Program

Symposium on Forest, Agriculture and Food Science in Europe and Asia

(March 3-7, 2024)

The symposium is organized as an Inter-Faculty activity with the participation of the Faculty of Agriculture, Faculty of Science and Faculty of Engineering. The Symposium is sponsored by UGAS (United Graduate School of Agricultural Sciences), YUCaN Research Center (Faculty of Engineering) and the Faculty of Science of Yamagata University.

<u>March 3</u>:

Afternoon:

Arrival of guest Professors from:

- Leibniz Universitat Hannover (LUH),
- University of Torino (UoT);
- University of Lleida (UoL),
- Chernihiv National Polytechnic University (CNPU) and
- Vietnam National University of Agriculture (VNUA) in Tsuruoka.

<u>Online presentations will be from the following universities:</u>

- University of Parma (UoP), Italy
- National University of Agriculture (UNA), Benin

- Ho Chi Minh city University of Natural Resources and Environment (HCMUNRE), Vietnam

- University Muhammadiyah Malang (UMM), Indonesia

- Fujian Agriculture and Forestry University (FAFU), China

Evening: Welcome Party (Tsuruoka)

March 4:

Session: Research Projects and Microbiology studies

Session Chair: Roberto Botta, Matteo Garbarino

09:15 – 09:40   Evaluation of fir trees health deterioration caused by bark beetle infestation using precise remote sensing in Zao Mountains (*Larry Lopez, YU*)

09:40 – 10:05   How local stake-holders and experts can be integrated into research topics - a resume of the ModBieN project (*Jens Gross, LUH*)

10:05 – 10:30   Spatio-temporal analysis of Mediterranean tree line patterns a multi-scale approach (*Matteo Garbarino, UoT*)

10:30 – 10:55   Assessment of the physiological stress in bark beetle infested fir trees, Zao Mountains *(Anna Trigubenko, YU)*

10:55 – 11:20   Break

11:20 – 11:45   Genetics and genomics of Living organisms (*Romi Pena, UoL*)

11:45 – 12:10   Plant mycorrhizal interactions and the evolution of myco-heterotrophic plants (*Jun Yokoyama, YU*)

 12:10 – 13:30   Lunch

Session: Carbon in natural environments and future of cities

Session Chair: Michelle Freppaz and Tran Trong Phuong.

13:30 – 13:55   Soil and C and N cycling and biodiversity in alpine grasslands (*A. Benech, UoT*)

13:55 – 14:20   Soil Pyrogenic carbon enhances post-fire soil quality recovery in subtropical plantations of China (*Yuzhe Wang, FAFU*) [online]

14:20 – 14:45:   Moisture response to snowmelt in the German Alps (*Michael Shaeffer, UGAS*) [online]

14:45 – 15:00   Break

15:00 – 15:25   Soil carbon - sequestration and climate mitigation- definitions and their

implications *(Felix Seidel, Thunen Institute)* [online]

15:25 – 15:50   Spatial Urban Agriculture in Land Use Planning: A Case Study in Hanoi, Vietnam (*Tran Trong Phuong, VNUA)*

15:50 – 16:15   Using Google Earth Engine and Machine learning to evaluate land cover change in HCM city before, during and after covid pandemic (*Hatrang Nguyen, HCM University*) [online]

16:15 – 16:40   Environmental-health Interactions in Cities - Challenges for Human Well-being under Global Changes (*Nadja Kabisch, LUH*) [online]

16:40 – 17:05   Assessment of different vegetation indices for chlorophyll content in wheat based on multi-temporal remote sensing (*Batbileg Bayaraa, MULS*) [online]

19:00 –   Dinner (Restaurant in Tsuruoka)

March 5:

Session: Agriculture and biological sciences
Session chair: Fransesco Vidotto, Romi Pena.

09:00– 09:25   Applying Composted Sewage Sludge in Rice Paddies: A Strategy for Mitigating Greenhouse Gas Emissions *(Angelo Alface, UGAS)*

09:25 – 09:50   Duckweed *Spirodela polyrhiza* increases Survival and rice plants performance during the vegetative phase under the grazing effect of Golden Apple Snail (GAS) *Pomacea caniculata* in presence or absence of mud snail *Bellamya chinensis* laeta *(Nkoum Metou'ou, UGAS)*

09:50 – 10:15   Evaluation of food functional properties of rice protein derived from defatted rice bran *(Keiko Ueda, UGAS)*

10:15 – 10:30   Break

10:30 – 10:55   The characteristics of GA response and berry development in the large berry mutant of 'Delaware' grapes *(Hikaru Ishikawa, UGAS)*

10:55 – 11:20   Distribution and innovative management strategies of rice weeds in Italy

(*Francesco Vidotto, UoT*)

11:20 – 11:45	Red and far-red light promotes persimmon coloration via carotenoid synthesis and chlorophyll depletion (*Tomoki Shibuya, YU*)
11:45 – 12:15	Chestnut (Castanea sativa Mill.) breeding for disease resistance using the CRISPR/cas9 technology (*Roberto Botta, UoT*)
12:15 – 13:45	Lunch (University restaurant)

Session: Management of disturbances in natural and man-made environments.

Session chair: Jun Yokoyama, Paolo Gonthier

13:45 – 14:10	Forest disturbance agents in the European Alps: A landscape-scale analysis based on Landsat time series (*Donato Morresi, UoT*)
14:10 – 14:35	Spatial and temporal scales and predictions in spatial ecological modeling (*Nicolo Anselmetto, UoT*)
14:35 – 15:00	Forest Environmental Health: Implication for Payment for Ecosystem Services and Carbon Credits (*Vo Huu Cong, VNUA*)
15:00 – 15:25	Mountain soils and snow under a changing climate (*Michele Freppaz, UoT*)
15:25 – 15:40	Break
15:40 – 16:05	Outbreaks of invasive forest pathogens: reasons, pathways and mitigation measures (*Paolo Gonthier, UoT*)
16:05 – 16:30	Potential of carbon storage in rehabilitated mangrove forests in high risk of abrasion area and abandoned fish pond in Indonesia (*Citra Gilang Qur'ani, UMM*) [online]
16:30 – 16:55	Bioprotection of maize (*Zea mays*) using orange peel powder and essential oil against *Prostephanus truncatus* in storage and *Spodoptera frugiperda* in field *(A. Adandonon, UNA)* [online]
17:10 – 19:10	Moving to Yamagata

March 6:

Session: Environment and International Education (YUCaN Session)
Session Chair: Tsukasa Yoshida, Hanna Dyvnych

09:00 – 10:00   Challenges toward Carbon Neutrality at Nagoya University

(Noritaka Usami, Institutes of Innovation for Future Society, NU)

10:00 – 11:00   HITACHI's activities towards carbon neutrality (tentative)

Part 1; Future Scenario Simulation for Carbon Neutrality

(Yukiko Morimoto,Hitachi, Ltd. Research & Development Group Design Center)

Part 2; Realization of carbon neutrality and social implementation

(Ryosuke Tanno, (Hitachi, Ltd. Water & Environment Sales & Marketing Division)

11:00 – 11:15   Break
11:15 – 11:45   University as a driver for sustainable development: pre-war and post-war

perspectives, Ukraine *(Hanna Dyvnych, CPNU)*

11:45 – 12:15   Internationalization of Universities: An Aim or a Tool for the Development of

Higher Education? The role of Double Degree Programs *(Larry Lopez, YU)*

12:15 – 13:30   Lunch

Session: Data Science and Natural Sciences
Session chair: Yago Diez, Tobias Leidemer

13:30 – 13:45   Presentation of YU Data Science Center *(Prof. Okuno, YU)*

13:45 – 14:10   Sub-alpine shrub classification using UAV images Performance of human

observer vs DL classifiers *(Yago Diez, YU)*

14:10– 14:35:   Automatic classification of subalpine vegetation based on UAV and AI

technology to assess tree species diversity *(Nhung Cam, UGAS)*

14:35 – 14:55   Treeline spatial patterns revealed by UAV remote sensing *(Erik Carrieri, UoT)*

14:55 – 15:15   Real-time detection and classification of larch and cedar from UAV acquired

images using Deep learning *(Leonardo Silvestre, YU)*

15:15 – 15:30   Break

15:30 – 15:55   Towards automatic bird count by deep learning to access biodiversity in rice fields (*Motohisa Fukuda, YU*)

15:55 – 16:15   Using Convolution Neural Network for Tree Semantics Segmentation from high-resolution images *(Tien Nguyen, YU)*

16:15 – 16:40   Plant biodiversity estimation with deep learning techniques *(Marco Conciatori, UoP)* [online]

16:40 – 17:05   Modelling snow depth distribution inside palsa mires using a Random Forest algorithm (*Alexander Stormer, LUH*) [online]

19:00   Dinner (Restaurant in Yamagata)

March 7

Session: UAV Applications on Forestry.
Session Chair: Moto Fukuda, Donato Morresi

09:15 – 09:40   Temporal development of bark beetle infestation in fir forest evaluated by means of UAV imagery and Deep Learning, Zao Mountains, Japan (*Tobias Leidemer, UGAS*)

09:40 – 10:00   Estimation and prediction of canopy nitrogen ecosystem losses in fir disturbed forest *(Vladislav Bukin, YU)*

10:20 – 10:40   Treetop detection in a chrono-sequential Larch plantation using UAV and Maxima Detection Algorithms *(Sergi Garcia, YU)*

10:40 – 10:55   Break

10:55 – 12:00   Round table to discuss Graduate students' exchange and their participation in research projects.

12:00 – 13:00   Lunch

13:15 – 16:30   Visit to Zao Mountains

19:00 –   Farewell Party `(Restaurant in Yamagata)