

# LCA XIV Educational Sessions

• October 8, 2014 San Francisco, California •

The American Center for Life Cycle Assessment (ACLCA) is pleased to offer educational LCA sessions on October 8, 2014 at the Hotel Nikko, the afternoon after the LCA XIV Conference. All of the classes count toward Continuing Education Units (CEUs). 1.5 hour courses are \$200 each (2 CEUs) and 3 hour courses are \$400 each (4 CEUs). Students who are full time or at least half time will receive 50% off courses. To register for the courses please go to <http://shop.iere.org/> and pay for the course/s. *(Please note that classes are only for LCA XIV attendees and will only run if more than six participants are registered.)*

Time	Room 1	Room 2	Room 3	Room 4	Room 5	Room 6
1:00 -2:30	Effective Communication of LCA Results to Various Audiences	Critical Review According to the New ISO/ TS 14071	Design Concepts, Tools and Techniques for Presentation of Data and Results	Eco-Efficiency Concept in Sustainability Evaluation	ISO 14046 Water Footprinting & Water Impact Assessment in LCA	Using the USEtox Model in LCA Practical Walkthrough and Case Studies
2:30 -3:00	<b>Break</b>					
3:00 -4:30	Post LCA Checks and Adjustments					

Note: the LCACP Exam will take place on Sunday October 5<sup>th</sup>.



LCA XIV

<http://lcacenter.org/LCA-XIV.aspx>

## Effective Communication of LCA Results to Various Audiences

**Course Time:** 1.5 Hours

**Summary:** Organizations perform LCAs for various reasons and need to communicate their results to a wide variety of audiences. Reasons for completing LCAs include: decision making, design regulations, benchmarking, reporting or marketing. Audiences include regulatory bodies, customers, technical experts, professional publications, internal employees etc... This course will review motivations for completing LCAs & the various audiences to which these results are communicated. For each combination of motivation & audience, the importance of including different elements of LCA analysis & the best practices for effectively conveying results will be described.



**Objectives of the course:**

- Recognize the different motivations for communicating LCA results
- Identify the key challenges of communicating LCA to various audiences
- Communicate relevant LCA data in the best way possible for different motivations & audiences
- Understand why adhering to international guidance & standards such as ISO 14044 can change your communication strategy
- Participate in hands-on activity reviewing LCA case studies and a group mock presentations of LCA results

**Instructor Biography:**

Ashley DeVierno is a LCA Certified Professional with over four years of experience in communicating environmental analysis, including LCAs and Greenhouse Gas (GHG) inventories for corporate reporting. As a senior associate at ENVIRON, she has developed internal and external communications for clients, including a journal submission to the American Chemical Society. Prior to joining ENVIRON, she was a sustainability engineer in LCA at Xerox Corporation, where she developed peer reviewed LCA marketing collateral and sustainability messaging.

---

## Critical Review According to the New ISO/TS 14071

**Course time:** 1.5 Hours

**Summary:** This course will summarize the main requirements and guidelines provided by the new ISO/TS 14071 on Critical Review Processes and Reviewer Competencies. Objectives of the course include:

- Gain a clear understanding of the requirements to be met for organizing or conducting Critical Reviews in accordance with ISO 14040/44 and ISO/TS 14071

**Instructor Biography:**

Chris Koffler is the Technical Director of PE INTERNATIONAL, Inc. He is responsible for the quality of all North American LCA and EPD consulting projects, methodological development, and in key selected areas, such as Automotive, as primary lead. Chris led the SETAC Expert Group that contributed to the development of the ISO/TS 14071 on Critical Review Processes and Reviewer Competencies.



Chris Koffler

## Design Concepts, Tools and Techniques for Presentation of Data and Results

**Course Time:** 1.5 Hours

**Summary:** Provide information on the way stakeholders want to see it - more than just a summary graph, but less than a full report. Learn design principles for LCA data presentation, such as table layout and organization, color palette, interactivity, transparency and what information should be displayed together. Use Excel features to create visually appealing and functional data tables that allow users to comprehend how inputs relate to the results and support the business case.

**Objectives of the course:**

- Lean what to consider before starting data table construction
- Learn a process for deciding which data are important and how to group them
- Collect a toolkit of ways to make your tables clear and effective
- Explore ways to make your table interactive

**Instructors Biographies:**

John Beath, P.E., LCA-CP, has more than 30 years of technical experience working with industry data, from developing a real-time replacement for a refinery yield forecasting tool shortly after spreadsheets first became available, to the methodology for collecting and displaying thousands of elements of primary data for the LCA of a refinery, to the use of a “what-if” tool to store multiple instances of model results when only one copy of a model was used. Richard Tallent is a software developer with more than 12 years of consulting experience managing the design and implementation of stand-alone, traditional client/server, and web-enabled applications for over 100 companies. He has produced a number of Excel what-if tools to work with output from LCA databases and built a custom SQL LCA database from scratch.



John Beath



Richard Tallent

---

## Eco-Efficiency Concept in Sustainability Evaluation

**Course time:** 1.5 Hours

**Summary:** Eco-Efficiency Analysis as well as SEEBALANCE® or AgBalance™ analysis are tools that can support decision making processes very efficiently. Next to the environmental impact, which is assessed based on ISO 14040 and ISO 14044 standards, economic factors are taken into account and implemented in the Eco-Efficiency Analysis, following ISO 14045. Both detailed in-depth results of individual impact indicators, as well as aggregated results and a single sustainability evaluation score makeup the output of the Sustainability Evaluation methods. The course will give an overview on different applications of the Eco-Efficiency Analysis, linked with meaningful examples and introducing the application of the evaluation toolbox.



Dr. Peter Saling

**Objectives of the course, to learn:**

- How sustainability information can help to improve processes and products
- How Eco-Efficiency Analysis can be assessed for answering different questions
- How sustainability evaluation can be introduced in decision-making processes
- How relevant data can be assessed and used in LCA methods
- How the dimensions economy, ecology can be evaluated in an integrative way

**Instructor Biography:**

Dr. Peter Saling, is an expert for more than 17 years in the topic of sustainability methods and evaluation. He was project leader for the development of social aspects into the sustainability analysis named SEEBALANCE. Since 2007, Peter was the Director of Sustainability Evaluation within Sustainability Strategy department of BASF. In 2011 he was project leader for the development of AgBalance methodology. Since 2014 he is responsible as Director for the Sustainability methods. Participants in the course will benefit from its experience in sustainability evaluation to see, how different methods can be used to support decision-making processes.

## ISO14046 Water Footprinting and Water Impact Assessment in LCA

**Course Time:** 3 Hours

**Summary:** This course will cover all the basic knowledge, scientific and practical, related to water footprinting, as defined in the ISO draft standard 14046. An overview of the content and requirements of the standard will be presented as well as a brief description of existing methods at the inventory and impact assessment levels. A case study will be presented in details, exploring all technical aspects associated with calculating your own water footprint and reducing its uncertainty with the least efforts. At the same time, this class also provides the state-of-the-art knowledge for water use assessment in LCA.

**Objectives of the course:**

- Gain insight into the new draft standard on Water Footprinting ISO 14046 and the different types of water footprints.
- Understand the variety of water use impact assessment methods available and how they relate.
- Discover the requirements, techniques and tools to perform a water footprint.
- Learn to identify the relevant issue for a specific study & where to focus efforts.
- Understand the uncertainty in a water footprint study and how to reduce it.

**Instructors Biographies:**

Anne-Marie Boulay, is a PhD student at CIRAI, Montreal and has been a leading scientist in the method development for assessing water use impacts in LCA over the last five years. She was involved in the development of the ISO 14046 Water footprint standard. Anne-Marie has taught water footprint trainings for UNEP & others as well as developing the water footprint training material for the UNEP-SETAC life cycle initiative. Sebastien Humbert is VP Scientific Affairs & Co-founder of Quantis. He is part of the working group drafting ISO 14046 on water footprinting.



Dr. Sebastien  
Humbert



Anne-Marie  
Boulay



Dr. Ollivier Jolliet

## Using the USEtox Model in Life Cycle Assessment: Practical Walkthrough and Case Studies

**Course time:** 3 Hours

**Summary:** Developed within the Life Cycle Initiative led by the UNEP-SETAC, the consensus model (USEtox) assess toxicological and ecotoxicological impacts of numerous chemical substances. This course will walk participants through the model step by step, using the USEtox database. Focus will be on how USEtox results should be interpreted within the LCA framework. Examples of case studies where USEtox was used in LCA will be shown. The course is designed around a set of practical exercises and case studies in a way that favors discussions and interaction among participants and with instructors.

**Objectives of the course:**

- Using and interpreting the USEtox model and database:
  - USEtox framework and core principles
  - Using USEtox with chemicals inventoried in the USEtox database
  - Developing characterization factors for chemicals not inventoried in the USEtox database (if time permits)
  - Interpreting results from the USEtox model
- Usetox applications for organizations
  - Case studies of companies using USEtox in LCA



Dr. Sebastien Humbert

**Instructors Biographies:** Dr. Olivier Jolliet is a Professor in impact & risk modelling at the Environmental Health Sciences, School of Public Health, University of Michigan. His research & teaching aim to assess the life cycle risks & benefits of products & emerging technologies & to model population exposure, intake fractions & pharmacokinetics of emerging chemicals. He co-initiated the UNEP/SETAC Life Cycle Initiative & is one of the developers of the USEtox model. Sebastien Humbert is VP Scientific Affairs & Co-founder of Quantis. He received his Ph.D. in LCA from the UCB. He is part of the working group drafting ISO 14046 on water footprinting. He is co-developer of the impact assessment methods IMPACT2002+ & IMPACT World+.

## Post-LCA Checks for Uniform System Boundaries in LCAs Utilizing Multiple LCI Databases

**Course Time:** 1.5 Hours

**Summary:** Using LCI data from multiple databases comes with its own set of challenges arising from varying levels of data quality (data availability, completeness, representativeness, temporal scope, etc.). Data compiler's resources, methodological approach, and level of technical expertise can also influence inconsistencies. There are a series of rules of thumb that may be followed in post-LCA checks to capture a good portion of potential system boundary inconsistencies that occur in LCAs using LCI data from multiple databases. The overall rule-of-thumb list will be presented along with specific case study examples for each.



Rebe Feraldi

### **Objectives of the course:**

- Identify variability in data quality from metadata & characteristic differences between LCI databases
- Identify when and how to make updates/augmentations to existing LCIs
- Understand basic methods for harmonizing the geographic scope of LCI data from multiple databases
- Understand how to examine system inventories and 'LCI checks' for data gaps in LCIA results
- Understand when & how to update substance flows nomenclature to bridge data gaps in LCIA results

### **Instructor Biography:**

Rebe Feraldi is an LCA & Sustainability Analyst at Franklin Associates, A Division of ERG. Franklin Associates is uniquely positioned to speak to this issue as they compile original LCI data for public and private clients and utilize data from multiple databases in LCA studies. Ms. Feraldi is proficient in the use of SimaPRO and has maintained her LCACP since 2010. Rebe has gained experience compiling and analyzing LCAs for systems ranging from fuels and mineral extraction, bio-based materials cultivation and processing, plastic resins and chemicals production to buildings, electronics, and renewable energy technologies.

---