Eddy Covariance 기술기반 육상생태계 플럭스 관측 교육연수

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일 시 2014. 6. 16(월) ~ 19(목): 09:00-18:00
장 소 6/16~17 : 서울대학교 10-1동 103호
6/18~19 : 서울대학교 203동 101호
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주 관 LI-COR®, (주)쏠단, (재)국가농림기상센터
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Objectives

1. To understand eddy covariance theory, system design, and applications
2. To become skilled at setting up and operating eddy covariance systems
3. To be able to process raw flux data with EddyPro
4. To be connected with other users and practitioners

16 June 2014 (Training)

DAY 1 (morning session)

- Eddy covariance theory
  - o Basic micrometeorology theory
  - o Eddy covariance theory, including gas analyzer and sonic anemometer operation theories
  - o Eddy covariance data processing principles, including corrections, quality assurance, and quality control
- Eddy covariance system design and planning
  - o Pros and cons of different ecosystem flux measuring systems
  - o Design principles, including project objective analysis and site selection
  - o Hardware design, including tower selection, sensors layout, and designing power supply systems
  - o Software selection
  - o System integration

DAY 1 (afternoon session)

- Biomet (biological and meteorological) measurements and sensors
  - o The need for Biomet data
  - o Energy balance closure
  - o Sensors and system integration
- Operational theories for CO2/H2O and CH4 analyzers and sonic anemometers
  - o LI-7500A and LI-7200 CO2/H2O Analyzers
  - o LI-7700 CH4 Analyzer
  - o Sonic anemometers (Gill, Campbell®, Metek, etc)

17 June 2014 (Training)

DAY 2 (morning session)

- Installation of LI-7500A, LI-7200, and LI-7700 into eddy covariance systems
  - o Hands-on instrument placement and layout
  - o Hands-on set-up, wiring, and system integration

DAY 2 (afternoon session)

- Software/operation of LI-7500A, LI-7200 and LI-7700 eddy covariance systems
  - o Hands-on software installation and introduction
  - o Hands-on operation and data collection
  - o Troubleshooting and diagnostics
- Calibrating the LI-7500A/7200/7700 Analyzers
  - o Hands-on LI-7500A calibration
  - o Hands-on LI-7200 calibration
  - o Hands-on LI-7700 calibration

18 June 2014 (Workshop)

DAY 3 (morning session)

- Invited lectures on theory, application and synthesis

DAY 3 (afternoon session)

- Participants' presentations
- Q & A and Discussions
- Evening Reception

19 June 2014 (Training)

DAY 4 (morning session)

- Data processing overview
  - o Data processing principles
  - o Data processing procedures
  - o Introduction to data processing software programs
- EddyPro and File Viewer software installation and sample data
  - o Provided software, raw data sets, and materials for processing
  - o Software installation
  - o Sample data preparation
- Hands-on step-by-step data processing of (.ghg) files with guidance
  - o Entering site information
  - o Step-by-step data processing with instructions and demonstrations
- Detailed explanations of EddyPro outputs

DAY 4 (afternoon session)

- Hands-on data processing exercises for ASCII and TOB1 raw data files
  - o Step-by-step data processing with instructions and demonstrations
  - o Questions and discussions
- EddyPro advanced settings
- New data set for exercise or Bring Your Own data sets
  - o Entering Site information
  - o Step-by-step data processing by the participants. Assistance will be provided on an individual-need basis
- Class discussion and summary
  - o Training Course Summary
  - o Comments and questions from the participants
  - o Class evaluation and certificates