room:** Aula | **Chair:** @Hannes Imhof

#	Durati on	Title	Author/Presenter
		Concluding Remarks	Andreas Fix
		Concluding Remarks	Christoph Gerbig