This 10-day course will train early career scientists (including advanced PhD students, postdocs, and Junior Faculty) in the discovery and use of in-situ data to address emerging issues in carbon cycle science including atmospheric science, biogeochemistry and ecosystem science. World-class scientists will provide hands-on instruction in the use of ‘big data’ from the ICOS and NEON observatories while discussing the frontier of carbon science and promoting the discovery of new research opportunities.

Program
Practical use cases and scientific hands-on approaches will be offered, focusing on emerging applications for data fusion across scales and regional boundaries. A field trip to visit the atmospheric ICOS station and the O3HP oak field is planned.

Session 1. Overview
GHG measurements in the Atmosphere and Ecosystem, Remote Sensing, Global integration

Session 2. Atmosphere approaches
Trend analysis, isotopic measurements, inverse modelling, data assimilation, Bayesian approaches

Session 3. Ecosystem approaches
Data mining, parameterization and validation of models, data assimilation, Bayesian approaches

Session 4. Carbon Portals
Importance of interoperability, ICOS Carbon Portal, NOAA Carbon Portal, NEON data portal, etc.

Session 5. New frontiers of carbon science
Urban Carbon, Lidar remote sensing of forest and biomass, Methane measurements, …

Session 6. Project
Small group collaborative projects and presentations.

Venue
The Observatoire de Haute-Provence (OHP, http://www.obs-hp.fr) is an Observatory for atmospheric sciences and astronomy situated in Provence, southeast France, about 90 km east of Avignon, 100 km north of Marseille.

A shuttle will be organized to reach the very remote venue from Marseille (and return). The venue is not reachable by public transport.

Registration and detailed information http://carbonws2015.sciencesconf.org
Second Announcement: Carbon Workshop 2015, June 2-12, France

Target Audience
This training workshop aims at inspiring early career scientists including advanced PhD students, postdocs, and Junior Faculty to use “big data” to address continental to global scale emerging issues in GHG science. We are seeking early-adopters who wish to broaden and deepen their knowledge or to identify new research opportunities dedicated to GHG research. This 10-day course will be offered to 20-24 participants, who are expected to know basic computer programming in at least one language.

Registration Deadline 22 April 2015 with statement of interest, CV and letter of support

Costs no fee, shared lodging & meals included Language English

Organised by ICOS: www.icos-infrastructure.eu and NEON: www.neoninc.org

Keynote Speakers
Steve Wofsy, Harvard, US
Euan Nisbet and David Lowry, RHUL, UK
Marcel van Oijen, CEH, UK
Eric Ceschia, CESBIO CNES, France
Phil DeCola, Sigma Space, US
Andy Fox, NEON, US
Christina Staudhammer and
Greg Starr, University of Alabama, US
Rebecca Koskela, DataONE, US
Philippe Peylin, LSCE, France
Sara Vicca, Uni Antwerp, Belgium

Organizers
Nadine Schneider, LSCE, France
Hank Loescher, NEON Inc., US
Jean-Daniel Paris, ICOS, France
Lindsay Powers, NEON Inc., US
Catherine Milcent, LSCE, France
Alex Vermeulen, ULUND, Sweden
Bert Gielen, ICOS, Belgium
Felix Vogel, LSCE, France
Irène Xueref-Remy, ICOS, France

About ICOS and NEON
ICOS and NEON research infrastructures are in-situ observation networks providing research data on greenhouse gas fluxes from ecosystems to the atmosphere. Together, ICOS and NEON aim to make these data available without technical, scientific or political barrier. These data typically include greenhouse gas (GHG) concentration, carbon and energy flux observations, and the surface micrometeorology surrounding these measurements. NEON is solely funded by the U.S. National Science Foundation (NSF).

Registration and detailed information http://carbonws2015.sciencesconf.org