



ILTER-Nitrogen Initiative International Training Course

Long-term trends in nitrogen cycles in ecosystems

- Field monitoring and global comparisons -



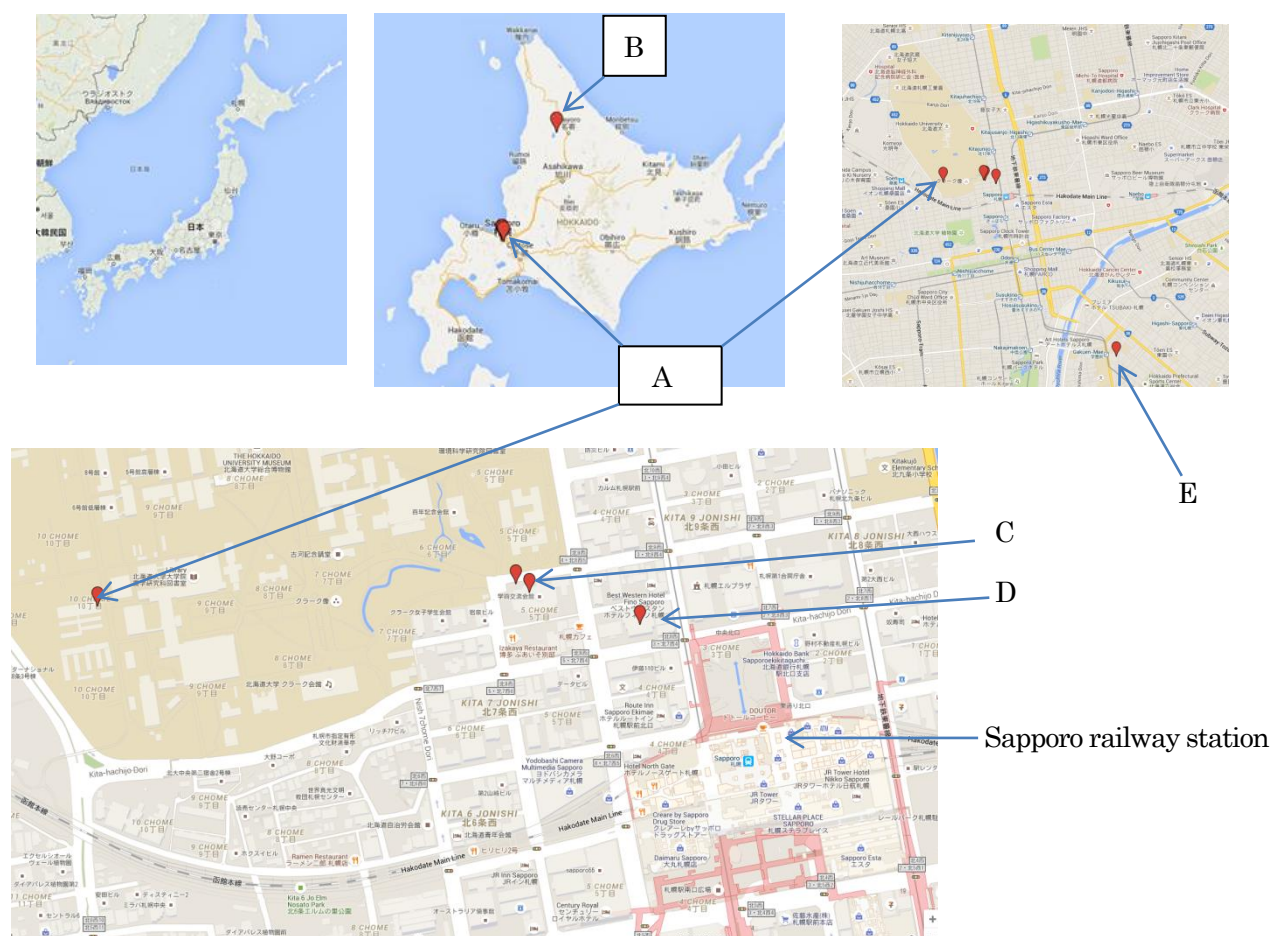
June 16-24th, 2016

Hokkaido University
Uryu Experimental Forest

Preface

The International Long-Term Ecological Research (ILTER) Network is organizing an international training course on long-term trends in nitrogen cycles in ecosystems – Field monitoring and global comparisons. This training course is designed to expose young researchers (PhD students, Postdoctoral Researchers and Early Career Faculty) to state-of-the-art approaches to analysis of nitrogen cycling in ecosystems with a focus on key ecosystem processes and implications for environmental pollution. The course will include lectures, field classes, data collection and analysis, and group discussion. Participants will learn about standard research protocols, emerging methods, recent findings and data analytical tools and will gain experience working with international colleagues. Welcome and enjoy!

Local organizing committee of the ILTER-N training course in 2016



Main venue:

Hokkaido University (Kita-9, Nishi-9, Kita-ku, Sapporo, Hokkaido, 060-0809, Japan)

Uryu Experimental Forest, Japan (Moshiri, Horokanai, Hokkaido, 074-0741, Japan)

For specific locations of each point, you can refer and download them from the Google map → <https://goo.gl/pYIyt>

A: Food Resources and Research Building of Hokkaido University (Venue on June 16-18th)

B: Uryu experimental forest of Hokkaido University (Venue for field course during June 20-24th)

C: Conference hall of Hokkaido University (Symposium on June 19th)

D: Sapporo Aspen Hotel (Symposium dinner on June 20)

E: Sapporo International Youth Hostel (Accommodation for most participants during June 15-20th)

Program overview

- ***ILTER lectures***

Various lectures will be given by the LTER experts around world. Participants will learn the overall concepts, current problems, new findings and emerging issues related to the nitrogen cycle.

- ***ILTER field data collection***

Participants collect data on nitrogen cycle processes including N₂O emission (with analysis of stable isotopes), stream chemistry, litter decomposition, soil N dynamics and others using various instruments and equipment in a JaLTER-core site, the Uryu Experimental forest, Hokkaido University, Japan. Participants will also analyze and interpret the collected data in a small group to elucidate patterns and mechanisms and develop further research questions.

- ***ILTER archived data analysis***

Small groups will conduct cross-site analysis of long-term datasets on nitrogen cycles and budgets archived in various ILTER sites. The groups will develop specific questions and hypothesis, followed by data comparison and synthesis. The most successful groups will be encouraged to develop manuscripts for peer-reviewed journal by collaborating with the relevant ILTER experts and data providers as co-authors.

- ***Joint symposium***

This course is jointly organized by JaLTER (Japan LTER network) as a part of the 10 year anniversary the JaLTER program. Several keynote talks and oral and poster presentations will be given to celebrate this milestone. Participants are encouraged to contribute poster presentations to this event.

Instruction of the poster presentation:

- The size of the poster board is "86 cm wide and 176 cm height" (Portrait).
- In the symposium on June 19th, there is an oral session for the "Poster highlight". Each of poster presenters will introduce your poster just within 1 minutes using 1-page slide.



Schedule overview

Start	End	Thu 16-Jun	Fri 17-Jun	Sat 18-Jun	Sun 19-Jun	Mon 20-Jun	Tue 21-Jun	Wed 22-Jun	Thu 23-Jun	Fri 24-Jun	Start	End
9:00	9:15										9:00	9:15
9:15	9:30			Lichen: Pinho	Introduction						9:15	9:30
9:30	9:45		Meta-analysis: Templer	Microbe & Molecular: Isobe	Jal-TER: Hlura						9:30	9:45
9:45	10:00		Break	Break	US-LTER: Groffman						9:45	10:00
10:15	10:30		Break	Break	Break						10:00	10:15
10:30	10:45			Break	Portugal-LTER: Pinho						10:15	10:30
10:45	11:00			Long-Term N ₂ O: Groffman	TERN: Lin						10:30	10:45
11:00	11:15		Statistics: Lin		Poster highlight						10:45	11:00
11:15	11:30										11:00	11:15
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13:15	13:30	Introduction: Shibata									13:00	13:15
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											20:45	21:00

Indoor lecture / presentation	Group work
Field lecture	Group work

Program of each day

June 16th (Thursday)

- 13:00 – 13:15 Introduction: Hideaki Shibata (Hokkaido University, Japan)
- 13:30 – 14:30 Nitrogen saturation and stable isotope signals in Japanese forest catchments: Keisuke Koba (Center for Ecological Research, Kyoto University)
- 14:30 – 15:00 Coffee break
- 15:00 – 15:45 Global meta-analysis of N₂O emission in the ILTER network: Jianwu Tang (The Ecosystem Center, Marine Biological Laboratory, USA):
- 15:45 – 16:15 Guidance of data availability for the group work: Hideaki Shibata (Hokkaido University, Japan)
- 16:15 – 17:30 Group work: LTER Data analysis
- 18:00 – 20:00 Welcome party
(Food Resources and Research Building of Hokkaido University)

June 17th (Wednesday)

- 9:00 – 10:15 Data synthesis and meta-analysis using LTER Data: Pamela Templer (Boston University, USA)
- 10:15 – 10:45 Coffee break
- 10:45 – 12:00 Statistical challenges in analyzing long-term ecological data: Yiching Lin (Tunghai University, Taiwan)
- 12:00 – 13:00 Lunch break
- 13:00 – 14:00 How to detect early warning signal from long-term ecological data? Hideyuki Doi (University of Hyogo, Japan)
- 14:00:14:30 Coffee break
- 14:30 – 16:30 Group work: LTER Data analysis
- 16:30 – 17:00 Coffee break
- 17:00 – 18:00 Group work: Interim report

June 18th (Saturday)

- 9:00 – 9:45 Lichens as ecological indicators for the effects of atmospheric nitrogen: Pedro Pinho (University of Lisbon, Portugal)
- 9:45 – 10:30 Advances in molecular approaches to understand the role of soil microbial communities in nitrogen

biogeochemistry: Kazuo Isobe (The University of Tokyo, Japan)

- 10:30 – 11:00 Coffee break
- 11:00 – 11:45 Long-term patterns and processes in N₂O emission in ecosystems: Peter Groffman (City University of New York, Advanced Science Research Center, USA)
- 11:45 – 12:30 Long-term changes in nitrogen cycles, water quality and isotopic composition in Lake Kasumigaura, Japan: Ayato Kohzu (National Institute for Environmental Studies, Japan)
- 12:30 – 13:30 Lunch break
- 13:30 – 14:15 Can you detect nitrogen pollution by moss? Yoshitaka Ohishi (Fukui Prefectural University, Japan)
- 14:15 – 18:00 Group work: LTER Data analysis

June 19th (Sunday):

JaLTER / ILTER Joint symposium – ILTER updates and Nitrogen cycle research in ecosystems

- 9:00 – 9:15 Introduction of symposium: Hideaki Shibata (Hokkaido University, Japan)
- “ILTER progress and challenges”*
- 9:15 – 9:45 Japan LTER (JaLTER): Tsutom Hiura (Hokkaido University, Japan)
- 9:45 – 10:15 US-LTER: Peter Groffman (City University of New York, Advanced Science Research Center, USA)
- 10:15 – 10:45 Coffee break
- 10:45 – 11:15 Long Term Ecological Research in Portugal: Pedro Pinho (University of Lisbon, Portugal)
- 11:15 – 11:45 Challenges and opportunities of Taiwan Ecological Research Network: Yiching Lin (Tunghai University, Taiwan)
- 11:45 – 12:15 Poster highlight
- 12:15 – 13:30 Lunch break
- 13:30 – 15:30 Poster session
- “Keynote talks”*
- 15:30 – 16:15 Nitrogen biogeochemistry in Japan: Nobuhito Ohte (Kyoto University, Japan)
- 16:15 – 17:15
- Nutrient cycling of subtropical forest ecosystem for 20 years: from observation to simulations: Chung-Te Chang (National Taiwan University, Taiwan), Chiao-Ping Wang (Taiwan Forestry Research Institute, Taiwan)
 - Nitrogen Biogeochemistry on agricultural ecosystem in Taiwan and Chiling Chen (Taiwan Agricultural Research Institute, Taiwan)
- 17:15 – 17:30 Closing of the symposium

18:00 – 20:00 Symposium dinner
(Sapporo Aspen Hotel)

June 20th (Monday)

9:00 Departure of bus to Uryu Experimental Forest
(In front of Conference hall of Hokkaido University)

13:30 (Estimate) Arrival at the headquarter office and accommodation of Uryu Experimental Forest, Hokkaido University

14:00 – 14:30 Introduction and house-keeping

14:30 – 15:15 Long-term nitrogen dynamics in a tropical landscape: William McDowell (University of New Hampshire, USA)

15:15 – 15:45 Break and preparation for field lecture

“Field lectures”

15:45 – 17:15 Vegetation N uptake: Pamela Templer (Boston University, USA) and Makoto Koayashi (Hokkaido University, Japan)

18:00 – 19:30 Dinner

19:30 – 20:30 Tea-bag experiments; Introduction and preparation: Ika Djukic (Environment Agency, Austria)

June 21st (Tuesday)

“Field lectures”

9:00 – 12:00 Soil N, Litter decomposition, Vegetation, Mosses: Hideaki Shibata (Hokkaido University, Japan), Yoshitaka Ohishi (Fukui Prefectural University, Japan)

12:00 – 13:00 Lunch break

13:00 – 17:00 N₂O emission, Stream N, Vegetation, Earth warm: Yoshitaka Uchida, Karibu Fukuzawa, Hideaki Shibata, Makoto Kobayashi, Toshiya Yoshida (Hokkaido University, Japan)

18:00 – 19:30 Dinner

19:30 – 21:00 Group work: Planning for field data collection

June 22nd (Wednesday)

9:00 – 17:00 Group work: Field data collection (including lunch break)

18:00 – 19:30 Dinner

19:30 – 21:00 Group work: Data analysis and planning for the next day

June 23rd (Thursday)

9:00 – 12:00 Group work: Field data collection

12:00 – 13:00 Lunch break

13:00 – 14:30 Break

14:30 – 17:00 Group work: Data analysis and preparation for final group report

18:00 – 20:00 Farewell dinner

June 24th (Friday)

9:00 – 11:30 Final group presentation (20 min. for each group)

11:30 – 12:00 Synthesis and closing of the course

12:00 – 13:00 Lunch break

13:00 Departure of bus to Sapporo city
(In front of headquarter office of Uryu Experimental Forest)

17:30 (estimate) Arrival at Hokkaido University & End of the program

Participants of the training course

Name	Country
Adriana C. Flores-Díaz	Mexico
Andreea, Csolti	Romania
Ei Thandar Bol	Japan
Guangshuai, Zhang	China
HSIAO, I, JOU	Taiwan
Ikabongo Mukumbuta	Japan
Ilann, Bourgeois	France
Jinsen Zheng	Japan
Joseph, C, Morina	USA
Lu, Jun, Wei	Taiwan
Lucy Ann ROSE	USA
Manel Nofuentes Sr.	Spain
Rahat Sharif	USA
Rebecca, Eliza, Hewitt	USA
Silvia Rafaela Machado LINS	Brazil
Takahiro Inoue	Japan
Undrakh-Od Baatar	Austria
Wei, Zhou	China
Wei-yu Shi	China
Yoshio NUNEZ PALMA	Japan

Staffs and lecturers of the training course

Name	Country
Peter Groffman	USA
William McDowell	USA
Pamela Templer	USA
Jinanwu Tang	USA
Pedro Pinho	Portugal
Ika Djukic	Austria
Yiching Lin	Taiwan
Wei-Chun Chao	Taiwan
I-Ling Lai	Taiwan
Chiao-Ping Wang	Taiwan
Chung-Te Chang	Taiwan
Chiling Chen	Taiwan
Keisuke Koba	Japan
Kazuo Isobe	Japan
Hideyuki Doi	Japan
Ayato Kohzu	Japan
Yoshitaka Ohishi	Japan
Tsutom Hiura	Japan
Nobuhito Ohte	Japan
Yoshiharu Fujita	Japan
Hideaki Shibata *	Japan
Yoshitaka Uchida *	Japan
Karibu Fukuzawa *	Japan
Makoto Kobayashi *	Japan
Toshiya Yoshida *	Japan

*Local Organizing Committee member

Logistic information

- Accommodation in Sapporo: “Sapporo International Youth Hostel” (6-5-35, Toyohira-6, Toyohira-ku, Sapporo, Hokkaido, 062-0906, Japan; Tel +81-11-825-3120) <http://www.jyh.or.jp/e/i.php?jyhno=343>
- Accommodation in Moshiri: “Uryu Experimental Forest” (Moshiri, Horokanai, Hokkaido, 074-0741, Japan; Tel +81-165-38-2125)

Goggle maps of the venues: <https://goo.gl/pYliyt>

Useful URLs

- Venue of “Field lectures” in Uryu Experimental Forests: <http://forestcsv.ees.hokudai.ac.jp/wst/en/index.html>
- Transport from New Chitose (Sapporo) Airport to Sapporo city center: <http://www.new-chitose-airport.jp/en/access/>
- Hokkaido University: <https://www.oia.hokudai.ac.jp/>
- ILTER: <http://www.ilternet.edu/>

Organizer: International Long-Term Ecological Research Network (ILTER)

Co-organizers: JaLTER (Japan LTER); TERN (Taiwan LTER)

Local organizing team: Hideaki Shibata, Toshiya Yoshida, Karibu Fukuzawa, Makoto Kobayashi, and Yoshitaka Uchida (Hokkaido University)

Contact: ilter-japan-2016@ml.hokudai.ac.jp

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