



**KU-IIASA Symposium 2024**  
**"Towards an Integrated Approaches for Modelling  
Ecosystem Material Cycle and Climate Crisis-Related Disturbances"**

*April 15 2024, IIASA, Laxenburg, Austria*

Building on the previous annual collaborations between IIASA and OJERI at Korea University, a return workshop is scheduled at IIASA during EGU 2024. The KU-IIASA Symposium, titled "Towards Integrated Approaches for Modeling Ecosystem Material Cycles and Climate Crisis-Related Disturbances," will underscore the importance of integrated methodologies in confronting the climate crisis. Discussions will center on sharing research experiences and knowledge on ecosystem material cycles and climate crisis-related disturbances, as well as exploring opportunities for future collaborative research and establishing a researcher exchange program between the two institutes. Participants from Korea University, KU-IIASA Postdoctoral researchers, LOI organization members, and IIASA researchers are expected to attend.

**Time** 09:30 - 15:00 CET

**Venue** Gvishiani Room, IIASA, Laxenburg, Austria

**Organizers** International Institute for Applied Systems Analysis (IIASA), Austria  
OJeong Resilience Institute at Korea University (OJERI@KU), Republic of Korea

**Sessions**

**Session 1** **Integrated ecosystem modeling of KU-IIASA focusing on agriculture-forestry-ecosystem.**

The objective of this session is to foster a deeper mutual comprehension of ongoing research employing integrated methodologies for modeling biophysical dynamics and ecosystem material cycles. Central to the discussion will be the utilization of key models from IIASA's AFE group, such as EPIC, G4M, FLAM, and BeWhere, which encompass agriculture, forest growth and disturbance, and system optimization. Emphasis will be placed on exploring their integrated applications while acknowledging their individual utility. Participants will engage in dialogue concerning modeling techniques and the current state of research advancement.

**Session 2** **Developing future collaboration towards understanding material cycles and integrated modeling.**

This session will overview the accomplishments of the KU-IIASA collaboration up to date and discuss student presentations and the future directions of our research cooperation. The discussion will also cover the following topics: collaboration of history between KU-IIASA, agricultural modeling, ecosystem material cycles, and impact of carbon emissions on ecosystems. Based on the presentation, participants will seek agenda of future collaboration topic and researcher exchange programs.



## KU-IIASA Symposium 2024

### Agenda

#### Official Forum Zoom Link:

<https://iiasa.zoom.us/j/95730471706>

Meeting ID: 957 3047 1706

Passcode: 635676

Monday, 15 <sup>th</sup> April, 2024	
08:15	<b>Bus transfer departing from Vienna, Schwedenplatz Bus line</b>
08:45 – 09:30	<b>Welcome Coffee, Gvishiani Room</b>
09:30 – 09:35	Welcome Remarks <b>Wolfgang Lutz</b> , Interim Deputy Director General for Science of IIASA
09:35 – 09:40	Opening Remarks <b>Prof. Woo-Kyun Lee</b> , Director of OJEong Resilience Institute (OJERI)
09:40 – 09:45	Group photo
<b>Session 1</b>	<b>Integrated ecosystem modeling of IIASA-OJERI focusing on agriculture-forestry-ecosystem. (presentations and discussions) (75 min)</b>
09:45 – 10:55	Integration of Korean dynamic forest growth model (KO-G-Dynamic model) and IIASA's BeWhere model (10 mins) <b>Dr. Mina Hong</b> , Korea University (KU-IIASA Postdoc)  Latest research applications of IIASA's FLAM Model – an overview and outlook (10 mins) <b>Dr. Andrey Krasovskiy</b> , IIASA BNR-AFE  Agriculture, Forestry, and Ecosystem Services Group's Integrated Model (AFEIM) (10 mins) <b>Dr. Hyun-Woo Jo</b> , Korea University (KU-IIASA Postdoc)  G4M application and improvement in Korea (10 mins) <b>Dr. Eunbeen Park</b> , Korea University (KU-IIASA Postdoc)  IIASA's Global Forestry Model G4M – applications and outlook (10 mins) <b>Dr. Colin Johnstone</b> , IIASA BNR-AFE  Forest fire in South Korea (10 mins) <b>Dr. Myung Soo Won</b> , National Institute of Forest Science (NIFoS)  Latest research and innovation using EPIC-IIASA (10 mins) <b>Dr. Christian Folberth</b> , IIASA BNR-AFE
10:55 – 11:00	<b>Break</b>

Session 2	Developing future collaboration towards understanding material cycles and integrated modeling (presentations and discussions) (90 min)
11:00 – 12:30	<p>OJERI@KU-IIASA collaboration history and modelling approach (10 mins) <b>Dr. Cholho Song</b>, OJERI@KU (former YSSP, AFE)</p> <p>Development of MOTIVE- and DIRECTION-agricultural model (10 mins) <b>Dr. Jinsol Hong</b>, OJERI@KU</p> <p>The Environmental Crisis: How Material Cycle Shifts Threaten Ecosystems (10 mins) <b>Dr. Hun Park</b>, OJERI@KU</p> <p>The 3<sup>rd</sup> Pole Project in Mid-Latitude Region (10 mins, online) <b>Dr. Sonam Wangyel Wang</b>, OJERI@KU</p> <p>DAC-based E-Fuels for the Aviation Sector – an Outlook on China using IIASA's BeWhere Model (10 mins) <b>Dr. Shubham Tiwari</b>, IIASA BNR-AFE</p> <p><b>Recent collaboration by YSSPers</b> Building an assessment framework for sustainable land use in the Korean Peninsula (5 mins, online) <b>Ms. Whijin Kim</b>, Korea University (former YSSP, AFE)</p> <p>Development of HWP carbon change model for achieving NDC in South Korea (5 mins, online) <b>Mr. Youngjin Ko</b>, Korea University (YSSP Candidate, AFE)</p> <p><b>Discussion (10 mins)</b></p> <p><b>Lightening talks (short presentations 3min each – 20 minutes)</b></p> <p><b>Mr. Sujong Lee</b> <b>Mr. Minwoo Roh</b> <b>Ms. Youjeong Jeong</b> <b>Ms. Jeongmin Lee</b> <b>Ms. Heejae Jo</b> <b>Mr. Won Joon Lee</b> <b>Ms. Sujeong Kang</b> <b>Mr. Jiandong Bi</b></p>
12:30-13:00	<b>General discussion (current and future collaborations)</b>
13:00-13:40	<b>Lunch Sandwich catering</b>
13:40-14:00	<p><b>Closed Meeting (1 hours +): Discuss for the collaboration between IIASA-KU</b></p> <ul style="list-style-type: none"> <li>- Prof. Woo-Kyun Lee</li> <li>- Prof. Yowhan Son</li> <li>- Prof. Kijong Cho</li> <li>- Prof. Junga Lee</li> <li>- Dr. Cholho Song</li> <li>- Dr. Hun Park</li> <li>- Dr. Florian Kraxner</li> <li>- Dr. Juraj Balkovic (Online)</li> <li>- Dr. Chris Folberth</li> <li>- Dr. Andrey Krasovskiy</li> <li>- Dr. Hyun-Woo Jo</li> <li>TBD</li> </ul>
14:00-15:00	<p><b>Internal web meeting with Dr. Florian Kraxner and Dr. Sabine Fuss with KU team</b></p> <p><b>IIASA tour</b> - IIASA tour for first visitors of IIASA</p>
15:30	<b>Bus transportation to Vienna, Schwedenplatz</b>

Tuesday, 16th April, 2024

19:00 -

Social Event in Zwölf Apostelkeller  
Sonnenfelsgasse 3, 1010 Wien, Austria

## Participants List

### IIASA delegation:

1. **Dr. Florian Kraxner** ([kraxner@iiasa.ac.at](mailto:kraxner@iiasa.ac.at))  
Principal Research Scholar and Research Group Leader, Agriculture, Forestry, and Ecosystem Services (AFE), Biodiversity and Natural Resources (BNR), International Institute for Applied Systems Analysis (IIASA)
2. **Dr. Christian Folberth** ([folberth@iiasa.ac.at](mailto:folberth@iiasa.ac.at)),  
Research Scholar, Agriculture, Forestry, and Ecosystem Services (AFE), Biodiversity and Natural Resources (BNR), International Institute for Applied Systems Analysis (IIASA)
3. **Dr. Colin Johnstone** ([johnstone@iiasa.ac.at](mailto:johnstone@iiasa.ac.at))  
Research Scholar, Agriculture, Forestry, and Ecosystem Services (AFE), Biodiversity and Natural Resources (BNR), International Institute for Applied Systems Analysis (IIASA)
4. **Dr. Andrey Krasovskiy** ([krasov@iiasa.ac.at](mailto:krasov@iiasa.ac.at))  
Senior Research Scholar, Agriculture, Forestry, and Ecosystem Services (AFE), Biodiversity and Natural Resources (BNR), International Institute for Applied Systems Analysis (IIASA)
5. **Dr. Shubham Tiwari** ([tiwaris@iiasa.ac.at](mailto:tiwaris@iiasa.ac.at))  
Research Scholar, Agriculture, Forestry, and Ecosystem Services (AFE), Biodiversity and Natural Resources (BNR), International Institute for Applied Systems Analysis (IIASA)
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Post-Doc., AFE, IIASA & OJEong Resilience Institute (OJERI), Korea University
7. **Dr. Eunbeen Park** ([parke@iiasa.ac.at](mailto:parke@iiasa.ac.at))  
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Post-Doc., AFE, IIASA & OJEong Resilience Institute (OJERI), Korea University

### Visitor delegation:

#### In person

9. **Prof. Woo-Kyun Lee** ([leewk@korea.ac.kr](mailto:leewk@korea.ac.kr))  
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M.S. Student, Dept. of Environmental Science and Ecological Engineering, Korea University

### Online

26. **Dr. Sonam Wangyel Wang** ([wangsonam@korea.ac.kr](mailto:wangsonam@korea.ac.kr))  
Research Professor, OJong Resilience Institute (OJERI), Korea University
27. **Ms. Whijin Kim** ([whijin@korea.ac.kr](mailto:whijin@korea.ac.kr)) (online)  
Ph.D. Candidate, Dept. of Environmental Science and Ecological Engineering, Korea University
28. **Mr. Yungjin Ko** ([2018010882@korea.ac.kr](mailto:2018010882@korea.ac.kr)) (online)  
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## Logistical Information

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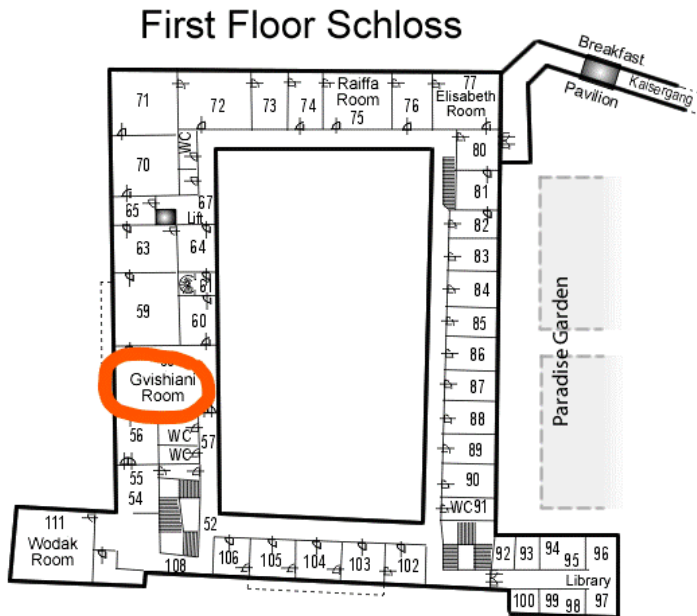
### ❖ TRANSPORTATION

We have arranged a shuttle bus (company name: Blaguss) for convenient transportation to Laxenburg.  
Shuttle bus schedule:

Departure	Tuesday, 21. November 2023
Pickup Time	<b>08:05</b>
Departure Time	<b>08:15</b>
Pickup Location	Schwedenplatz Busline, Vienna
Destination	IIASA Laxenburg, 2351 Laxenburg, Schloßplatz 1
Return to Hotel	Tuesday, 21. November 2023
Departure Time	<b>15:30</b>
Pickup Location	IIASA Laxenburg, 2351 Laxenburg, Schloßplatz 1
Destination	Schwedenplatz Busline, Vienna

## ❖ IIASA PREMISES

The symposium takes place in the **Gvishiani room**, located on the first floor. Please take the stairs on the left side from the main entrance.



## ❖ INTERNET CONNECTION

Wireless Internet connection is available throughout the IIASA premises.

Username: **ku-iiasa**  
Password: **April2024**