



ACCC
CLEAN AIR. SAFE CLIMATE.



HELSINGIN YLIOPISTO
HELSINGFORS UNIVERSITET
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Tampereen yliopisto
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ILMATIETEEN LAITOS
METEOROLOGISKA INSTITUTET
FINNISH METEOROLOGICAL INSTITUTE



UNIVERSITY OF
EASTERN FINLAND

When: April 22-25, 2025

Where: Sofia Cultural Center, Kallvikinniementie 35, 00980 Helsinki

Registration: <https://elomake.helsinki.fi/lomakkeet/133534/lomake.html>

Note the registration DL 9th April

ACCC is organizing the 4th Impact Week at the Sofia Cultural Center in Vuosaari, Helsinki, April 22-25. During the week, we organize various seminars, workshops and panel discussions related to different ACCC Impact Program topics. The event is free of charge and you can register for all events or individual events through the same registration link. All events are open for participation. The language of the different events is Finnish or English.

ACCC IMPACT WEEK SCHEDULE

TIME	TUESDAY 22.4	WEDNESDAY 23.4	THURSDAY 24.4	FRIDAY 25.4
08:00-08:45	BREAKFAST – FOR REGISTERED	BREAKFAST – FOR REGISTERED	BREAKFAST – FOR REGISTERED	BREAKFAST – FOR REGISTERED
08:45-09:00	Opening words	Opening words	Opening words	Opening words
09:00-10:00	// PEEEX Lappalainen, Mahura	09:00-10:00 PLENARY TALK Bishop Kaisamari Hintikka	09:00-10:15 PLENARY TALK Professor Tuukka Petäjä PANEL DISCUSSION	9:00-10:45 PANEL DISCUSSION Climate change policies, Vainio
10:00-10:30	// Safer Climate Rantanen // PEEEX Lappalainen, Mahura	// Sofia Forum, Riuttanen, Sipiläinen // DigitalTwin, Tuomenvirta, Aalto	10.15-10.30 COFFEE	
10:30-10:45		COFFEE	COFFEE	COFFEE
10:45-12:00	// Safer Climate, Rantanen // PEEEX Lappalainen, Mahura	// Sofia Forum, Riuttanen, Sipiläinen // DigitalTwin, Tuomenvirta, Aalto	10.30 – 12 // ACCC RI, Petäjä, Bäck, Häme // Indoor AQ, Väkevä, Kulmala	// Carbon pricing, Paatero, Morén, CLC
12:00-13:00	LUNCH	LUNCH	LUNCH	LUNCH + Business lunch SIAB Suomi, invited guests / plenary speakers
13:00-14:00	13:00-13:45 PLENARY TALK Acad. Markku Kulmala, INAR University of Helsinki <i>*) Plenary is part of SC & PEEEX program, Oceans sessions: // Safer Climate, Rantanen // PEEEX, Lappalainen, Mahura // Oceans, Paatero, Juusela, Nurminen, Norkko</i>	13:00-13:45 PLENARY TALK Ottmar Edenhofer, Chief Economist of the Potsdam Institute for Climate Impact Research <i>*) Plenary is part of session // CU, Riuttanen// GHG, Pumpanen // Insurance & CC, Kokkonen, Kuntsi-Reunanen, Blomster, Kuusela // Ilmastoviestintäkoulutus, Siili</i>	// Fuels, Dal Maso // Global South, Kulmala, Rantanen // CoCarbon, Järvi	//Stakeholder influence, Honkonen // Carbon pricing, Paatero, Morén, CLC
14:00-15:00	// Safer Climate, Rantanen // FES, Lappalainen, Karhumaa // Oceans, Paatero, Juusela, Norkko	// CU Riuttanen // GHG Pumpanen // Insurance&CC, Kokkonen, Kuntsi-Reunanen, Blomster, Kuusela // Ilmastoviestintä, Siili	// ForClimate, Lintunen, Rautakoski, Ke, de Quesada // Fuels, Dal Maso // BoFF, Virtanen, Koster	// Climate Stakeholder influence, Honkonen // Carbon pricing, Paatero, Morén, CLC
15:00-15:15	COFFEE	COFFEE	COFFEE	COFFEE
15:15-16:00	// Safer Climate, Rantanen // FES Lappalainen, Karhumaa // Oceans, Paatero, Juusela, Nurminen, Norkko	// Ilmastoviestintä, Siili // CU Riuttanen // GHG Pumpanen	// ForClimate, Lintunen, Rautakoski, Ke, de Quesada // Erko, Kuntsi-Reunanen et al. // BoFF, Virtanen, Koster	

		// Insurance&CC, Kokkonen, Kuntsi-Reunanen, Blomster, Kuusela // Science Diplomacy, Kulmala, Rantanen, Lappalainen		
16:00-17:00	Operaatio Arktis	16:30-17:00 // Opportunity to interview ACCC experts 16:30 Ilmasto-2075 & safety, Hiltunen, Kulmala	// ForClimate, Lintunen, Rautakoski, Ke, de Quesada // ERKO, Kuntsi-Reunanen et al.	
17:00	DINNER including program incl. Operaatio Arktis program, Keskinen, Huttunen..continues	DINNER including program Ilmasto-2075 & safety, Hiltunen, Kulmala ...continues	DINNER // ACCC-SIAB, Kulmala, Lappalainen	

// parallel session

*) Mini bus transfer from Sofia Center to Metro station Tuesday, Wednesday and Thursday after the dinner

NOTE: You can stay overnight in Sofia Center at a special price, please contact Myynti | Sales at 9-15: +358 (0)10 277 9102 or myynti@sofia.fi

TENTATIVE PROGRAM

Tuesday 22.April

Plenary talk: **Academician Markku Kulmala at 13:00-13:45 (main hall)**



BUILDING TRANSDISCIPLINARY COLLABORATION TOWARD A SAFER CLIMATE at 10:00-16:00

Workshop/ Open for all/ On-site

In this one-day workshop, we look at the connections between climate change, the environment and security from a transdisciplinary perspective. We welcome researchers, civil society organization representatives, private sector actors, security experts, activists and artists alike to share information, find new approaches and explore collaboration opportunities. How do researchers in natural sciences and humanities/social sciences approach issues related to climate security? What kind of examples and possibilities are there for adopting a truly comprehensive security approach that includes research, civil society engagement, social justice and psychosocial safety? How are climate change, the environment and conflicts related?

Climate change causes and multiplies risks that vary from extreme weather phenomena to worsened social injustices, political tensions, and beyond. To cope with these changes and uncertainties, it is important to discuss different understandings of security, safety and preparedness in relation to climate change and research. Different actors such as universities and research institutes, the European Commission, NATO, the OSCE and numerous humanitarian and non-governmental organizations are working with issues related to climate and security. Scientists are gathering and analyzing complex data about the effects of war on climate and the environment but often there exists no shared language or forum around the topic for different actors.

The increased tendency to discuss climate change and the environment in the security context has also raised concerns about increasing securitization and militarization of climate change and the environment. The session invites participants to explore critical takes on security and related issues such as economic and colonial power dynamics.

The consists of invited expert presentations and joint discussion. Note: this session is on-site only and follows the Chatham house rule. Discussions will be documented (anonymously) and proceedings of the session will be shared with the participants after the event.

Organizer Rosa Rantanen, INAR University of Helsinki
Language English

Schedule

10:00	opening, short presentations, discussion in small groups
12:00	lunch
13:00	Markku Kulmala Plenary Talk
14:00	short presentations, discussion in small groups, closing remarks

THE CHANGING ROLE OF THE OCEANS AND THE SEAS IN THE CLIMATE CHANGE DISCUSSION at 13:00-16:00

Seminar / Open for all / On-site

The oceans have played a significant role in absorbing the effects of the changing climate. A large part of the anthropogenic emissions of carbon dioxide have been absorbed by the oceans and they have captured around 90 percent of the excess heat generated by emissions. However, as we gain more understanding, we may see the role of the oceans changing. The limits of the oceans to absorb carbon and heat without dire consequences to the life under water may have been reached and oceans and coastal ecosystems can become sources of greenhouse gasses. Our session creates a platform for discussion among a diverse group of experts from the academia, government and corporates to better understand these developments and their impacts on our planet.

Organizers Sami Paatero, INAR University of Helsinki
Alf Norkko, University of Helsinki

Language English

Schedule

13.00	Welcome & Opening words
13.10	Key note 1: Oceans and Climate Change (Global approach)
13.40	Key note 2: Baltic Sea as a test laboratory for climate impact (Regional/practical approach)
14.10	Break
14.30	Panel discussion (researchers and companies TBC)
15.30	Concluding words and wrap-up

PEEX SEMINAR at 09:00-14:00

Seminar / Open for all / On-site for the Finnish participants

The PEEX online seminar aims to introduce the research and educational activities and projects at PEEX partner universities, and to discuss future collaboration in a frame of climate change and air quality research. The seminar includes plenary talk on Grand Challenges & Science Diplomacy by Academician Markku Kulmala and general info update about PEEX programme e.g projects and proposal in-progress by PEEX Secretary General Hanna Lappalainen and PI Alexander Mahura. New PEEX partners will introduce their organizations and research activities. We welcome all ACCC researchers who conduct research in the PEEX area to the seminar on site at the Sofia Center.

Organizers Hanna Lappalainen, INAR University of Helsinki
Alexander Mahura, INAR University of Helsinki

Language English

Schedule

09:00	Session I: Welcome & Opening words, PEEX program overview
09:20	Session II-A: Welcome new Partners
10:30	Coffee/ Tea Break (15 min)
10:45	Session II-B: Welcome new Partners (continued)
11:15	Short Coffee/ Tea Break (5 min)
11:20	Session III: Invited presentations from PEEX Partners
11:50	Wrap-up & Next Steps
12:00	End of the PEEX seminar
12:00	Lunch (for onsite participants)
13:00	Plenary talk by Acad. Markku Kulmala

FUTURE EARTH FINLAND (FES) at 14:00-16:00

Workshop / Open for all / On-site only

Future Earth (futureearth.org/networks/global-research-networks) supports the activities of 27 Global Research Networks (GRN) across various fields. These networks together form a global community of approximately 50,000 researchers. Individual networks provide Finnish early-career researchers with opportunities for international collaboration. However, participation requires support, and this is where FES plays a crucial role.

To enhance information dissemination, the committee will organize a meeting to establish a national research network, which would serve as a kind of "network of networks" under FES. Leaders of national research networks and representatives of flagship initiatives are invited to join this meeting. The national FES network of networks would be aimed to reach researchers broadly across different disciplines, from natural sciences to social sciences and the humanities, thereby fostering interdisciplinary research and collaboration.

Organizer Hanna Lappalainen, INAR University of Helsinki

Julia Karhumaa, INAR University of Helsinki

Language Finnish / English

Schedule TBC

TIPPING POINT RISK MANAGEMENT AT 16:00-17:00 incl. dinner (Restaurant)

Seminar / Open for all / On-site

Earth System Tipping Points (ESTPs) pose significant risks to society but are inadequately addressed in national and international strategies. This is partly because ESTPs involve uncertainty and are poorly integrated into global climate models that inform government action. Consequently, strategies for mitigation and adaptation are designed under the false assumption that ESTPs will not be triggered or do not exist. However, some ESTPs could be triggered even within the Paris Agreement's 1.5–2°C limits. These limits will likely be temporarily exceeded, regardless of emission reduction efforts, leaving governments ill-equipped to prevent or respond to ESTP impacts. Varying with ESTP and location, triggering ESTPs would lead to widespread and lasting damage to e.g., food security, ecosystems, economies, health, infrastructure, and national security.

Governments must integrate ESTP risk management into their strategies, prioritizing precaution over uncertainty. Key actions include (1) improving the predictability of ESTPs and their impacts, (2) researching and developing prevention-focused strategies, and (3) preparing for adaptation where possible. However, since adapting to ESTPs vary from challenging to nearly impossible, prevention must take precedence. Minimizing ESTP risks would require rapid emission cuts, large-scale carbon dioxide removal (CDR), and potentially emerging climate interventions. Climate interventions involve political, environmental and scientific uncertainties, and a potential for ESTP risk reduction. With current warming already in the danger zone, solar radiation modification (SRM) has the potential to offer the only rapid cooling option. However, other interventions must be investigated as well to protect ice sheets from accumulated ocean heat.

In this seminar we make the case for governmental ESTP risk management, present research on possible international ESTP governance frameworks, and explore Seabed Curtains, one possible measure for slowing down ice sheet loss.

Organizers Anton Keskinen, Operaatio Arktis in collaboration with ACCC

Liina Huttunen, Operaatio Arktis in collaboration with ACCC

Language English

Schedule

16:00 Welcome, Anni Pokela OA

16:05 Tipping Point Risk Management: Forecast, Prevent, Prepare (Anton Keskinen OA)

16:20 Tipping Point Governance, Yulia Yamineva TBC

16:40 Climate Intervention: Seabed Curtains, John Moore

Sari Multala, Climate Minister, TBC
17:00 Dinner

- Markku Kulmala speech
- Operaatio Arktis call to action / short comment

Wednesday 23.April

Plenary talk: Bishop Kaisamari Hintikka,
09.00-10:00 (main hall)



Plenary talk: Chief Economist Ottmar Edenhofer,
13:00-14:00 (remote, main hall)



NÄKÖKULMIA IHMISEN JA LUONNON SUHTEESEEN (Sofia Earth Forum) at 10:00-12:00

Seminar / Open for all / On-site

Avauspuheenvuorot luonnontieteilijöiltä ja teologeilta valottavat erilaisia lähestymistapoja ihmisen ja luonnon suhteeseen. Keskustelu jatkuu paneelikeskustelun muodossa. Kokonaiskesto 2h. Järjestäjä: Sofia Earth Forum, luonnontieteilijöiden ja teologien keskusteluryhmä.

Organizers Laura Riuttanen, INAR, Helsingin yliopisto
Ilkka Sipiläinen, EVL

Language Finnish

Schedule

09:00 Plenary talk: Kaisamari Hintikka, Espoon piispa
10:00 Tervetuloa: Laura Riuttanen, Helsingin yliopisto
10:10 Avauspuheenvuoro: Risto Saarinen, Helsingin yliopisto
10:25 Avauspuheenvuoro: Atte Korhola, Helsingin yliopisto
10:40 Avauspuheenvuoro: Jyri Komulainen, Kirkon tutkimuskeskus
10:55 Avauspuheenvuoro: Gabriel Salmela, Studium Catholicum
11:10 Paneelikeskustelu

GREENHOUSE GASES REGULATORY ECOSYSTEM SERVICES IN CATCHMENTS at 13:00-15:00

Workshop / open for all / hybrid

Catchments provide essential ecosystem services in regulating atmospheric CO₂ and other climate-relevant gases. These processes are strongly influenced by water, which transports organic matter and nutrients between terrestrial and aquatic systems. Climate change, extreme weather events, and land use influence the water fluxes in the ecosystems and soil-water nexus. Understanding the multiple feedback effects resulting from climate change and human-induced disturbances on the ecosystem services provided by the catchments requires multi- and interdisciplinary collaboration.

The aim of the session "Greenhouse gases regulatory ecosystem services in catchments" is to get together projects related to terrestrial-aquatic continuum, especially those funded by the Water4All 2023 Joint Transnational Call on Aquatic Ecosystem Services. We will aim to have in the beginning 15 min talks to present an overview of ongoing projects related to greenhouse gas fluxes in catchments and catchment ecosystem services and, thereafter, a joint discussion for potential collaboration between projects and potential follow-up. The purpose of this meeting is to foster collaboration between researchers on this topic.

Organizer Jukka Pumpanen, University of eastern Finland (UEF)

Language English

Schedule

13:00 Plenary talk Ottmar Edenhofer
14:05 Opening words, Jukka Pumpanen
Presentations (*max 10 min/ presentations + 5 min questions*)
14:20 Martin Forsius (SYKE) *Developing concepts for large-scale modelling and evaluation of aquatic ecosystem services in forested landscapes*

14:35	Eerika Albrecht (SYKE) <i>Co-creating pathways to desirable nature futures of temperate lakes</i>
15:00	Coffee break
15:20	Lluís Camarero (CEAB-CSIC, Spain) <i>Impacts of climate, N and P deposition and land use on water as a driver of the greenhouse gases regulatory ecosystem service in headwater catchments. SERVICO2</i>
15:35	Jukka Pumpanen (UEF) <i>Biogenic Volatile Organic Compound Emissions from Northern Rivers RIVERVOC</i>
15:50	Joint discussion and possible follow-up
16:00	Closing the session

CLIMATE DIGITAL TWIN: GLOBALLY CONSISTENT EARTH SYSTEM AND IMPACT SECTOR INFORMATION AT SCALES OF A FEW KILOMETERS at 10:00-12:00

Seminar / open for all / on-site recommended, hybrid

Many of the presenters will be online. A hybrid session would markedly increase the number of participants. The session is targeted at researchers and stakeholders. The session introduces Destination Earth (DestinE) which is a flagship initiative of the European Commission to develop a highly-accurate “digital twin” of the Earth to model, monitor and simulate natural phenomena, hazards and the related human activities. These features assist users in designing accurate and actionable adaptation strategies and mitigation measures as well as decision-making. The presentations cover topics:

- What are DestinE and Digital Twins?
- Recent progress in km-scale, multi-decadal timescale simulations of Climate Adaptation Digital Twin
- Several presentations from the Finnish partners of the Digital Twins
-

Organizer Heikki Tuomenvirta, Finnish Meteorological Institute
Tero Aalto, CSC

Language English

Schedule

10:00-10:45 1st part of the session

- Welcome - Jenni Kontkanen, CSC
- Overall status of the initiative DestinE - ECMWF expert (tbc)
- Climate DT overview objectives, models and simulations - Theresa Kiszler, CSC
- Break

10:45- 12:00 2nd part of session (speakers tbc)

- Recent developments in Climate DT simulations
- On-Demand Weather-Induced Extremes Digital Twin – Niko Sokka, FMI
- Observation based verification - Heikki Järvinen, Uni Helsinki
- Off-shore wind power use case – Aleksi Nummelin, FMI
- Wildfire use case – Suraj Polade/ Joonas Kolstela FMI
- Harvester use case - Mikko Strahlendorf, FMI

EDUCATION FOR GREEN SKILLS (Climate University) at 13:00-16:00

Workshop / open for all / on-site recommended, hybrid

Education is the key to the sustainability transition of our societies. How do we educate the work force to future skills? What are the skills needed? Who needs them? How do we organize the education in an effective and impactful way?

In this session, national and international perspectives are shared by keynote speakers, followed by Climate University Action Group meetings in hybrid small groups.

More info on Climate University Action Groups: <https://www.climateuniversity.fi/how-to-collaborate/>

Organizer Laura Riuttanen, INAR University of Helsinki
Language English
Schedule 13:00 Plenary talk Ottmar Edenhofer
14:00 Panel discussion: Education for green skills
- Romain Boitard, European Training Foundation
- Eeva Kuntsi-Reunanen, Finnish Meteorological Institute
- Miika Marttila, LUT University
- moderated by Laura Riuttanen, University of Helsinki
15:15 Climate University Action Group meetings

Science Diplomacy at 15:00-16:00
meeting / on-site

For all ACCC researchers and experts working on Science Diplomacy projects. We create an overview of the ongoing ACCC activities and cooperation in this field.

Organizers Markku Kulmala, Rosa Rantanen, Hanna Lappalainen INAR University of Helsinki
Language Finnish / English
Schedule TBC

AKTUAARIYHDISTYS ILMASTOKOULUTUS at 13:00-16:00
Seminar / open for all / only on-site

Insurance is about bearing risks on behalf of another. When risks change, insurance companies have to react. But when a more substantial change, like climate change is happening, the insurance companies should be more proactive, they should aim for adaptation – not merely for themselves but also for the sake of the policyholders. Mere reacting to observations may lead to protection gaps as companies easily over-emphasize reactions to extreme observations in context of the old environment. If extreme weather events become more frequent or severe it affects the pricing and underwriting of insurance products retroactively. No adaptation may mean that after a major wildfire, or a flooding event a house owner is no more able to find a policy covering those risks deemed uninsurable by the companies afterwards while adaptation methods provide for policyholder risk mitigation beforehand. This session brings together ACCC's researcher's and insurance mathematicians to discuss about the future risks. What are the latest developments? What kind of risks are important to insurance industry? What kind of challenges we are facing?

Organizers Tom Kokkonen, INAR University of Helsinki
Eeva Kuntsi-Reunanen, Finnish Meteorological Institute
Toni Blomster, Finanssivalvonta | Finansinspektionen | FIN-FSA
Mikko Kuusela, University of Helsinki
Language Finnish / English
Schedule 13:00-16:00 including coffee break
- Summer Convective Weather Storm in Finland – Antti Mäkelä tai Terhi Laurila (IL)
- Kaupunkitulvat, Tom Kokkonen (HY)
- Ilmastoasiantuntijan erikoiskoulutus aktuaarin näkökulmasta, Toni Blomster (Finanssivalvonta)
- Innovations in Insurance in a changing Climate – real world examples: Toby Behrmann (Axa Climate) (remote presentation)
- Introduction to PIISA insurance pilots and the idea of piloting: Heikki Tuomenvirta (IL)

NÄKÖKULMIA VAIKUTTAVAAN ILMASTOVIESTINTÄÄN / PERSPECTIVES TO IMPACTFUL CLIMATE CHANGE COMMUNICATIONS at 14:00 -16:00
Seminar/open for all/only on-site

Ilmastomuutos vaikuttaa tavalla tai toisella meistä jokaiseen. Ilmastoaiheisella viestinnällä on siksi tarve tavoittaa ja puhutella ihmisiä taustoista ja lähtökohdista riippumatta. Miten eri toimijat viestivät ilmastoaiheista, ja mikä tekee viestinnästä vaikuttavaa, selkeää ja ymmärrettävää?

Tässä sessiossa esitellään erilaisia tapoja viestiä ilmastoaiheista eri kohderyhmille. Keskustelussa pureudutaan ilmastoviestinnän lähestymistapoihin, haasteisiin, parhaisiin käytäntöihin ja kehityskohtiin. Tavoitteena on uusien oivallusten ja näkökulmien jakaminen sekä ajatusten ristiinpölytys eri toimijoiden välillä. Session koostuu 3-5 erityyppisen ilmastoviestintätoimijan esityksistä, joita seuraavat reflektio ja keskustelu esityksistä sekä yhteenveto koko sessiosta.

Climate change impacts us all, one way or another. Therefore climate change communication needs to reach and address people irrespective of their backgrounds and origins. How do different actors and stakeholders communicate climate-related topics and what renders such communications effective, clear and understandable? This session presents different ways and means to communicate about climate to a variety of target audiences. The discussion tackles approaches, challenges, best practices and areas of development relevant to climate communications. The goal is to discover and share new ideas and points of view as well as cross-pollination between different actors. The session is planned to comprise of presentations of 3-5 different climate communications actors followed by reflection and discussion on the presentations, and summary covering the entire session.

Organizers Tero Siili and Kaisa Ryyänen, Finnish Meteorological Institute
Elina Hiltunen, University of Helsinki

Language Finnish

Schedule Wed 23 Apr 2025 at 14-16 with coffee break at 15:00-15:15; detailed schedule TBC

Speakers

14.0 Tilaisuuden avaus, **Tero Siili & Kaisa Ryyänen**

- Ilmastoviestintää ihmismielelle, tutkija, tietokirjailija **Mira Hulkkonen**, Ilmatieteen laitos
- Ilmastoviestintää kaupunkilaisille, viestintäpäällikkö **Anu-Liisa Rönkä**, Lahden kaupunki
- Toimittajan näkökulma: HS Lasten uutisten ilmastojutut, esihenkilö **Fanny Fröman**, HS Lasten uutiset
- Ilmastoviestinnän haasteet ja mahdollisuudet sosiaalisessa mediassa, nuorten ilmastodelegaatti **Saara Böök**

15.05 Kahvitauko

15.20 Keskustelua

16.00 Yhteenveto & tilaisuuden päätös, **Tero Siili & Kaisa Ryyänen**

OPPORTUNITY TO INTERVIEW ACCC EXPERTS 16:00-16:30 (Restaurant)

The opportunity, among others, for journalists to interview ACCC flagship researchers and the flagship director, Academician Markku Kulmala. open for all / on-site only

ILMASTO 2075 PANEELI JA ILLALLINEN 16.30- (Restaurant)

Illallinen ja paneeli / on-site only

Ilmasto 2075 on paneeli, johon kutsutaan mukaan yhteiskunnan eri osa-alueilta asiantuntijoita keskustelemaan siitä, miten ilmastomuutos vaikuttaa maailman ja Suomen tulevaisuuteen ja erityisesti eri yhteiskunnan osa-alueille. Paneelissa tarkastellaan muun muassa seuraavia osa-alueita: terveys, turvallisuus, liikenne, työelämä, elinkeinoelämä, ja niin edelleen. Paneeli alkaa kahdella key-note puheenvuorolla: Markku Kulmalan ja Elina Hiltusen puheenvuoroilla.

Organizers Markku Kulmala, INAR Helsingin yliopisto
Elina Hiltunen, INAR Helsingin yliopisto

Language Finnish

Schedule

16.30 Buffet-päivällinen

- 17:00 Ilmasto, biodiversiteetti ja turvallisuus, akateemikko Markku Kulmala, ACCC
 17.20 Muutama sana tulevaisuudesta, futuristi Elina Hiltunen, ACCC
 17.40 Paneeli Ilmastonmuutos 2075 – miten ilmastonmuutos vaikuttaa yhteiskuntamme eri sektoreille tulevaisuudessa?
 Puhujat :
 Markku Kulmala, akateemikko, ACCC
 Elina Hiltunen, futuristi, ACCC
- Panelistit:
 Maaria Parry, Johtava ilmastoasiantuntija, ELY-keskusten valtakunnallinen ilmastoyksikkö
 Seija Parvinen, vanhempi ekonomisti, Suomen Pankki
 Emma Hakala, johtava tutkija, Ulkopoliittinen instituutti
 Reija Ruuhela, ilmastoasiantuntija, meteorologi, Ilmatieteen laitos
 Kerttu Kotakorpi, luontotoimittaja, tieto-kirjailija, meteorologi
 Pekka Moren, finanssineuvos, Valtiovarainministeriö ja Valtioneuvoston kanslia
- 18:30 Tilaisuus päättyy

Thursday 24.April

Panel discussion: Indoor AQ Panel Discussion
Plenary talk by Prof. Tuukka Petäjä
“The new Air Quality Directive - opportunities and challenges“
09:00-10:15 (Main hall)



INDOOR AIR AND ENERGY EFFICIENCY – DO WE KNOW WHAT WE DON'T KNOW? 24.4.2025 at 09:00-12:00 (Main hall)

Seminar & co-working / open for all / on-site

The newly revised Energy Performance of Buildings Directive (EPBD) requires that also Indoor Environmental Quality (IEQ) is considered when energy efficiency is improved. Indoor Air Quality (IAQ) is an important part of IEQ. Indoor environment influences indoor air and vice versa. As do many other factors. To ensure we understand how changes indoors will affect both energy efficiency and the processes that determine IAQ, we need to understand what are all the facts that we do not yet understand. This session aims to foster collaboration and information exchange between researchers from different disciplines, experts from companies and decision makers.

Organizers Minna Väkevä, Innoa
 Markku Kulmala, INAR University of Helsinki

Language English

Schedule

- 08:00-08:45 Breakfast is served to those who have registered for breakfast
 08:30-09:00 Registration
 09:00 Plenary by prof. Tuukka Petäjä
 Welcome and introduction to the Challenge of the day
 09:25-10:15 Roasting the experts: we have a line-up of experts with deep insight of EPBD, IAQ and IEQ. Are we able to find out whether they know what they don't know?
 10:15- 10:30 Coffee
 10:30-11:10 Co-working in smaller groups to tackle the Challenge of the day while enjoying a cup of coffee or tea
 11:10-12:00 Re-uniting with the experts. Be prepared to defend and question your views. Expect to be rewarded for uniqueness.
 12:00 Closing the session

12:00-13:00 Lunch is served for those who pre-register for it. This is to avoid waste of food. We warmly welcome you to register if you have the chance to stay.

ACCC RESEARCH INFRASTRUCTURES at 10:30-12:00

Seminar / open for all / on-site only

The society is facing Grand Challenges, a suite of environmental problems on a global scale. The science-based solutions to the interconnected grand challenges require comprehensive and harmonized observations that can provide the society the needed capacity to monitor environmental change and quantify the impacts of policy actions. Reliable, comprehensive environmental data are needed to verify the impact of actions and to develop tools for supporting just societal transition to sustainable life. Environmental research infrastructures are vital in providing reliable and continuous long-term data of the Earth system. Integrated Atmospheric and Earth System Research Infrastructure (INAR RI) provides comprehensive environmental data and services in a Findable, Accessible, Interoperable and Reusable (FAIR) manner for the benefit of the society. The key strength of INAR RI is the interdisciplinary approach that allows to study the interactions and feedbacks between the Earth components: the biosphere, the atmosphere, the hydrosphere, and the upper parts of the lithosphere. INAR RI sets a clear example for Europe as a co-located distributed RI. It implements and coordinates the Finnish contribution to the European Strategy Forum on Research Infrastructures (ESFRI) roadmap infrastructures in the environmental domain, namely Integrated Carbon Observation System (ICOS ERIC), Aerosol, Clouds and Trace Gases Research Infrastructure (ACTRIS ERIC), Integrated European Long-Term Ecosystem, Critical Zone & Socio-Ecological Research Infrastructure (eLTER RI) and Infrastructure for Analysis and Experimentation on Ecosystems (AnaEE ERIC). INAR RI data is the key element in the scientific work done in Atmosphere and Climate Competence Center (ACCC) flagship. It provides the scientific backbone for steps toward carbon and climate neutrality in Finland, EU and globally, as well contributes to mitigate air pollution to sustain a healthy atmosphere. Research infrastructures are one of the key pathways for the flagships towards international cooperation. The overall joint goal in the development of the research infrastructures should be 1) increasing the integration of the research infrastructures at national and global levels and decreasing fragmentation and 2) enhancing research infrastructure impact on science and society.

Organizers Tuukka Petäjä, INAR University of Helsinki
Jaana Bäck, INAR University of Helsinki
Silja Häme, INAR University of Helsinki

Language English

Schedule

10:15-10:30 Coffee

10:30 Start of the session – Welcome

10:35 Opening words (15 min)

Ministry of Education and Culture (Erja Heikkinen), Research Council of Finland (Merja Särkioja (tbc))

10:50 Short comments/presentations from environmental RI representatives (30 min)

ACTRIS ERIC (Eija Juurola) – title tbc

ICOS ERIC (Emmanuel Salmon) – title tbc

eLTER (Jaana Bäck) - Fostering interoperability in ecological and socio-ecology research: The role of eLTER infrastructure

AnaEE (Jutta Kauppi) – title tbc

11:20 Joint/panel discussion (30 min)

11:50 Concluding words and wrap-up

12:00 Session closes

CHANGING FUELS AND EMISSIONS at 13:00-15:00

Seminar / open for all / on site only

For Europe to be able to reach the ambitious climate targets of the Green Deal and the zero pollution vision by 2050, the transport sector is required to implement wide-reaching changes. This includes changes to fuels and technologies, which will have a profound impact on the emissions from the sector. At the same time, the understanding and research of emissions and air quality has developed rapidly to include, for example,

new emerging compounds and secondary emission formation. Finnish universities and research institutions are doing active research the transport emission and air quality field and are leading an participating in a number or Horizon Europe projects on the topic.

To effectively address the target of a cleaner transport sector, collaboration between research efforts is essential. In this session, several starting and ongoing EU project representatives will present their project work and discuss opportunities for collaboration between the projects.

Organizer Miikka Dal Maso, Tampere University

Language English

Schedule

- Introduction, Topi Rönkkö
- REALCHEM - Rea-world emission Experiments and comprehensive Assessment of Low-carbon fuels: towards Clean Hard-to-Electrify transport Modes, Miikka Dal Maso
- PAREMPI - Particle emission prevention and impact: from real-world emissions of traffic to secondary PM of urban ai, Päivi Aakko-Saksa
- UNIC, Ismael Ortega
- Open discussion of collaboration opportunities between projects

Global South at 13:00-14:00

meeting / on-site

For all ACCC researchers and experts working on Global South projects. We will create an overview of the ongoing ACCC research activities and cooperation in this field.

Organizers Markku Kulmala, Rosa Rantanen INAR University of Helsinki

Language Finnish / English

Schedule TBC

CO-CARBON project: Recent findings on urban carbon cycle and sinks at 13:00-14:00

seminar / open for all / hybrid

Urban green infrastructure plays a key role in climate change mitigation and adaptation at the same time when having other benefits. Vegetation and soil store atmospheric carbon, modify local climate conditions, enhance stormwater cycling, and increase human well-being. CO-CARBON project studies carbon-smart urban green infrastructure from multiple perspectives and focuses, for example, on quantifying and modelling carbon sequestration and storage in urban green areas and examining the planning of carbon-smart urban green infrastructure from city-level to individual green spaces. This seminar presents some recent findings of the project.

Organizer Leena Järvi, INAR University of Helsinki

Language English

Schedule

13:00 Leena Järvi, University of Helsinki: Overview of the CO-CARBON project

13:10 Minttu Havu, University of Helsinki: Quantifying city-wide CO₂ sinks using urban land surface modelling

13:25 Caroline Moinel, Aalto University: Unveiling Landscape Life Cycle Assessment: towards holistic understanding of carbon flows in urban green spaces

13:40 Liisa Kulmala, Finnish Meteorological Institute: Biogenic Carbon sequestration in cities: applying scalable, cost-effective and science-based models to support services and end-users

CLIMATE AND AIR QUALITY IMPACTS OF BOREAL FOREST FIRES (BoFF) at 14:00-16:00

workshop/ open for all / hybrid

Workshop on the project "Climate and air quality impacts of boreal forest fires (BoFF)" funded by the Jane and Aatos Erkko foundation. In the seminar, results from the project so far will be presented. Another aim of the workshop is to discuss how the results can be best utilized in e.g. modelling etc. Stakeholders from Metsähallitus will be invited. Workshop can be partly online. More information from Annele Virtanen.

Organizer Annele Virtanen, University of Eastern Finland
Kajar Köster, University of Eastern Finland
Language Finnish/English
Schedule TBC

MANAGING FORESTS FOR CLIMATE CHANGE MITIGATION: ForClimate -project final seminar at 14:00-17:00 (room)

seminar / open for all / on-site participation recommended (possibility to follow online)

Forests are important for climate change mitigation as they remove CO₂ from the atmosphere through photosynthesis and store it in plant biomass and soil. Forests also lose carbon in plant and soil respiration, decomposition, run-off, leaching and disturbances. The net carbon sink of a forest is the difference between carbon absorbed in photosynthesis and carbon removal from the forest, and the accumulation of a carbon sink forms forest's carbon storage. Globally, forests absorb one third of the CO₂ that is annually emitted to the atmosphere by human activity. In addition to absorbing and emitting CO₂ and other greenhouse gases (GHG), forests have also other climate effects. The low albedo of boreal conifer forests mainly has a warming effect, whereas the contribution of forests to formation of aerosols has a cooling effect. Boreal forests emit large quantities of volatile organic compounds that can form secondary organic aerosol, affecting cloud albedos and lifetime and thus increasing the scatter of solar radiation back to space. We call the sum of all these climate effects CarbonSink+. Although the fore-mentioned climate impacts of forests are well recognized, knowledge is lacking on how forest management impacts them.

In the ForClimate project, we worked to improve our understanding of forest–atmosphere interactions in changing climate helping to make more precise predictions of the land-based climate change mitigation potential of forests in different future scenarios. We analyzed the impacts of forest management and changing climate on the various forest climate impacts by combining comprehensive long-term data sets on forest carbon dynamics and ecosystem-atmosphere interactions with empirical and process-based models on forest growth. We developed further also process-based and management-oriented model tools that will allow assessing forest management related climate feedbacks at various spatial and time scales. The consortium consists of atmospheric scientists, forest scientists and computer scientists from the University of Helsinki, the Natural Resources Institute Finland and the Finnish Meteorological Institute. The project is done in collaboration with the Finnish Forest Industries Federation, The Central Union of Agricultural Producers and Forest Owners (MTK), Metsähallitus and forest related advisory and consulting enterprise Tapio.

In this seminar, we present project results, such as the impact of forest thinning and continuous cover forestry on forest carbon sink, the capability of different ecosystems to produce aerosol particles, and the use of AI methods in analysing forest climate impacts. We also discuss in a panel the future possibilities and threats related to the climate impacts of forests together with our stakeholder collaborators.

Organizers Anna Lintunen, INAR University of Helsinki
Helena Rautakoski
Piaopiao Ke
Gonzalo de Quesada

Language English

Schedule

14:00	Welcome
14:10	Short presentations on the results
15:00	Coffee break
15:15	Short presentations on the results
16:15	Panel discussion on the future possibilities related to the climate impacts of forests

HY ERKO ETÄLUENTO at 15:00-17:00 (room)

Lecture / closed / On-site hybrid meeting (possibility to follow event remotely)

Helsingin yliopiston järjestämän ilmastoasiantuntijan erikoistumiskoulutuksen toukokuun etätapaaminen, jossa käydään läpi kaksi toimialakohtaista katsausta ilmastotyöhön ja keskustellaan alojen ilmastotyön näkökulmista yhdessä alalla toimivien asiantuntijoiden kanssa.

Organizers Eeva Kuntsi-Reunanen, Kenneth Peltokangas, Laura Riuttanen, Taina Ruuskanen, Aleks Vauhkonen, Paavo Kettunen, Henna Naumanen

Language Finnish

Schedule 15:00 Aloitus

Kaksi toimialakohtaista ilmastotyön esittelyä ja asiantuntijanäkökulmaa

17:00 Lopetus

ACCC SCIENCE AND IMPACT ADVISORY BOARD (SIAB) MEETING at 17:00-18:00

Meeting/closed / hybrid

Organizer Markku Kulmala, INAR University of Helsinki

Hanna Lappalainen, INAR University of Helsinki

Language English

Friday 25.4

Panel discussion 09:00-10:00

IMPACT AND EFFECTIVENESS OF POLICIES AND MEASURES TO COMBAT CLIMATE CHANGE at 09:00-10:45 (main auditorium)

Panel discussion/ Open for all /On-site

Finland and the EU have used different policies and measures to combat climate change in the past two decades. These are mostly regulations based on law - such as norms, emissions trading and taxes – and some are voluntary – such as compensation schemes. In the session we will i) discuss the pros and cons of the instruments, ii) ask how well they have performed thus far to reduce greenhouse gas emissions in Finland and the EU and iii) based on these learnings, discuss how to address new and tougher challenges, including sinks in forests and agriculture. During the panel discussion and the Q&A it would be helpful to identify how ACCC's research could help to provide incentives to increase carbon sinks, in particular their meaningful and efficient verification.

Organizer Matti Vainio, INAR University of Helsinki

Language English

09:00 Introduction: Economic instruments, compulsory norms and voluntary measures to curb climate change. (Matti Vainio, University of Helsinki)

9:15 Household-level responses to fossil fuel pricing (Prof. Lassi Ahlvik, University of Helsinki)

9:30 Emissions trading as a steering tool for climate policy (Eleonoora Eilittä, Ministry of Economic Affairs and Employment)

9:45 Economics of policy measures in increasing forestry carbon sinks (Olli Tahvonen, University of Helsinki)

10:00 Panel discussion with Q & A

10:30 Conclusions

10:45 Close of session

SCIENTIFIC CLIMATE IMPACT DATA FOR EFFICIENT CARBON PRICING at 11:00 – 15:00 (main auditorium)

Keynote & panel / Open for all / on-site

Climate solutions are in focus everywhere and policy challenge is remarkable. Actions need to be coordinated to achieve sufficient convergence at international level to avoid carbon leakage and harmful trade impacts. Besides the UN led climate convention process, we have witnessed many climate policy initiatives and coalitions established during the last decade. We have e.g. the Finance Ministers' Coalition for Climate Action to enhance the use of economic, fiscal and financial policy tools; Climate Club of the Heads of States to support cross border industrial transformation and many other global, regional and local examples. However, we still need to improve international coordination and develop standards regionally and globally.

We should act in many fronts from air quality, climate mitigation and adaptation objectives, to management of biodiversity loss and CO₂ levels in atmosphere. One concrete goal for global community should be accelerating carbon markets and subsidy policies, based on common scientific research and analysis. We need to share views of climate impact findings by researchers but also evaluate impact from economic and societal angles. It is important to create hope and predictability based on scientific facts and multi-dimensional analysis. Relevant, reliable and comprehensive environmental data is necessary in verification of the climate impact of our action as well as in development of tools for supporting just societal transition to sustainable life. Key tools are international emission trading systems, offsetting mechanisms, carbon taxes, and other approaches (UNFCCC 2024).

This event aims at building dialogue between academia, businesses and policy makers to promote discussion on efficient carbon pricing approaches towards the COP30 in Brazil. Measuring and analyzing climate impact is the key element in the scientific work done in Atmosphere and Climate Competence Center (ACCC) flagship. This work is widely acknowledged in regional and global research networks offering a crucial scientific backbone for steps towards carbon and climate neutrality in Finland, EU and globally. The ACCC is a relevant partner for transparent, efficient and legally sound carbon pricing development.

Organisers Sami Paatero INAR University of Helsinki

Language English

Schedule

- 11:00 Welcome words (TBC)
- 11:10 Climate Impact in Global Economic Policy Context, Pekka Morén, Prime Minister's Office, Finland
- 11:30 Importance of common carbon pricing mechanism for industries – why standards are needed (CEO Tuuli Kaskinen, CLC)
- 11:50 Research Infrastructure and Available Atmospheric Data from the ACCC, Professor Tuukka Petäjä, INAR University of Helsinki
- 12:15 Lunch
- 13:00 Keynote speech from Investment Sector, (TBC)
- 13:30 Panel Discussion (participants TBC)
Climate impact in business environment - from compliance to scalable added value
- 14:15 Open discussion led by Markku Kulmala
- 15:00 Wrap-up of the ACCC impact week by Markku Kulmala
- 15:15 Coffee

HOW CAN STAKEHOLDERS, ESP. SCIENTISTS, PARTICIPATE IN AND INFLUENCE CLIMATE POLICYMAKING? at 13:00-15:00 (auditorium)

Seminar / open for all / on-site

Climate policymaking – including determination of targets, preparation of climate plans, and selection of policy measures – is naturally state-led activity. However, different stakeholders and experts increasingly participate and are invited to participate in this work. Their participation may be clearly institutionalized (e.g. through established science panels), semi-institutionalized (e.g. through membership of preparatory bodies or national delegations to international negotiations) or unstructured (e.g. through statements on government bills, meetings with officials and public awareness-raising). The roles of stakeholders range from enhancer of legitimacy and guardian of democratic participation to provider of expertise to policymaking,

and from a critical voice to a cooperative deliberation partner. Irrespective of the manner or roles of participation, or its level of institutionalization, openness and transparency of climate policymaking are the cornerstones enabling effective participation and possibilities to influence the processes.

Scientists are a crucial stakeholder group in any effort of climate policymaking. Their expertise has to be consulted in the preparation of climate policies and measures. However, the extent to which the voices of scientists are heard and genuinely taken into account in policy decisions varies. What is more, climate policymaking is dominated by Western science while traditional knowledge of Indigenous peoples is often overlooked.

Organizer Tuula Honkonen, University of Eastern Finland (UEF)

Language English

Schedule

Welcome & Introduction

13:00 On the roles of stakeholders in climate policymaking (Senior Lecturer Tuula Honkonen, UEF)

Presentations (10 min) and Q&A (5 min)

13:15 On the influencer-role of scientific climate panels (PhD Researcher Katri Varis, UEF)

13:30 Preparation of voluntary carbon offsetting as an example of the influence of science and stakeholders on climate policymaking (PhD Researcher Sara Tolonen, UEF)

13:45 The new Sámi Climate Council: Re-thinking the role of science and participation in the Finnish climate policymaking (Tuula Honkonen, UEF)

Invited comment talks NOT CONFIRMED

14:00 a researcher-influencer perspective (e.g. by Niko Humalisto, FELM & UEF), a former NGO campaigner, current academic researcher (Otto Bruun, UEF), a government official with a special perspective to research (Heta-Elena Heiskanen, Ministry of the Environment), a member of the Sámi Climate Panel (e.g. Hilppa Gregow, FMI)

14:30-15:00 Discussion

15:00

Coffee