

Program

	Start	End	
Day 1	9:00	10:30	Registration
Oct. 2	10:30	10:45	Opening remarks
Wed.	10:45	12:35	20th anniversary session: Review and future perspective
	12:35	13:45	Lunch
	13:45	15:15	Soil ecology and biochemistory
	15:15	15:30	Group photo
	15:30	15:50	Coffee break
	15:50	17:30	Remote sensing
	17:35	18:25	20th anniversary ceremony
	19:00	21:00	Banquet (Festa Forest in Takayama)
Day 2	9:00	11:10	Flux measurements and multi-site synthesis
Oct. 3	11:10	11:25	Coffee break
Thu.	11:25	13:00	Trace gases
	13:00	14:05	Lunch
	14:05	16:05	Poster session
	16:05	16:15	Coffee break
	16:15	17:45	Modelling
	18:00	20:00	AsiaFluxSSC and Young Scientist Meeting
Day3	9:00	10:40	Ecosystem processes
Oct. 4	10:40	10:50	Coffee break
Fri.	10:50	12:50	Poster session
	12:50	14:00	Lunch
	14:00	15:20	20th anniversary session: Linking scientific communities & Linking science and society
	15:20	15:30	Coffee break
	15:30	16:30	General disucussion
	16:30	16:50	Closing remarks
Day4	8:00	13:00	Excursion to Takayama site
Oct. 5	Free	Free	Excursion to Takayama city (Free)
Sat.			

Detailed Program

	Start	Title	Speaker
Day 1	9:00	Registration	
Oct. 2	10:30	Opening remarks	
		20th anniversary session: Review and future perspective	
	10:45	A brief explanation of "20th anniversary session: Review and future perspective"	Kazuhiro Ichii
	10:50	A-1: Look back the history of tower flux observation in Asia	Ryuichi Hirata
	11:05	A-2: Progress in water and energy flux studies in Asia: flux measurements and multi-site synthesis	Minseok Kang
	11:20	A-3: Soil respiration research in Asian region	Liqing Sha
	11:35	A-4: Volatile organic compound exchange between terrestrial ecosystems and atmosphere	Akira Tani
	11:50	A-5: Scaling between leaf photosynthesis and ecosystem GPP in Asian forests	Shih-Chieh Chang
	12:05	A-6: Remote sensing monitoring of terrestrial ecosystems in Asia: review and future perspective	Hideki Kobayashi
	12:20	A-7: Model studies for mining flux data: empirical, process-based, and machine learning	Akihiko Ito
	12:35	Lunch	
		Soil ecology and biochemistry Chair: Munemasa Teramoto	
	13:45	S-1: Soil CO ₂ fluxes and global change: data and statistical approaches to better understand regional and global scale soil carbon dynamics	Benjamin Bond-Lamberty
	14:15	S-2: Long-term soil warming effect on soil organic carbon decomposition in Asian monsoon forests	Munemasa Teramoto
	14:30	S-3: Temperature sensitivity of soil respiration across multiple time scales in a temperate plantation forest	Tao Yan
	14:45	S-4: Nitrogen addition effects on SOM stability, and CO ₂ and N ₂ O efflux in a tropical rainforest and rubber plantation in SW China	D. Balasubramanian
	15:00	S-5: Continuous measurements of soil CO ₂ , CH ₄ and N ₂ O fluxes during the spring thawing period in broad-leaved Korean pine mixed forest of Changbai Mountains	Chuying Guo
	15:15	Group photo	
	15:30	Coffee break	

Day 1	Remote sensing Chair: Hideki Kobayashi		
Oct. 2	15:50	R-1: Phenological Eyes Network (PEN): a platform supporting AsiaFlux remote sensing activity by long-term continuous in-situ spectral / imaging observations	Kenlo Nishida Nasahara
	16:10	R-2: Breathing Earth System Simulator (BESS) as a flexible and scalable platform to monitor land-atmosphere fluxes from plot to the global scales	Youngryel Ryu
	16:30	R-3: Mapping successional age classes and understanding species diversity and composition along successional and environmental gradients in a tropical secondary forest	Sawaid Abbas
	16:45	R-4: Relationship between surface dry conditions and carbon dioxide emission of forest fire in Far East Russia	Haemi Park
	17:00	R-5: RS-driven GPP model from eddy covariance flux data	Guangsheng Zhou
	17:15	R-6: Temporal dynamics of satellite-derived photochemical reflectance index (PRI) and solar-induced fluorescence (SIF) in climate-changing Mongolia	Tomoki Kiyono
	17:35	20th anniversary ceremony	
	19:00	Banquet (Festa Forest in Takayama)	
Day 2	Flux measurements and multi-site synthesis Chair: Hiroki Iwata		
Oct. 3	9:00	F-1: Experiences Measuring Methane Fluxes across a Meso-Network of Restored Fresh Water Wetlands, Rice and Irrigated Pastures in California, and Beyond	Dennis Baldocchi
	9:40	F-2: Temporal variation of methane fluxes and its biophysical drivers in a subtropical mangrove wetland	Jiangong Liu
	9:55	F-3: Greenhouse gas fluxes characteristics in small aquaculture ponds in Yangzi river delta of China	Mi Zhang
	10:10	F-4: Net ecosystem exchange of CO ₂ from two land-uses on tropical peatlands in Sarawak, Malaysia	Frankie Kiew
	10:25	F-5: Radiation controls the interannual variability of evaporation of a subtropical lake	Wei Xiao
	10:40	F-6: Attribute parameter characterized the seasonal variation of gross primary productivity (α GPP): Spatiotemporal variation and influencing factors	Weikang Zhang
	10:55	Discussion	
	11:10	Coffee break	

Day 2	Trace gases Chair: Seiichiro Yonemura		
Oct. 3	11:25	A brief explanation of "Trace gases" session	Seiichiro Yonemura
	11:30	T-1: Applicability of a closed-path gas analyzer based on quantum cascade laser (QCL) spectrometers for EC flux measurements of N ₂ O and NO over a cropland	Kai Wang
	11:45	T-2: An open-path QCL-based sensor for fast and 0.5 ppbv sensitivity measurements of atmospheric ammonia	Yin Wang
	12:00	T-3: A mass spectrometric observation of multiple soil gas fluxes with a portable ultra-high resolution mass spectrometer (MULTUM) coupled with an automatic chamber	Noriko Nakayama
	12:15	T-4: Observation of vertical profiles of NO, O ₃ , and VOCs to estimate their source and sink distributions by inverse modelling in a Japanese larch forest	Ryuichi Wada
	12:30	T-5: Biogenic volatile organic compound emission from Tokyo urban area, Japan	Yutaka Kokubu
	12:45	T-6: Leaf uptake of monocyclic aromatic hydrocarbons by plants	Moeko Koike
	13:00	Lunch	
	14:05	Poster session	
	16:05	Coffee break	
	Modelling Chair: Kazuhito Ichii		
	16:15	M-1: Making full use of hyperspectral data for gross primary productivity estimation with multivariate regression: mechanistic insights from observations and process-based simulations	Benjamin Dechant
	16:30	M-2: Modeling soil GHG emission from Changbai Mountain forest ecosystem by Forest-DNDC	Shu Ye
	16:45	M-3: Measurement and modeling of nitrous and nitric oxide emissions from a tea field in subtropical central China	Yong Li
	17:00	M-4: Carbon flux estimation in South Korea using eddy covariance, remote sensing, and support vector regression	Sungsik Cho
	17:15	M-5: Estimating high-latitude methane fluxes based on the satellite data-driven Terrestrial Carbon Flux Model	Ji Luo
	17:30	M-6: Exploring the mechanisms controlling the seasonality and the trend in global LAI during 2001-2017	Shaoqiang Wang
	18:00	AsiaFlux SSC and Young Scientist Meeting	

Day 3	Ecosystem processes Chair: Hiroyuki Muraoka		
Oct. 4	9:00	E-1: Nitrogen biogeochemistry in a forest ecosystem under changing climate – Challenge and opportunity of Long-Term Ecological Research	Hideaki Shibata
	9:20	E-2: Revealing the relationship between tree diversity and ecosystem functions through long term and nationwide datasets	Masae Ishihara
	9:40	E-3: Long-term soil warming experiment in a northern cool-temperate forest in Tomakomai, Hokkaido Japan - What was clarified or still unknown?	Tatsuro Nakaji
	10:00	E-4: Maximum carbon uptake rate dominates the interannual variability of global net ecosystem exchange	Zheng Fu and Shuli Niu *
	10:20	E-5: Development of long-term and multidisciplinary research and networking in forest ecosystems of Takayama site	Hiroyuki Muraoka
	10:30	Discussion	
	10:40	Coffee break	
	10:50	Poster session	
	12:50	Lunch	
	Linking scientific communities & Linking science and society Chair: Ryuichi Hirata		
	14:00	A brief explanation of "20th anniversary session: Linking scientific communities & Linking science and society"	Ryuichi Hirata
	14:05	L-1: Contribution to FLUXNET and collaboration across regional networks – recent directions and developments	Dario Papale
	14:30	L-2: Earth system modeling and expectations for future collaboration with AsiaFlux	Kaoru Tachiiri
	14:55	L-3: Climate science and social values	Seita Emori
	15:20	Coffee break	
	15:30	General discussion (includes 5 min presentation from each session)	
	16:30	Closing remarks	
Day 4	8:00	Excursion to Takayama site (-13:00)	
Oct. 5	Free	Excursion to Takayama city (Free)	

Poster Presentation (Day 2)

Poster presentations on Day 2 are registered to poster award competition except P1-O1 and P1-O2.

Poster Number	Title	Presenter
Flux measurements and multi-site synthesis		
P1-F1	Year-round measurements of methane and carbon dioxide fluxes in two urban landscapes	Tsugumi Takano
P1-F2	Seasonal dynamics of carbon uptake and release and their climate controlling factors in the North Hemisphere terrestrial ecosystems	Lang Han
P1-F3	Attribution of Lake Taihu evaporation change simulated by CLM4-LISSS model on the basis of future scenarios data	Zhang Zhen
P1-F4	Seasonal and interannual variations in carbon fluxes in East Asia semi-arid grasslands	Huichen Zhao
P1-F5	An evaluation of the flux-gradient and the eddy covariance method to measure CH ₄ , CO ₂ , and H ₂ O fluxes from small ponds	Jiayu Zhao
P1-F6	Driving factors of changes in evapotranspiration from a red pine ecosystem	Takumi Suzuki
P1-F7	The controlling factors of diffusive and ebullitive methane emission on sub-daily time scale at a mid-latitude shallow lake	Tsukuru Taoka
P1-F8	How to register your observation data to European Flux Database?: Toward open data policy of JapanFlux data	Hina Yamanuki
P1-F9	Exploring influences of different management strategies on surface energy patterns in tea fields	Siang-Heng Wang
P1-F10	Inter-annual variability of net ecosystem exchange of CO ₂ in a temperate deciduous forest in the Gwangneung National Arboretum in Korea	Hyunyoung Yang
Soil ecology and biochemistry		
P1-S1	Soil respiration after six years of continuous drought stress in the tropical rainforest in Southwest China	Liguo Zhou

P1-S2	Nitrogen addition decreased soil respiration by altering microbial composition without changing the temperature sensitivity in a semiarid grassland	Wei Du
Trace gases		
P1-T1	Isoprene emission from bamboo species	Tingwei Chang
Ecosystem processes		
P1-E1	The effect of lost canopy on the seasonal variation of stem surface respiration in Japanese cedar	Haruna Takahashi
P1-E2	Eddy covariance reveals the seasonal patterns in energy balance and evapotranspiration from an alpine <i>Sphagnum</i> peatland in the Australian Alps	Meeruppage Dilani M Gunawardhana
P1-E3	Does decomposition of leaf mixtures and absorptive-root mixtures synchronously change with deposition of nitrogen and phosphorus	Lei Jiang
P1-E4	Gas exchange process during and after rainfall over a Japanese cypress canopy by using eddy covariance and SVAT multi-layer model	Linjie Jiao
P1-E5	Tree root exudation with fine root traits under four coniferous forests in Japan	Maiko Akatsuki
P1-E6	Response of fine root respiration rate and morphology traits along the elevation gradient in Japanese subalpine forest	Mizuki Okamoto
P1-E7	Flower litters as hyper nitrogen- and phosphorus-rich resources for soil ecosystem	Kazuhide Ohta
Remote Sensing		
P1-R1	Ground based measurement of solar-induced chlorophyll fluorescence dynamics in rice paddy field ecosystem	Kanokrat Buareal
P1-R2	Mapping the forest aboveground biomass in Japan by SAR-based machine learning model	Lan Wu
P1-R3	Precipitation-use efficiency in Eurasian steppe region: spatial pattern and influence factors	Tianyou Zhang
P1-R4	Determination of parameters for evergreen broadleaf forests in gross primary production capacity estimation algorithm using flux data for Amazon, Thailand and Australia	Aika Wakai
P1-R5	Long-term observation of the photochemical reflectance index (PRI) and light-use efficiency (LUE) in a temperate Japanese cypress forest at Kiryu Japan	Siyu Chen

P1-R6	Detecting vegetation changes induced by afforestation and land use change in China using multiple satellite products	Takuto Taguchi
P1-R7	Data Driven GPP and NEE Estimation with Lag Effect, Remote Sensing and Machine Learning	Zhiyan Liu
P1-R8	Changes in terrestrial carbon cycle in Mongolia: Synthesis analysis	Zaya Mart
P1-R9	Using the BRDF corrected photochemical reflectance index to track light use efficiency for subtropical evergreen mixed forest	Li Ma
P1-R10	Developing a Machine Learning based Flowering Detection and Quantification Algorithm using Time-Series Image Data	TaeKyung Kim
P1-R11	Lidar-derived canopy structure of restored temperate wetlands	Robert (John) Shortt

Modelling

P1-M1	Estimation of greenhouse gas budget over high-latitude ecosystems using a process-based ecosystem model, VISIT	Mikita Okamura
P1-M2	Latent heat and sensible heat flux simulation in tropical peat swamp forest using artificial neural network	Edward Aeries
P1-M3	Flood risk assessment in Bangladesh, India and Myanmar based on the AHP weight method and entropy weight method	Yuanyuan Liu
P1-M4	Freezing injuries impact carbon and water use efficiency by leaf area index of natural zonal terrestrial vegetations in Inner Mongolia between 2004 and 2015	Pengyuan Wang

Others

P1-O1	Field-scale productivity and water use of a high-yielding rice cultivar	Hiroki Ikawa
P1-O2	Field challenges of eddy covariance measurement in tropical peat ecosystems in Sarawak, Malaysia – The TROPI experience	Joseph Waili

Poster Presentation (Day 3)

Poster Number	Title	Presenter
Flux measurements and multi-site synthesis		
P2-F1	Net ecosystem CH ₄ exchange of three tropical peat ecosystems in Sarawak, Malaysia	Guan Xhuan Wong
P2-F2	Inter-annual variations in carbon sequestration of Inner Mongolia semi-arid grasslands	Shiping Chen
P2-F3	Evapotranspiration from three tropical peat ecosystems in Sarawak, Malaysia	Kevin Musin
P2-F4	Patterns and controls of light use efficiency in four contrasting forest ecosystems in Yunnan, Southwest China	Yiping Zhang
P2-F5	The forest-atmosphere carbon dioxide and methane exchanges in Indian tropical mangrove ecosystem	Gnanamoorthy Palingamoorthy
P2-F6	Ecological effect of fog on carbon and water exchanges in tropical rainforest and sub-tropical evergreen forest, Southwest China	Gnanamoorthy Palingamoorthy
P2-F7	Estimation of surface carbon dioxide exchange over rubber tree plantation in Thailand using area-averaged flux method	Chompunut Chayawat
P2-F8	Latest in flux data analysis software: from quality control and gap filling to flux and footprint partitioning	George Burba
P2-F9	Illustrative maps of past and present eddy covariance measurement locations: II. High-resolution images	George Burba
P2-F10	Spectroscopic Effects in Laser-based Eddy Covariance Flux Measurements	George Burba
P2-F11	Factors influencing the variation of CO ₂ flux and evapotranspiration in larch forest ecosystem affected by the extreme wet-soil condition	Ayumi Kotani
P2-F12	Twenty years of carbon monitoring at Sapporo forest meteorology research site in the northern part of Japan	Yasuko Mizoguchi
P2-F13	Seasonal variations of methane flux in tropical peat swamp forest in Indonesia	Ayaka Sakabe
P2-F14	Estimation of surface soil water contents by combining water balance model with machine-learning based evapotranspiration estimates and its comparison with process-based approach	Juhan Park

P2-F15	Dissolved carbon transportation and CO ₂ emissions in main rivers of the Tibetan Plateau	Bin Qu
P2-F16	Atmospheric deposition of nitrogen, phosphorous, and acid in Chinese ecosystems: dynamics, patterns, and the influencing factors	Qiufeng Wang
P2-F17	18 years to compensate all CO ₂ emission after a clearcut harvesting in a cool-temperate forest	Kentaro Takagi
P2-F18	The influence of precipitation pulses on surface energy balance and evapotranspiration over an arid shrubland	Xibin Ji
P2-F19	Long term variation of CO ₂ flux at cool temperate red pine forest in Japan	Yuji Kominami
P2-F20	Long-term variations in the carbon budget and the atmospheric CO ₂ concentration detected from 26-year observation in a cool-temperate deciduous forest at Takayama	Shohei Murayama
P2-F21	Simulation of methane dynamics in a mid-latitude eutrophic lake with constraints using incubation data	Hiroki Iwata
P2-F22	Reanalysis of 20 years data at TKY	Hiroaki Kondo
P2-F23	Discrepancy in phenological indicators derived with CO ₂ flux, MODIS image and ground monitor at a temperate mixed forest and an alpine shrub ecosystem	Leiming Zhang
P2-F24	Assessing the net carbon flux to the atmosphere from land-use change in tropical peatland- the new emissions that the atmosphere will see	Chandra Shekhar Deshmukh
P2-F25	The greenhouse gas and energy balance of a commercial oil palm plantation in tropical lowland Jambi province (Sumatra, Indonesia)	Christian Stiegler
P2-F26	The differences of net ecosystem production changes between <i>Pinus koraiensis</i> plantation and mixed forest over four years after drought event	Hyun Seok Kim
P2-F27	Carbon exchanges over the secondary dry dipterocarp forest in Thailand as affected by the 2015/2016 strong El Nino	Rungnapa Kaewthongrach

Soil ecology and biochemistry

P2-S1	Soil CO ₂ fluxes in a tropical lowland ever-green secondary forest in Pahang, Peninsular Malaysia	Jeyanny Vijayanathan
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P2-S2	Analysis of soil characteristics of the agrometeorological observatories in Korea for the production of high quality soil moisture data	Sung-Won Choi
P2-S3	Development of reference soil moisture measurement system for calibration of soil moisture sensor	Jongho Kim
P2-S4	Soil respiration rates of Japanese cypress (<i>Chamaecyparis obtusa</i> Endlicher) stands regenerated from a pine wilt disease forest	Gyeongwon Baek

Trace gases

P2-T1	Seasonal variations of isoprene and monoterpenes concentrations in six forests between cool temperate and subtropical zone in Japan	Takafumi Miyama
P2-T2	NO emission from tropical and polar soils	Seiichiro Yonemura
P2-T3	Effect of growth temperature on monoterpene emission rates of <i>Acer palmatum</i>	Tomoki Mochizuki

Ecosystem processes

P2-E1	The effect of canopy phenology and canopy surface physical phenomena on carbon budget in evergreen coniferous and deciduous broad-leaf forests in a cool-temperate region under ongoing climate change	Taku M. Saitoh
P2-E2	Characteristics and Scenarios Projection of NEE Change on the Tibetan Plateau	Mingyuan Du
P2-E3	Quantification of water usages of man-made oasis and natural vegetation in the middle part of Hexi corridor, northwestern China	Wenzhi Zhao
P2-E4	The variation of carbon dioxide flux and response to the water level changes over a large ephemeral lake	Xiaosong Zhao
P2-E5	Hydraulic characteristics and water storage of Japanese cypress using sap flow rate and water potential measurements	Mai Kamakura
P2-E6	Contribution of whole-tree water storage to daily transpiration in conifer trees	Wakana Azuma
P2-E7	Long-term soil warming effect on insect-plant interactions at the canopy of tall oak trees	Masahiro Nakamura

Remote Sensing

P2-R1	The temporal variation of Solar Induced Fluorescence detected by the canopy spectroscopy in cool-temperate broadleaf deciduous forest in central Japan	Tomoki Morozumi
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P2-R2	High temporal monitoring of terrestrial CO ₂ fluxes using geostationary satellites	Kazuhito Ichii
P2-R3	Estimation of carbon dioxide emissions through tropical peatland subsidence using interferometric synthetic aperture radar analysis	Tomohiro Shiraishi
P2-R4	Measuring landscape albedo using unmanned aerial vehicles	Chang Cao
P2-R5	High-Frequency estimation of the land surface temperature using next-generation geostationary satellite data	Yuhei Yamamoto
P2-R6	GPP capacity estimation algorithm using light response curve in various vegetation types for global observing satellite data	Kanako Muramatsu
P2-R7	Phenological changes in in-situ and GOSAT-based SIF in evergreen coniferous forest in Japan	Hibiki Noda
P2-R8	Ground based measurements of aerosol properties for estimating biophysical parameters by using optical Earth observation data	Hirokazu Yamamoto

Modelling

P2-M1	Spatio-temporal variability in N ₂ O emissions from a tea-planted soil in subtropical central China	Xinliang Liu
P2-M2	Rubber yield estimation using net ecosystem production (NEP)	Duangrat Satakhun
P2-M3	A global carbon cycle model system for the GOSAT-2 project	Makoto Saito
P2-M4	Effects of mortality in a long-term carbon budget modeling	Katsumi Yamanoi
P2-M5	Applicability of daily evapotranspiration models of spring maize based on eddy covariance	Qijin He