

## Opening Session: Activities of Local Network in Asia

S01 Present situation and challenges of AsiaFlux -Implementation of new programs  
*Y. Ohtani, J. Kim, A. Miyata, N. Saigusa, Y. Fujinuma, S. Yamamoto and G. Inoue*

S02 KoFlux progress report  
*J. Kim, B.-L. Lee, D. Lee, C. Cho, J. Hong, S. Kang, B. Lee, D. W. Lee, J. Lee, J. T. Lee, J. Lim, Y. Son, N. Woo, and J. Yun*

## Oral Session 1: Long-term Flux Observation (I)

O11 CO<sub>2</sub> exchange of a tropical peat swamp forest in Central Kalimantan  
*T. Hirano, T. Harada, H. Segah, S. Limin, T. June, R. Hirata and M. Osaki*

O12 A comparative study of carbon dioxide exchange between a mature and a regrowth jack pine forests at BERMS (Boreal Ecosystem Research and Monitoring Sites, Canada)  
*N. Saigusa, H. Iwashita, S. Murayama, A. Barr, K. Higuchi, H. McCaughey, A. Black, S. Yamamoto, and H. Kondo*

O13 Eddy covariance sensible and latent heat fluxes for three years above a Japanese cypress forest with complex topography  
*Y. Kosugi, S. Takanashi, M. Katsuyama, H. Tanaka, S. Ohkubo, M. Tani, T. Katayama, M. Yano*

O14 A novel mass-balance technique for measuring CO<sub>2</sub> fluxes in nocturnal drainage flows beneath a forest canopy  
*Ray Leuning, Steven J Zegelin, Kevin Jones and Robert Clement*

O15 Introduction to CMA flux network  
*Bian Lingen and Gao Zhiqiu*

## Earth Observation and AsiaFlux

S11 Seasonal change monitoring of forest ecosystem by remote sensing  
*H. Sawada*

S12 Contributions of AsiaFlux to integrated global carbon observation  
*G. Inoue*

## Special Session: Complex Topography

S21 Measuring fluxes in complex terrain  
*L. Mahrt*

S22 Long-term CO<sub>2</sub> flux measurement at Takayama site  
*H. Kondo, N. Saigusa, S. Murayama, S. Iizuka, and S. Yamamoto*

S23 Estimation of ecosystem respiration of a subtropical *Pinus* plantation over hilly region in Southeastern China  
*Xue-Fa Wen, Gui-Rui Yu, Xiao-Min Sun, Yun-Fen Liu*

- S24 Diversified evaluation of NEE estimated by eddy-covariance, chamber and biometric methods above temperate deciduous forest in central Japan  
*Y. Kominami, T. Miyama, K. Tamai, M. Dannoura, M. Jomura and Y. Goto*
- S25 Evaluation of nocturnal CO<sub>2</sub> exchange based on detailed measurements of CO<sub>2</sub> balance in a Japanese cypress forest  
*S. Ohkubo, Y. Kosugi, S. Takanashi, T. Mitani and M. Tani*
- S26 Interpretation of fluxes in non-ideal conditions  
*M. Y. Leclerc*

## Organization and National Report

- S32 Climate change activities in forestry sector: Current and future R&D in Malaysia  
*Elizabeth Philip and Abdul Rahim Nik*
- S33 Agricultural and forest meteorology research work in Thailand  
*Chuckree Senthong*
- S34 Micrometeorological research and flux studies in Bangladesh-current status and future prospect  
*Md. Abdul Baten.*
- S35 Status of forest carbon budget studies in India  
*Hooda, Neeta*

## Oral Session 2: Biochemical Cycles in Terrestrial Ecosystem

- O21 A automatic chamber system for measuring continuous soil respiration based on an open-flow dynamic method  
*JS. Lee, SU. Suh, NY. Chae, J. Kim, M. Yokozawa, MS. Lee*
- O22 Soil respiration in tropical seasonal rain forest and rubber plantation in Xishuangbanna, Yunnan, SW China  
*Liqing Sha Qiulan Fang*
- O23 Isoprene emission of *Quercus spp.* and its contribution to the leaf carbon budget  
*A. Tani, Y. Kawawada, D. Tozaki*
- O24 Using <sup>13</sup>C to partition NEE into photosynthesis and respiration of broad-leaved Korean pine forest  
*Qingkang Li, Chuanyou Ren, Leiming Zhang, Xuefa Wen, Lupeng Gao, Yuling Fu, Zhengquan Li, Xiaomin Sun, Gui-Rui Yu*
- O25 Carbon isotope composition of *Quercus serrata* (Japanese oak) and *Caprinus laxiflora* (white birch) leaves grown in Gwangneung forest  
*N. Chae, D. Lee and J. Kim*
- O26 Contributions from belowground respiratory fluxes in an irrigated rice paddy determined by carbon isotopic compositions of ecosystem respiration  
*G. H. Han, H. Yoshikoshi, H. Nagai, T. Yamada, K. Ono, M. Mano, and A. Miyata*
- O27 CO<sub>2</sub> sink assessments for long-term monitoring in a cool-temperate deciduous forest in Korea  
*Seong-Deog Kim, Wonsik Kim, Naishen Liang and Gen Inoue*

- O28 The role of carbon-to-nitrogen ratios for quantifying carbon sequestration in China's soils  
*Shaoqiang Wang, Guirui Yu, Estabén Jobaggy, Jiyuan Liu, Panqin Chen, and Qingmei Chen*
- O29 The effects of soil erosion on dynamics of soil organic carbon and CO<sub>2</sub> release  
*Huajun Fang, Guirui Yu, Xueming Yang, Xiaoping Zhang*
- O30 Several considerations on studying carbon balance of global terrestrial ecosystems  
*GUOYI ZHOU*

### **Oral Session 3: Long-term Flux Observation (II)**

- O31 Carbon dioxide flux of three ecosystems on the Tibetan Plateau  
*Xin-Quan Zhao, Ying-Nian Li, Liang Zhao, Gui-Rui Yu, Yan-Hong Tang, Ming-Yuan Du, Shi-Xiao Xu, Guang-Ming Cao*
- O32 Seasonal variations in energy and CO<sub>2</sub> fluxes over a cropland surface in north China  
*Gao Zhiqiu, Bian Lingen and Guo Jianxia*
- O33 The carbon dioxide exchange over a typical steppe in Inner Mongolia, China  
*Yan-Fen Wang, Yan-Bin Hao, Xiang-Zhong Huang*
- O34 Responses of transpiration and canopy conductance of young coniferous plantation to severe drought in south China  
*X Song, G.R. Yu, Y.F. Liu, Y.M. Lin*
- O35 Surface energy fluxes of the tidal zone over the Ariake Sea  
*K. Tanaka*
- O36 Applications of genetic neural network models for gap-filling of CO<sub>2</sub> flux data sets  
*M. Ooba, T. Hirano, R. Hirata, Y. Fujinuma, Y. Kikuchi and T. Machimura*

### **Oral Session 4: Modeling and Remote Sensing of Terrestrial Ecosystem**

- O41 Rectifier effect in an atmospheric model with daily biospheric fluxes  
*Douglas Chan, Misa Ishizawa, Kaz Higuchi, Shamil Maksyutov, Chiu Wai Yuen and Jing Chen*
- O42 Eco-hydrological modeling and remote sensing for monitoring carbon and water fluxes in topographically complex forested landscapes  
*Sinkyu Kang, Yungil. Kim, Youngjin Kim, Eunsook Kim, Youngryul Ryu, Seung Kim, Joon Kim*
- O43 An evaluation of CO<sub>2</sub> flux and latent heat flux in open canopies with a modified soil-plant-atmosphere model  
*Young-Hee Lee*
- O44 A comparison between modeled and measured CO<sub>2</sub> and water vapor flux in a sub-tropical coniferous forest  
*F. X. Gu, M. K. Cao, G. R. Yu, X. F. Wen, J. B. Wang*
- O45 Simulation of CO<sub>2</sub> flux in three different ecosystem in ChinaFLUX based on artificial neural networks  
*Honglin He, Guirui Yu, Lengming Zhang, Xiaoming Sun*

- O46 Analysis and interpretation of AsiaFlux data in connection to global carbon cycle modeling  
*G. A. Alexandrov and Y. Yamagata*

## Poster Session

- P01 Leaf phenology model based on seasonal carbon allocation for a forest ecosystems model.  
*Motomu Toda, Masayuki Yokozawa, Akihiro Sumida, Tsutomu Watanabe, Toshihiko Hara*
- P02 Seasonal variation in leaf properties and ecosystem carbon budget in a cool-temperate deciduous broad-leaf forest: simulation analysis at Takayama site, Japan  
*A. Ito, H. Muraoka, H. Koizumi, N. Saigusa, S. Murayama, and S. Yamamoto*
- P03 Estimation of plant area index by down-looking heliborne lidar in Japanese larch forest  
*T. Takeda, H. Oguma, Y. Yone and Y. Fujinuma*
- P04 Development of measurement system for evaluating forest ecosystems: Measurement method of NPP by using airborne laser survey  
*Y. Yone, H. Oguma and Y. Fujinuma*
- P05 Relationship between the remote sensed vegetation indices and photosynthetic light use efficiency of Japanese larch needles  
*T. Nakaji, H. Oguma and Y. Fujinuma*
- P06 Analyses of phenology at the Takayama site using a time series of fixed view camera images  
*T. Maeda, M. Gamo and N. Saigusa*
- P07 Research plan and strategy of the forest observation method using remote sensing in the Fuji-Hokuroku site  
*H. Oguma and Y. Fujinuma*
- P08 Spatial resolution effect on areal evapotranspiration simulation in Haibei, Tibet Plateau, China  
*Zhengquan Li, Guirui Yu, Qingkang Li, Yuling Fu, Yingnian Li*
- P09 Response characteristics of portable CO<sub>2</sub> sensors  
*Y. Mizoguchi and Y. Ohtani*
- P10 Relative contribution of roots on soil respiration in a cool-temperate deciduous forest in Korea  
*Jae-Man Lee, Sung-Min Yu and Seong-Deog Kim*
- P11 Seasonal change in the contribution of root respiration to soil respiration in a temperate Forest in Japan  
*M. Dannoura, Y. Kominami, K. Tamai, M. Jomura, T. Miyama, Y. Goto, and Y. Kanazawa*
- P12 Continuous measurement of CO<sub>2</sub> evolution from a Japanese cedar forest floor using a chamber system with automatic open and closing based on an open-flow method  
*M-S. Lee, J-S. Lee and H. Koizumi*
- P13 Long-term measurements of soil respiration in an agro forest ecosystem in Korea  
*Hyeong-Ho Seo, In-Kook Song, Joo-Yong Lee and Seong-Deog Kim*
- P14 Soil CO<sub>2</sub> efflux in a temperate forest ecosystem under monsoon climate in Northeast Asia  
*N. Chae and J. Kim*

- P15 Influence of soil temperature and moisture on spatial variation of CO<sub>2</sub> efflux on forest floor in small catchment –in case of Yamashiro experimental forest, May 2004-April 2005-  
*K. Tamai, Y. Kominami, T. Miyama and Y. Goto*
- P16 Export of dissolved organic carbon from Korean natural forest catchment during storm events  
*S. J. Kim, I. H. Choi, J. Y. Yoo, and K. H. Kim*
- P17 Fluxes of CH<sub>4</sub> and N<sub>2</sub>O from soil under tropical seasonal rain forest in Xishuangbanna, Yunnan, SW China  
*Yuping Yan, Liqing Sha, Min Cao, Zheng Zheng, Jianwei Tang, Yinghong Wang, Yiping Zhang, Rui Wang, Guangren Liu, Yuesi Wang & Yang Sun*
- P18 Heterogeneous nature of soil organic matter as indicated by radiocarbon signatures  
*J. Koarashi*
- P19 Is carbon stable isotope ratio of heterotrophic respiration invariant? ~What we learned from observational facts~  
*Y. Takahashi, N. Liang, Y. Fujinuma and G. Inoue*
- P20 Leaf ecophysiological processes for the photosynthetic productivity in a cool-temperate deciduous forest ecosystem at Takayama site.  
*H. Muraoka and H. Koizumi*
- P21 Seasonal variation in the nocturnal woody-tissue respiration of a mixed broad leaved forest  
*T. Miyama, Y. Kominami, K. Tamai and Y. Goto*
- P22 Estimating the CO<sub>2</sub> flux from coarse woody debris in a temperate deciduous broad-leaved forest in Japan  
*M. Jomura, Y. Kominami, M. Dannoura, K. Tamai, T. Miyama, Y. Goto, and Y. Kanazawa*
- P23 Biometric based estimates of net ecosystem production in a cool-temperate deciduous forest beneath a flux tower  
*T. Ohtsuka, W. Mo and H. Koizumi*
- P24 Inter-annual variability of net primary production and soil CO<sub>2</sub> efflux in a cool temperate red pine forest at northern foot of Mt. Fuji  
*K. Sugita, T. Yokosawa and T. Ohtsuka*
- P25 Carbon balance of larch forest ecosystems  
*Naishen Liang, Yasumi Fujinuma, and Gen Inoue*
- P26 Leaf photosynthesis and respiration of a deciduous tree (Konara oak) in the leafing stage  
*Y. Yasuda, Y. Ohtani, Y. Mizoguchi, H. Iwata and T. Nakano*
- P27 Instrumentation and data quality assessment at Daegwallyeong CO<sub>2</sub> flux measurement site (DFMS) in Korea  
*J. Cho, D. Komori, S. D. Kim and W. Kim*
- P28 Quality check of flux data using a multilayered canopy model  
*T. Watanabe, Y. Nakai, K. Kitamura, H. Utsugi, H. Tobita and S. Ishizuka*
- P29 Examination of the high frequency correction theories to the closed-path CO<sub>2</sub> flux measured over a coniferous forest in Kyushu Island, Japan  
*T. Shimizu*

- P30 Effect of local temperature fluxes in the vicinity of an open-path gas analyzer on the WPL correction  
*K. Ono and A. Miyata*
- P31 Comparison of eddy CO<sub>2</sub> fluxes measured with open-path and closed-path systems  
*R. Hirata, T. Hirano, N. Saigusa, K. Takagi, Y. Yone, N. Liang, Y. Fujinuma, and K. Inukai*
- P32 Data gap filling for annual and monthly net ecosystem carbon dioxide exchange using genetic algorithm  
*T. Machimura, M. Ooba, T. Oda, Y. Kikuchi, T. Okabe, L. Lopez, G. Iwahana and Y. Kobayashi*
- P33 Diurnal and seasonal variations in CO<sub>2</sub> exchange over a Gmelin larch forest on Continuous permafrost of the central Siberia  
*Y. Nakai, Y. Matsuura, T. Kajimoto, A.P. Abaimov, and S. Yamamoto*
- P34 Transpiration, water potential and stomatal conductance of *Larix cajanderi* under non-limiting soil moisture, central Yakutia, eastern Siberia  
*Larry Lopez*
- P37 Ecosystem CO<sub>2</sub> flux over two years for a 200-year-old Chinese broad-leaved Korean pine mixed forest  
*J. ZHANG, S. HAN, G. YU, D. GUAN and X. SUN*
- P38 CO<sub>2</sub> exchange of a larch forest ecosystem in northeast China  
*Huimin Wang, Nobuko Saigusa, Yuangang Zu, Wenjie Wang, Susumu Yamamoto and Hiroaki Kondo*
- P39 Seasonal variation in CO<sub>2</sub> and H<sub>2</sub>O fluxes in a young larch plantation in northern Japan  
*K. Takagi, M. Nomura, K. Fukuzawa, H. Hojyo, S. Sugata, H. Shibata, K. Sasa, T. Koike, Y. Akibayashi, Y. Fujinuma, N. Liang, K. Inukai, and M. Maebayashi*
- P40 Seasonal and inter-annual changes in carbon balance for a broadleaved deciduous forest in Sapporo, northern Japan  
*K. Kitamura, Y. Nakai, S. Suzuki, K. Yamanoi, Y. Ohtani and Y. Yasuda*
- P41 A yearlong observation of ecosystem carbon cycle in Japanese red pine forest  
*Y. Kikuchi, T. Machimura, M. Ooba, S. Aoki, T. Okabe, Y. Tanaka, K. Yamase, Y. Aoyama and S. Okada*
- P42 Long-term observation of micrometeorological NEP in Fujiyoshida site  
*Y. Ohtani, Y. Mizoguchi, T. Watanabe, Y. Yasuda and H. Iwata*
- P43 Annual variation in carbon flux and relationships between carbon flux and impact factors in a tropical seasonal rain forest  
*Zhang Yiping, Sha Liqing, Yu Guirui, Song Qinghai, Tang Jianwei, Yang Xiaodong, Wang Yuesi, Zheng Zheng, Zhao Shuangju, Yang Zhen*
- P44 Carbon flux observation in the tropical seasonal forests and tropical rain forest  
*M.Gamo, S.Panuthai, T.Maeda, T.Toma, A.Ishida, M.Hayashi, Warsudi, R.Dianna, S.Diloksumpun, L.Phanumard, D.Staporn, M.Ishizuka, N.Saigusa and H.Kondo*
- P45 Effects of disturbances and the ENSO drought on the micrometeorology and radiation characteristics of a tropical peat swamp forest  
*Tsuyoshi Harada, Takashi Hirano, Hendrik Segah, Suwido Limin, Kitso Kushin, Mitsuru Osaki*

- P46 Carbon dioxide exchange monitoring and research programs at the Hungarian tall tower site  
*Z. Barcza, L. Haszpra, D. Hidy, Zs. Iványi, A. Kern, H. Kondo, N. Saigusa, T. Szabó, K. Tarczay and S. Yamamoto*
- P47 Fluxes of carbon dioxide, water vapor and energy over a temperate grassland in central Japan from autumn to early summer  
*S. Matsuura, A. Miyata, M. Mano, M. Oikawa, R. Hatano, M. Hojito, A. Mori, K. Kohyama and H. Sasaki*
- P48 Exchange of carbon dioxide and water vapor between grasslands and the atmosphere at four hay meadow sites in Japan from autumn to spring  
*A. Miyata, M. Mano, S. Matsuura, M. Oikawa, R. Hatano, A. Hayakawa, M. Hojito, N. Katayanagi, O. Kawamura, K. Kohyama, Y. Kouda, M. Niimi, T. Saigusa and M. Shimizu*
- P49 Measurement and simulation on carbon and water flux of the cropland ecosystem in north China plain  
*Q.F. Wang and G.R. Yu*
- P50 CO<sub>2</sub> flux observed over a rice paddy field by the eddy covariance method and its quality check  
*T. Takimoto, K. Inoue, T. Iwata, S. Yamamoto and T. Miura*
- P51 Bowen ratio measurements of energy budget components over various ecosystems in Mymensingh, Bangladesh  
*R. Khatun, M. A. Farukh, A. Miyata and Md. A. Baten*
- P52 Sensible heat, latent heat, and CO<sub>2</sub> fluxes on the loess plateau in China during the season from spring to summer in 2005  
*Atsuhiko Takahashi, Tetsuya Hiyama, Atsushi Higuchi, Wei Li, Masanori Nishikawa, Shaungjiang Li, Wenzhao Liu, and Yoshihiro Fukushima*
- P53 CO<sub>2</sub> flux measurement over winter barley and soybean fields growing on the rice based double cropping paddies in northern Kyushu, Japan  
*H. Yoshikoshi, A. Maruyama and K. Ohba*
- P54 Air temperature measurement errors in a naturally ventilated multi-plate radiation shield  
*Reina Nakamura and L. Mahrt*