

25<sup>th</sup> International Conference on Environmental Informatics

# ENVIROINFO ISPRA 2011

Programme



5.-7.October 2011  
JRC/IES  
Ispra, Italy

## ORGANISATION



TC Environmental Informatics  
Informatics for Environmental  
Protection, Sustainable Development  
and Risk Management

## SPONSORSHIP AND CO-OPERATION



## INNOVATIONS IN SHARING ENVIRONMENTAL INFORMATION AND OBSERVATION

The Working Group on “Informatics for Environmental Protection” was founded in 1987 within the German Society of Informatics as an effort to establish the communication between experts in computer science and environmental protection. Since then, the Committee organizes the annual EnviroInfo conferences and publishes a newsletter (mainly written in German), which documents activities and progress of the committee twice a year (<http://www.enviroInfo.org>). Co-financed by the Seventh Framework Programme (FP7) of the European Commission, the ICT-ENSURE project was used to set up two information systems in the field of ICT for environmental sustainability: (i) the Information System on Literature (<http://lit.ict-ensure.eu>), which gives access to full-text documents of the proceedings volumes of most EnviroInfo conferences; and (ii) the Information System on European Research Programmes in the area of environmental informatics (<http://is.ict-ensure.eu/>), which should provide an overview about relevant past and present research projects, as well as future funding opportunities.

This year, we are proud to celebrate the 25th anniversary of EnviroInfo on the European level, at the Joint Research Center (JRC) in Ispra, Italy. The event, which is co-organized by the Institute for Environment and Sustainability of JRC, particularly focuses on innovations in sharing environmental information and observation. Special activities include:

- A Special Track on **Environmental and Sustainability Relevant for Industry**, which addresses information systems and Carbon Strategy, especially how companies use ICT to reduce their carbon footprint; IT for industrial ecology management; sustainability accounting, reporting and environmental communication; and environmental management information systems.
- Three sessions with presentations of **Computer Science Applications for Life Cycle Assessment**, accompanied by a workshop on ‘Trends in IT for Life Cycle Assessment’.
- Presentations of the systemic context in environmental issues are held in the session **Modeling Sustainability**. Here examples of sectoral applications are provided guiding towards an integrated access to environmental information.
- Sessions under the overall title **Environmental Information Systems, Service Infrastructures and Platforms (ENVIP) 2011: Approaching the Future In-**

**ternet**, which support an exchange of research plans and results between predominant projects from FP7.

- A three session track **CEN/TC 287 Smart Grid and Spatial Data Infrastructure**, with presentations of (i) geographic information and the Open Geospatial Consortium (OGC), (ii) Smart Grid and Spatial Data Infrastructure and (iii) interoperability challenges now and in the future.
- A session dedicated to **Linked Open Data**, Semantic Search and Interoperability, dealing with infrastructures, terminological aspects, application in ecosystems and multi-disciplinarily.
- A series of presentations about the **OGC Observations and Measurements (O&M) Schema and Environmental Data**.

Also in this year, the best Student paper prize is allocated to estimable work of young researches in the field of Environmental Informatics. Students' presentations will take place on Friday (October 7) in the Auditorium from 10:10 to 10:40.

## ORGANISING COMMITTEE

Sven Schade	<i>Joint Research Centre, Institute for Environment and Sustainability JRC-IES/SDI (Conference chairs)</i>
Paul Smits	<i>JRC-IES/SDI (Conference chairs)</i>
Werner Pillmann	<i>ISEP, Vienna (Scientific chair)</i>
Karen Fullerton	<i>JRC-IES/SDI, Italy</i>
Stefan Jensen	<i>European Environment Agency EEA, Copenhagen, Denmark</i>

## CONFERENCE SUPPORT

Loizos Bailas	<i>JRC-IES, Ispra, Italy</i>
Elisabeth Mrakotsky	<i>Austrian Institute of Technology (AIT), Vienna</i>
Chiara Petrolito	<i>JRC-IES, Ispra, Italy</i>
Christian Schmitt	<i>Karlsruhe Institute of Technology (KIT/IAI) Germany</i>
Dagny Streicher	<i>Kiel, Germany</i>

**PROGRAMME COMMITTEE**

Hans-Knud Arndt	<i>Otto-von-Guericke-University Magdeburg, Germany</i>
Arne Jorgen Berre	<i>SINTEF Networked Systems and Services</i>
Andreas Ciroth	<i>GreenDeltaTC, Germany</i>
Clemens Döpmeier	<i>Karlsruhe Institute of Technology, Germany</i>
Peter Fischer-Stabel	<i>University of Applied Sciences Trier, Germany</i>
Martin Ford	<i>CEN/TC 287 Geographic information, United Kingdom</i>
Werner Geiger	<i>Karlsruhe Institute of Technology, Germany</i>
Albrecht Gnauck	<i>Brandenburg University of Technology, Germany</i>
Klaus Greve	<i>University of Bonn, Germany</i>
Lorenz Hilty	<i>EMPA St. Gallen; Zurich University, Switzerland</i>
Jiri Hřebíček	<i>Masaryk University, Czech Republic</i>
Ralf Isenmann	<i>University of Kassel, Germany</i>
Stefan Jensen	<i>European Environment Agency, Denmark</i>
Gerlinde Knetsch	<i>Federal Environment Agency, Germany</i>
Margaret MacDonell	<i>U.S. Dep. of Energy, Office of Science, Aronne, Illinois</i>
Jorge Marx Gómez	<i>University Oldenburg, Germany</i>
Andreas Möller	<i>Leuphana University, Lueneburg, Germany</i>
Bernd Page	<i>University of Hamburg, Germany</i>
Werner Pillmann	<i>International Society for Environmental Protection, Austria (Scientific Chair)</i>
Wolf-Fritz Riekert	<i>Stuttgart Media University, Germany</i>
Sven Schade	<i>European Commission, Joint Research Centre, IES, Italy (Conference Chair)</i>
Gerald Schimak	<i>AIT Austrian Institute of Technology GmbH, Austria</i>
Martin Schreiber	<i>Leuphana University, Lueneburg, Germany</i>
Karl-Heinz Simon	<i>University of Kassel, Germany</i>
Paul Smits	<i>European Commission, Joint Research Centre, IES, Italy (Conference Chair)</i>
Alberto Susini	<i>Environmental Compliance Service of Plants and Industries, Switzerland</i>
Kristina Voigt	<i>Helmholtz Zentrum Muenchen, Germany</i>
Jochen Wittmann	<i>HTW Berlin, Germany</i>
Volker Wohlgemuth	<i>HTW Berlin, Germany</i>

## SOCIAL PROGRAM

- Wednesday, Oct. 5  
06.30pm
- Cocktail reception**  
Centro Congressi Ville Ponti,  
Piazza Litta 2, 21100 Varese  
Tel. +39 0332 239130  
email: [villeponti@va.camcom.it](mailto:villeponti@va.camcom.it)  
<http://www.villeponti.it>  
see Google Maps
- Thursday, Oct. 6  
08.00pm
- Conference Dinner**  
Palace Grand Hotel Varese,  
Via Luciano Manara 11, 21100 Varese  
Tel. +39 0332 32 71 00  
email: [info@palacevarese.com](mailto:info@palacevarese.com)  
<http://www.palacevarese.com/>  
see Google Maps
- Friday, Oct. 7  
03.00pm
- Farewell Reception**

## PROCEEDINGS VOLUME

(Price at the conference venue)

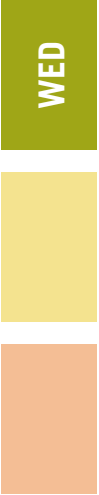
Part 1: € 35, Part 2: € 35, Part 1+2: € 66

## OPENING HOURS REGISTRATION DESK

during the meeting

- Wednesday, Oct. 5      9.00am – 05.30pm  
Thursday, Oct. 6      9.00am – 10.30pm  
Friday, Oct. 7      9.30am – 10.00pm

09.00am	<b>Plenary 1: Conference Opening and Plenary Speeches</b> Location: Auditorium Chair: Alessandro Annoni		
10.30am	Coffee		
11.00am	<b>Sessions 1.1 – 1.4</b>		
	<b>1.1: Man and the Environment</b> Location: Amphitheatre Chair: Albrecht Gnauck	<b>1.2: Information Technology for Carbon Footprint</b> Location: Room 2 Chair: Ralf Isenmann	<b>1.3: ENVIP Workshop 1a</b> Location: Room 3 Chair: Arne Jorgen Berre
			<b>1.4: Safety and Risk Management</b> Location: 26A Raffaello Chair: Alberto Susini
12.45pm	Lunch		
01.45pm	<b>Sessions 2.1 – 2.4</b>		
	<b>2.1: Progress in INSPIRE</b> Location: Amphitheatre Chair: Paul Smits	<b>2.2: Information Technology for Industrial Ecology Management</b> Location: Room 2 Chair: Jorge Marx Gómez	<b>2.3: TaToo - Tagging Tool based on a Semantic Discovery Framework</b> Location: Room 3 Chair: Gerald Schimak
			<b>2.4: Environmental Communication</b> Location: 26A Raffaello Chair: Jiri Hrebicek
03.15pm	Coffee		
03.45pm	<b>Sessions 3.1 – 3.4</b>		
	<b>3.1: Modeling and Simulation - Survey and Applications</b> Location: Amphitheatre Chair: Jochen Wittmann	<b>3.2: Sustainability Accounting, Reporting and Environmental Communication</b> Location: Room 2 Chair: Jorge Marx Gómez	<b>3.3: ENVIP - 7th EU Framework Program Networking</b> Location: Room 3 Chair: Federico Prandi
			<b>3.4: Environmental Health</b> Location: 26A Raffaello Chair: Kristina Voigt
05.30pm			



09.00am – 10.30am

**AUDITORIUM | PLENARY 1**

**CONFERENCE OPENING AND PLENARY SPEECHES**

*Session Chair: Alessandro Annoni*

**EnviroInfo Ispra 2011: Conference Opening**

*Paul Smits*

**Welcome Address**

*JRC Representative*

**EnviroInfo: Multidisciplinary Platform for Environmental Informatics in Sustainability Research**

*Werner Pillmann*

**INSPIRE, GMES, GEOSS & Eye on Earth: making it all work, together**

*Paul Smits*

**System or Strategy – One Shared Environmental Information System, SEIS fit for all ?**

*Hugo De Groof*



11.00am – 12.45pm

**AMPHITEATRE | SESSION 1.1****MAN AND THE ENVIRONMENT***Session Chair: Albrecht Gnauck***Uncertainty propagation in chained web based modeling services: the case of eHabitat***Jon Olav Skoien, Michael Schulz, Gregoire Dubois, Gerard B. M. Heuvelink, Dan Cornford***Social Validation of INSPIRE Standards Using Online Communities***Lisa Maurer, Patrick Hoefler***A Novel Spatially Explicit Integrated Modeling Tool for Assessing P Accumulation in Agricultural Soils***Dominique Gaertner, Raniero Della Peruta, Armin Keller***Sustainability assessment using geostatistical analysis and spatial modeling in El-Tina plain in Egypt***Said Nawar, Mohamed Reda, Fatahalla Farag, Alaa El-Nahry***Advanced Procedure for the Monitoring of Settlement and Open Space Development on Basis of Topographical Geodata Sets in the IOER-Monitor***Gotthard Meinel***ROOM 2 | SESSION 1.2****INFORMATION TECHNOLOGY FOR CARBON FOOTPRINT***Session Chair: Ralf Isenmann***IT-for-Green: CEMIS Next Generation CEMIS for Environmental, Energy and Resource Management***Barbara Rapp, Andreas Solsbach, Tariq Mahmoud, Ammar Memari, Jörg Bremer***Analysing land-use effects on the carbon balance of biofuels by coupling a spatial model to LCA***Florian Humpenöder, Rüdiger Schaldach, Yalda Shayeghi, Liselotte Schebek***Dynamic Carbon Footprinting of Digital Services***Daniel Schien, Chris Preist, Paul Shabajee, Mike Yearworth***Understanding the Sustainability of Digital Products in the News Media Industry***Stephen G. Wood***Carbon Footprint in Canteen Kitchens – Calculation of Carbon Footprints at a University***Christian Manthey, Kirtan Bergheim, Yardena Gerlach, Nico Grasshoff, Max Plischtil*

11.00am – 12.45pm

### **ROOM 3 | SESSION 1.3**

#### **ENVIP WORKSHOP 1A: ENVIRONMENTAL INFORMATION SYSTEMS, SERVICE INFRASTRUCTURES AND PLATFORMS**

*Session Chair: Arne Jorgen Berre*

##### **Welcome and Discussion of Contributions to the ENVIP Wiki**

*Arne Jorgen Berre, Sven Schade, Gerald Schimak, Federico Prandi*

##### **BRISEIDE a spatio-temporal framework to support environmental analysis and emergency management**

*Federico Prandi, Reffaele De Amicis, Giuseppe Conti, Alberto De Biasi, Marco Calderan, Stefano Piffer*

##### **ICT solutions supporting collaborative information acquisition, situation assessment and decision making in contemporary environmental management problems: the DIADEM approach**

*Gregor Pavlin, Claudine Conrado, Costin Badica, Vanessa Evers, Achim Lilienthal, Tina Comes, Jan Pehrsson, Rani Pinchuk, Sahar Asadi, Sepideh Pashami, Jan Steen Jensen, Bianca Milan, Kees Nieuwenhuis, Niek Wijngaards, Sorin Ilie, Mihnea Scafes, Frans Groen, Thomas Neidhart, Leo Schou-Jensen, Frank Schultmann*

### **RAFAELLO BUILDING 26A, GROUND FLOOR | SESSION 1.4**

#### **SAFETY AND RISK MANAGEMENT**

*Session Chair: Alberto Susini*

##### **Building a Sustainable Information System in the Domain of Chemical and Biological Safety**

*Matthias Menger, Patrick Ackermann, Thomas Bandholtz, Rainer Jaspert, Antoine Logean*

##### **Use of the PreussenRiskware concept for the construction of a model for risk evaluation for the agricultural reuse of sewage sludge**

*Robert Ackermann, Wolfgang Seis, Katja Jung, Matthias Finkbeiner*

##### **Exploiting the Potential of Environmental Information Systems for Risk, Crisis and Environmental Management Applications**

*Thomas Usländer, Thomas Batz*

##### **Integrating Workflow and Document Management with Domain Applications by Using MS Sharepoint 2010 with REST Interfaces**

*Christopher Stolle, Kurt Sparber, Matthias Menger*

##### **Spatial zoning of precipitation by geo-statistical methods and DEM as auxiliary variable in northeast of Iran**

*Hossein Sanaeinejad, Negar Siabi, Marjan Ghaemi*

01.45 pm – 03.15 pm

**AMPHITEATRE | SESSION 2.1****PROGRESS IN INSPIRE***Session Chair: Paul Smits***InGrid – The development of a metadata editor in the context of INSPIRE***Fred Kruse, Franz Schenk***Integrated Geo-Metadata Management in the Federal State of the Saarland (Germany) and it's Municipalities***Peter Fischer-Stabel, Bettina Barth, Michaela Rosar***Environmental data and INSPIRE – Exemplified at the Water Framework Directive (WFD)/ Flood Risks Directive (FRD) in Saxony and INSPIRE - Annex I - Hydrography (HY)***Heino Rudolf***Sharing European soil information - Best practice contribution to INSPIRE - Katharina Feiden, Fred Kruse, Emil Fulajtár, Endre Dobos, Herbert Schentz, Sigbert Huber, Einar Eberhardt, Rainer Baritz, Carlos Figueiredo, Hermann Klug****EOMOUNT - A satellite data based near-realtime observing system at local/ regional scale***Christian Steurer, Claudia Notarnicola, Roberto Monsorno, Armin Costa, Anke Tetzlaff, Sebastian Geidel, Marc Zebisch***ROOM 2 | SESSION 2.2****INFORMATION TECHNOLOGY FOR INDUSTRIAL ECOLOGY MANAGEMENT****UPIOM Cube: A New Tool for Visualization of Inter-industry Flow of Various Types of Material with Its Application to Car Production***Yasushi Kondo, Shinichiro Nakamura***Planning of the energy and material demands of a paint shop by an assistant-supported parameterized material flow based decision support system***Benjamin Boehnke, Steffen Witte, Volker Wohlgemuth***Accounting for sustainable organisations: where is the accountant and why it matters?***Dimitar Zvezdov***Indicators identification and assessment for industrial areas renewal supporting on industrial ecology***Elena Romero, M<sup>a</sup> Carmen Ruiz, David Ortiz, Alberto Diez*

01.45 pm – 03.15 pm

**ROOM 3 | SESSION 2.3****TATOO - TAGGING TOOL BASED ON A SEMANTIC DISCOVERY FRAMEWORK***Session Chair: Gerald Schimak***The TaToo Semantic Case – Requirements, impacts and applications***Gerald Schimak, Bojan Božic, Alexander Kaufmann, Jan Peter-Anders, Pascal Dihé, Tomás Pariente Lobo, Giuseppe Avellino, Andrea Rizzoli***Applying semantics in the environmental domain: The TaToo project approach***Giuseppe Avellino, Tomás Pariente Lobo, Gerald Schimak, Andrea Emilio Rizzoli, Pascal Dihé***Publishing Agro-Environmental Data to a Semantically Unified Environmental Information Space: a Case Study***Sasa Nestic, Andrea Emilio Rizzoli, Marcello Donatelli, Ioannis Athanasiadis***Semantic approach for tagging anthropogenic impacts of multidomain data resources - case study of TaToo tools***Jiri Hrebicek, Miroslav Kubasek***Demonstration of the Climate Twins scenario - using TaToo services to enhance information retrieval about climate change consequences***Jan Peters-Anders, Joachim Ungar, Wolfgang Loibl***The TaToo Portal – Tagging and Discovery within TaToo***Giuseppe Avellino, Luca Petronzio, Tomás Pariente Lobo, Jose Maria Fuentes, Sinan Yurtsever***RAFAELLO BUILDING 26A, GROUND FLOOR | SESSION 2.4****ENVIRONMENTAL COMMUNICATION***Session Chair: Jiri Hrebicek***Opportunities, perspectives and challenges of improved networking between the actors of the bioenergy market***Daniel Meyerholt, Andre Schubert, Jorge Marx Gómez***A Virtual Research Environment for Long-Term Monitoring of a Waste Deposit with Free and Open Source Software***Mirko Filetti, Albrecht Gnauck***Identifying Information with Environmental Relevance in Public Administration Web Sites Using Automatic Classification***Franz Schenk, Daniel Meyerholt***Using OGC standards for data exchange between the environmental modeling framework JAMS and the environmental information system RBIS***Franziska Zander, Christian Fischer, Sven Kralisch***Predictive models of forest development in Slovenia***Marko Debeljak, Bernard Ženko, Aleš Poljanec***Development of a IT-based Solution Manager for the Planning of Bio Energy Networks***Nils Giesen, Daniel Meyerholt*

**AMPHITHEATRE | SESSION 3.1****MODELING AND SIMULATION - SURVEY AND APPLICATIONS**

*Session Chair: Jochen Wittmann*

**Environmental Modeling and Simulation: a subjective update to the state of the art based on the topics of the annual workshop of the working group**

*Jochen Wittmann*

**Assessment Database Supporting Implementation of Water Framework Directive in Schleswig-Holstein**

*Friedhelm Hosenfeld, Johanna Lietz, Michael Trepel*

**A Software Platform Towards a Comparison of Cars - A Case Study for Handling Ratio-Based Decisions -**

*Jochen Wittmann*

**Application of Kriging Algorithms for Solving some Water Nets Management Tasks**

*Jan Studzinski*

**ROOM 2 | SESSION 3.2****SUSTAINABILITY ACCOUNTING, REPORTING AND ENVIRONMENTAL COMMUNICATION**

*Session Chair: Jorge Marx Gómez*

**iSTORM – Idea and Reference Architecture approaching Inter-organisational sustainability Reporting**

*Andreas Solsbach, Jorge Marx Gómez, Ralf Isenmann*

**Representing information in Occupational Safety and Health (OSAH)-Management and OSAH-Compliance on corporate level**

*Hans-Knud Prof. Arndt, Sebastian Tietz*

**Integrating ERP and Environmental Information Systems – the Case of Life Cycle Inventories**

*Marcel Severith, Lorenz M. Hilty*

03.45 pm – 05.30 pm

### **ROOM 3 | SESSION 3.3**

#### **ENVIP - 7TH EU FRAMEWORK PROGRAM NETWORKING**

*Session Chair: Federico Prandi*

#### **NATURE-SDIplus, a Network for SDI in Nature Conservation**

*Giorgio Saio, Carmelo Attardo, Marketa Hanzlova*

#### **Data Management in the Coastal Observing System COSYNA**

*Gisbert Breitbach, Hajo Krasemann*

#### **geoland2 SDI: A Spatial Data Infrastructure component for the GMES Land Monitoring Core Service**

*Erwin Goor, The Hoa Nguyen, Daniel Langhans, Marek Tinz, Gerhard Triebnig, Gedas Vaitkus*

### **RAFAELLO BUILDING 26A, GROUND FLOOR | SESSION 3.4**

#### **ENVIRONMENTAL HEALTH**

*Session Chair: Kristina Voigt*

#### **Similarities of Environmental Health Data of Persistent Organic Pollutants in three Countries Analyzed by the PyHase Software**

*Kristina Voigt, Rainer Bruggemann, Scherb Hagen, Schramm Karl-Werner*

#### **Human and Animal Health Interactions: Computer Supported Communications Mitigate Pandemic Risks of Avian Influenza**

*Walter J Armbruster*

#### **Networking Activities of Environmental Specimen Banks**

*Maria Rüther, Jan Koschorreck, Thomas Bandholtz*

#### **Using air pollution health risk assessment for future land use planning in Korba, India**

*Debapratim Pandit, Subrata Chattopadhyay*

#### **Participatory approaches to light pollution mitigation: a case history from Italy**

*Andrea Giacomelli, Francesco Giubbilini, Simona Lombardelli, Stefano Costa, Luca Delucchi*

09.00am	<b>Plenary 2a: Plenary Speeches</b> Location: Auditorium				
10.20am	<b>Plenary 2b: Poster Session Introduction</b> Location: Auditorium				
10.30am	<b>Thursday Poster: Poster Session</b> Location: Auditorium				
11.00am	<b>Sessions 1.1 – 1.5</b>				
	<b>1.1: Linked Open Data, Semantic Search and Interoperability</b> Location: Amphiteatre Chair: Paul Smits	<b>1.2: Information Technology for Life Cycle Analysis 1</b> Location: Room 2 Chair: Werner Geiger	<b>1.3: ENVIROFI - Environmental Information Services in the Future Internet</b> Location: Room 3 Chair: Sven Schade	<b>1.4: Modeling Sustainability - Sectoral Examples</b> Location: 26A Raffaello Chair: Karl-Heinz Simon	<b>1.5: OGC - Observation and Measuring Schema and Environmental Data</b> Location: 26A Leonardo Chair: Katharina Schleidt
12.45pm	Lunch				
01.45pm	<b>Sessions 2.1 – 2.5</b>				
	<b>2.1: Linked Open Data, Semantic Search and Interoperability - Workshop</b> Location: Amphiteatre Chair: Stefan Jensen	<b>2.2: Information Technology for Life Cycle Analysis 2</b> Location: Room 2	<b>2.3: CEN/TC 287 Workshop - Spatial and Standards</b> Location: Room 3 Chair: Martin Ford	<b>2.4: Energy Efficiency and Research</b> Location: 26A Raffaello Chair: Elisabeth Mrakotsky	<b>2.5: Spatial Data Infrastructures: Applications</b> Location: 26A Leonardo Chair: Klaus Greve
03.15pm	Coffee				
03.45pm	<b>Sessions 3.1 – 3.4</b>				
	<b>3.1: Environmental Management Information Systems</b> Location: Amphiteatre Chair: Volker Wohlge-muth	<b>3.2: Information Technology for Life Cycle Analysis 3</b> Location: Room 2	<b>3.3: CEN/TC 287 Workshop - Spatial: Environment and Smart Grids</b> Location: Room 3 Chair: Stefan Jensen	<b>3.4: Mobile Applications</b> Location: 26A Raffaello Chair: Clemens Döpmeier	
05.30pm					



09.00am – 10.20am

## AUDITORIUM | PLENARY 2A

### PLENARY SPEECHES

**SEIS and Eye On Earth - extending our minds on environmental information**

*Prof. Jacqueline McGlade*

**Creating and Sharing Environmental Information with Collaborative Web Technologies**

*Arno Scharl*

**NextGen Environmental Health Analysis: Community-Centric Approaches and Tools**

*Margaret MacDonell*

10.20am – 10.30am

## AUDITORIUM | PLENARY 2B

### POSTER SESSION INTRODUCTION

10.30am – 11.00am

## AUDITORIUM | THURSDAY POSTER

### POSTER SESSION

**EcoDesign tool for the food industry**

*Nicola Colombo, Urs Schenker*

**Regional diversity of waste generated, recovered and treated in Poland**

*Pawel Andrzej Bartoszczuk, Magdalena Marczyk*

**SUDPLAN - an ICT Planning Tool for Sustainable Urban Development taking into account Climate Change**

*Lars Gidhagen, Peter Kutschera*

**EnviA – Coordinating Improved Environmental Information Access and Discovery**

*Johanna Kieniewicz, Allan Sudlow, Elizabeth Newbold*

**A semi-Markov model of wind speed variability for power generation forecasting**

*Jacek Malinowski*

**Statistics of import and export waste in Poland**

*Magdalena Marczyk, Paweł Bartoszczuk*





**Methodology to form an industrial eco-system in the Municipality of Torrelavega (Northern Spain)**

*M<sup>a</sup> Carmen Ruiz Puente, Elena Romero Arozamena, Alberto Diez Ibarbia, David Ortiz Maza*

**Large scale GMO cultivation assessment: Tools for monitoring and modelling potential GMO impacts**

*Gunther Schmidt, Broder Breckling, Lukas Kleppin, Winfried Schröder*

**Databases for agri-food products LCA – How much detail do we need?**

*Ricardo Teixeira*

**LCA practitioner survey 2011 – Main results and conclusions**

*Ricardo Teixeira, Sara Pax*

**Using LCA to integrate sustainability into profitable business strategies for companies in the agri-food sector**

*Ricardo Teixeira, Andrew Southwood*

**The project ENDORSE: exploiting EO data to develop pre-market services in renewable energy**

*Lucien Wald, Claire Thomas, Sophie Cousin, Philippe Blanc, Lionel Ménard, Marion Schroedter-Homscheidt, Elena Gaboardi, Emilio Simeone, Gerd Heilscher, Sophie Jacques, Sebastiano Serpico, Thomas Huld, Dominique Dumortier*

11.00am – 12.45pm

## **AMPHITEATRE | SESSION 1.1**

### **LINKED OPEN DATA, SEMANTIC SEARCH AND INTEROPERABILITY**

*Session Chair: Paul Smits*

#### **The Multi-Disciplinary Interoperability Challenge**

*Massimo Craglia, Stefano Nativi, Laura Diaz, Lorenzino Vaccari*

#### **Integrating Semantic Search for Relational Data into Environmental Information Systems**

*Andreas Abecker, Ulrich Bügel, Renate Ebel, Thorsten Schlachter*

#### **Semantics in Ecological Monitoring**

*Herbert Schentz, Johannes Peterseil, Barbara Magagna, Michael Mirtl*

#### **LOD-ready Environmental Terminology with iQvoc**

*Thomas Bandholtz, Joachim Fock, Astrid Wolff, Herbert Schentz*

#### **Towards a Multilingual Framework for SEIS**

*Monica De Martino, Marina Monti, Riccardo Albertoni*

## **ROOM 2 | SESSION 1.2**

### **INFORMATION TECHNOLOGY FOR LIFE CYCLE ANALYSIS 1**

*Session Chair: Werner Geiger*

#### **A review of tools for PCF and LCA in the agri-food sector**

*Ricardo Teixeira, Lori Gustavus, Anne Himeno, Sara Pax*

#### **Implementation of a modular web-based multi-method Tool for the Assessment of Biofuel Sustainability Standards**

*Andi H. Widok, Tobias Ziep, Volker Wohlgemuth*

#### **Concept and Implementation of a Service API for the Remote Access to Life Cycle Assessment Databases**

*Clemens Döpmeier, Oliver Kusche*

#### **Tools for environment's web application for Life Cycle Assessment (LCA)**

*Rémy Jobin, Marion Sié*

#### **Computational challenges in huge LCA and EEIOA systems**

*Reinout Heijungs, Arjan de Koning*

**ROOM 3 | SESSION 1.3****ENVIROFI - ENVIRONMENTAL INFORMATION SERVICES IN THE FUTURE INTERNET**

*Session Chair: Sven Schade*

**Leveraging the Future Internet - Public Private Partnership for the Environmental Usage Area**

*Denis Havlik, Sven Schade, Wout van Wijk, Thomas Usländer, Juanjo Hierro*

**RAFAELLO BUILDING 26A, GROUND FLOOR | SESSION 1.4****MODELING SUSTAINABILITY - SECTORAL EXAMPLES**

*Session Chair: Karl-Heinz Simon*

**A Short History of Sustainability Oriented Modelling Endeavours**

*Karl-Heinz Simon*

**A sociocybernetic Approach to Meta-modelling for the European Environmental Information Space**

*Bernd R. Hornung*

**Towards the Integration of Environmental Information in Europe**

*Werner Pillmann*

**A system approach to the integration of ecosystem services with DPSIR components**

*Corrado Iannucci, Michele Munafò, Valter Sambucini*

**Modelling Environmental Information Processes: A Meta-model Approach for Water Management**

*Albrecht Gnauck*

**LEONARDO BUILDING 26A, 2ND FLOOR | SESSION 1.5****OGC - OBSERVATION AND MEASURING SCHEMA AND ENVIRONMENTAL DATA**

*Session Chair: Katharina Schleidt*

**Workshop Introduction to Observation and Measurement**

*Katharina Schleidt*

**Co-Workshop organization/animation (with K.Schleidt) + Contribution on INSPIRE and WaterML2.0 aspects**

*Sylvain Grellet*

**Spatial Monitor Flanders: Managing spatial data in support of policy making**

*Bjorn Debecker, Thérèse Steenberghen, Paul Jacxsens*

**Profiling Observations and Measurements for the Weather, Oceanography and Climate communities.**

*Dominic Lowe*

01.45 pm – 03.15 pm

## **AMPHITEATRE | SESSION 2.1**

### **LINKED OPEN DATA, SEMANTIC SEARCH AND INTEROPERABILITY - WORKSHOP**

*Session Chair: Stefan Jensen*

#### **Footprinted.org: experiences from using linked open data for environmental impact information**

*Jorge Luis Zapico, Bianca Sayan, Leonardo Bonanni, Marko Turpeinen, Steve Young*

#### **Integrating Environment into the Linked Data Cloud**

*Pilar León Araúz, Pedro J. Magaña Redondo, Pamela Faber*

#### **EEA and Linked Environment Data**

*Soeren Roug*

## **ROOM 2 | SESSION 2.2**

### **INFORMATION TECHNOLOGY FOR LIFE CYCLE ANALYSIS 2**

#### **A scalable implementation of the track summing algorithm for Emergy calculation with Life Cycle Inventory databases**

*Antonino Marvuglia, Enrico Benetto, Benedetto Rugani, Gordon Rios*

#### **Environmental impact assessment of electricity production by photovoltaic system using GEOSS recommendations on interoperability**

*Lionel Menard, Benoît Gschwind, Isabelle Blanc, Didier Beloin-Saint-Pierre, Lucien Wald, Philippe Blanc, Thierry Ranchin, Roland Hischier, Simone Gianfranceschi, Steven Smolders, Marc Gilles, Cyril Grassin*

#### **Linking PCF, LCA and ecodesign – A practical approach for the food sector**

*Philippe Schiesser, Ricardo Teixeira*

#### **Stochastic Assessment by Monte Carlo Simulation for LCI applied to steel process chain: The ArcelorMittal Steel Poland S.A. in Krakow, Poland case study**

*Boguslaw Bieda*

**ROOM 3 | SESSION 2.3****CEN/TC 287 WORKSHOP - SPATIAL AND STANDARDS***Session Chair: Martin Ford***Setting the Environmental Picture***Hugo De Groof***How to better manage electrical energy***Marko Delimar***European Location Framework***David Cecil Lovell***RAFAELLO BUILDING 26A, GROUND FLOOR | SESSION 2.4****ENERGY EFFICIENCY AND RESEARCH***Session Chair: Elisabeth Mrakotsky***A Model for the Evaluation of Potential Energy Conservation of Data Center Focusing on the Air Conditioning Options in Japan***Shunsuke Mori, Masashi Ohkura, Hidetaka Ohkura***Measurement and Rating of Software-induced Energy Consumption***Markus Dick, Eva Kern, Jakob Drangmeister, Stefan Naumann, Timo Johann***Sharing Laboratory Infrastructures for Integrating more Energy from Renewable Sources to the Grid - the Example of the FP7 project DERri (Distributed Energy Resources Research Infrastructure)***Elisabeth Mrakotsky, Christoph Mayr***Early achievements towards an automatic assessment of the uncertainty in solar irradiation using web services***Lucien Wald, Philippe Blanc, Bella Espinar, Benoit Gschwind, Mireille Lefevre, Lionel Menard, Fabien Wald, Carsten Hoyer-Klick, Marion Schroedter-Homscheidt, Claire Thomas*

01.45 pm – 03.15 pm

**LEONARDO BUILDING 26A, 2ND FLOOR | SESSION 2.5**

**SPATIAL DATA INFRASTRUCTURES: APPLICATIONS**

*Session Chair: Klaus Greve*

**Development of the reference model for the marine spatial data infrastructure  
Germany (MDI-DE)**

*Christian Rüh, Peter Korduan, Ralf Bill*

**Processing on Demand of EO value-added vegetation products**

*Erwin Goor, Dirk Daems, Lieve Van den Heuvel, Steven Smolders*

**Toward a quality aware SDI to assess agricultural water consumption**

*Mickael Beaufils, Jean-Michel Follin*

**Ontology based description of satellite imageries for application based data  
querying**

*Thai Binh Tran, Thilo Wehrmann, Verena Klinger, Claudia Kuenzer, Klaus Greve*

03.45 pm – 05.30 pm

**AMPHITEATRE | SESSION 3.1****ENVIRONMENTAL MANAGEMENT INFORMATION SYSTEMS***Session Chair: Volker Wohlgemuth***Integration Repositories for Corporate Environmental Management Information Systems***Andreas Moeller, Martina Prox, Tobias Schnackenbeck***Evaluation categorizes, technologies decision for a Composite Environmental Performance Indicators (LWC-EPI) solution***Naoum Jamous, Frederik Kramer, Gamal Kassem***A Central Collaborative Corporate Environmental Management Information System***Nabil Allam, Tariq Mahmoud, Jorge Marx Gómez, Horst Junker***CEMIS Software Available on the German Market***Nabil Allam, Horst Junker***ROOM 2 | SESSION 3.2****INFORMATION TECHNOLOGY FOR LIFE CYCLE ANALYSIS 3****Integrating CAD, PLM and LCA: new concepts, data model, architecture & integration proposals***Jean-Pierre Theret, Damien Evrard, Fabrice Mathieux, Yannick Le Guern, Patrick Chemla***The International Life Cycle Data System (ILCD) Format – Basic Concepts and Implementation of Life Cycle Impact Assessment (LCIA) Method Datasets***Oliver Kusche, Clemens Düpmeier, Marc-Andree Wolf***Web-based exchange of LCA data from the client side perspective***Michael Srocka, Andreas Ciroth***Comparative evaluation of life cycle assessment software programs: a case study for biodiesel and diesel fuel***Rogério Rodrigues Sallaberry, Katia Nunes, Luiz Fernando Cybis, Liselotte Schebek***Emission Inventory and Predict from Road Traffic Sources for Hanoi***VU Van Manh, BUI Phuong Thuy, DO Hoanh Duy*

03.45 pm – 05.30 pm

**ROOM 3 | SESSION 3.3**

**CEN/TC 287 WORKSHOP - SPATIAL: ENVIRONMENT AND SMART GRIDS**

*Session Chair: Stefan Jensen*

**Observation and Measurement**

*Katharina Schleidt*

**Harmonised access to weather, ocean and climate data using Climate Science Modelling Language and Observations and Measurements**

*Dominic Lowe*

**CIM for Weather: Modelling Environmental Data for the Electrical Industry (IEC/TC 57)**

*Alan McMorran*

**RAFAELLO BUILDING 26A, GROUND FLOOR | SESSION 3.4**

**MOBILE APPLICATIONS**

*Session Chair: Clemens Döpmeier*

**Concept of a Universal Mobile Application Accessing Environmental Information Systems**

*Thorsten Schlachter, Clemens Döpmeier, Werner Geiger, Rainer Weidemann, Renate Ebel, Martina Tauber, Klaus Zetzmann*

**Integrating Volunteered Human Sensor Data into Crowd-sourced Platforms: A Use Case on Noise Pollution Monitoring and OpenStreetMap**

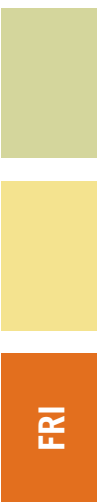
*Theodor Foerster, Laura Diaz, Arne Bröring*

**Integration of Sensor Data and their Presentation in Regional Environmental Information Systems and Mobile Applications**

*Marc Beck, Christian Hempe, Rolf Krieger, Andreas Mut, Bernhard Schmitt*



09.30am	<b>Plenary 3a: Plenary Speech</b> Location: Auditorium Chair: Lorenz Hilty				
10.00am	<b>Plenary 3b: Youth Informatics Prize Champions Presentations</b> Location: Auditorium Chair: Lorenz Hilty				
10.40am	Coffee				
11.00am	<b>Sessions 1.1 – 1.4</b>				
	<table border="1"> <tr> <td><b>1.1: Information Technology for Climate Change Mitigation</b> Location: Auditorium Chair: Lisa Maurer</td> <td><b>1.2: CEN/TC 287 Workshop - Spatial Environment and Smart Grids</b> Location: Leonardo Chair: Martin Ford</td> <td><b>1.3: ENVIP Workshop 1b</b> Location: Raffaello Chair: Arne Jorgen Berre</td> <td><b>1.4: Information Technology for Life Cycle Analysis - Workshop</b> Location: Room 12a Chair: Werner Geiger</td> </tr> </table>	<b>1.1: Information Technology for Climate Change Mitigation</b> Location: Auditorium Chair: Lisa Maurer	<b>1.2: CEN/TC 287 Workshop - Spatial Environment and Smart Grids</b> Location: Leonardo Chair: Martin Ford	<b>1.3: ENVIP Workshop 1b</b> Location: Raffaello Chair: Arne Jorgen Berre	<b>1.4: Information Technology for Life Cycle Analysis - Workshop</b> Location: Room 12a Chair: Werner Geiger
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12.30pm	Lunch				
01.15pm	<b>Plenary 4: Round Table and Session/Workshop Summaries</b> Location: Auditorium				
03.00pm					



09.30am – 10.00am

**AUDITORIUM | PLENARY 3A**

**PLENARY SPEECH**

*Session Chair: Lorenz Hilty*

**Challenges for next generation SDI**

*Lars Bernard*

10.00am – 10.40am

**AUDITORIUM | PLENARY 3B**

**YOUTH INFORMATICS PRICE CHAMPIONS PRESENTATIONS**

*Session Chair: Lorenz Hilty*

**eCarUs - a tool for optimal placement of stations for electric vehicle batteries**

*Jérôme Agater, Helge Arjanguï, Malin Gandor, Michael Mengelkamp, Henning Schröder, Janina Siemer, Marcel Strudthoff, Bernhard Wagner, Ute Vogel, Christian Hinrichs, Stefan Scherfke*

**Analysis and visualization of material flows in the manufacturing process of computer hardware and their geographical aspects**

*Nadine Kolley, Henry Rechenbach*

**The Solarservice Bremen – a Web-GIS Based Information Service for Solar Energy for the City of Bremen**

*Konstanze Magdalena Steinhausen*

11.00am – 12.30pm

**AUDITORIUM I SESSION 1.1****INFORMATION TECHNOLOGY FOR CLIMATE CHANGE MITIGATION***Session Chair: Lisa Maurer***Emission Trade Assistant: Prototype Implementation and Lessons learned***Philip Joschko, Hennes Schäfer, Nicolas Denz, Christian Schmitz, Bernd Page***Sensor Web Enablement based Model Web Implementation for Climate Change Applications***Mihai Bartha, Peter Kutschera, Denis Havlik***Assessment criteria for policy on ICT and climate change***Giovanna Sissa***CryoLand – the GMES Downstream Service Snow and Land Ice***Thomas Nagler, Gerhard Triebnig, Christian Schiller***A scenario-based approach to assessing the exposure and flood risk of Ho Chi Minh City's urban development strategy in times of Climate Change***Harry Storch, Nigel K. Downes, Hendrik Rujner***LEONARDO BUILDING 26A, 2ND FLOOR | SESSION 1.2****CEN/TC 287 WORKSHOP - SPATIAL ENVIRONMENT AND SMART GRIDS***Session Chair: Martin Ford***Formalising and standardising environmental data exchange - examples from EIONET (EEA)***Stefan Jensen***Raising Spatial Awareness on the Smart Grid: an Environmental Perspective***Dale McMullin***INSPIRE & Smart Grid - Opportunities or Threats for Utility Companies (GRINTEC)***Günther Gleixner***Vehicle Charging. Routing and Implementation of Power Management Policies (Ballade)***Gerhard Triebnig*

11.00am – 12.30pm

**RAFAELLO BUILDING 26A, GROUND FLOOR | SESSION 1.3**

**ENVIP WORKSHOP 1B**

*Session Chair: Arne Jorgen Berre*

**ENVIP Future development**

*Arne Jorgen Berre*

**ROOM 12A | SESSION 1.4**

**INFORMATION TECHNOLOGY FOR LIFE CYCLE ANALYSIS - WORKSHOP**

*Session Chair: Werner Geiger*

**Introduction to the LCA Workshop: State and Trends**

*Werner Geiger*

01.15pm – 03.00pm

**AUDITORIUM | PLENARY 4**

**ROUND TABLE AND SESSION/WORKSHOP SUMMARIES**

**Towards a Shared Environmental Information System**

*A. Annoni, H. De Groof, J. Hrebicek*

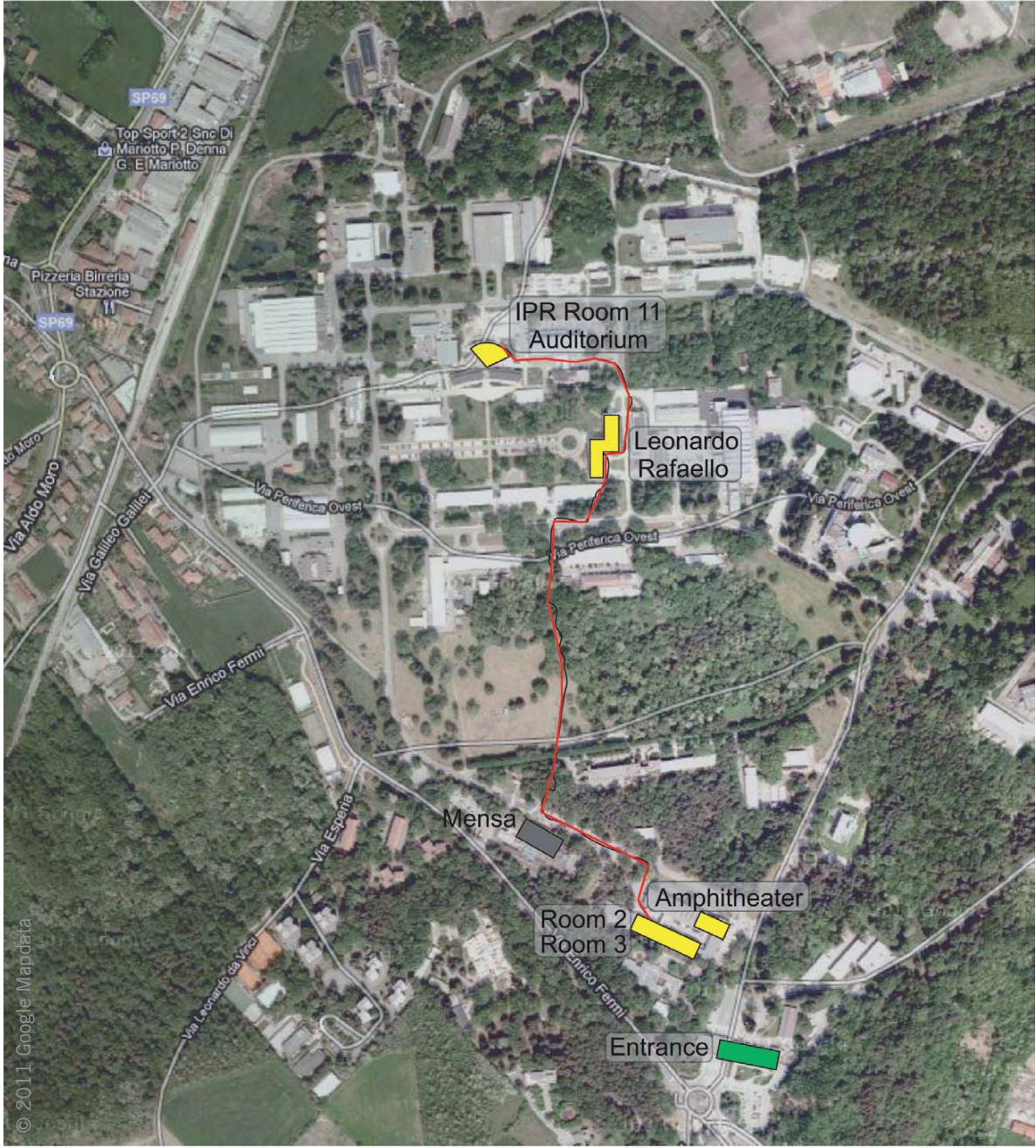
**Outlook on EnviroInfo 2012 Dessau, Germany**

*Hans-Knud Arndt*

**EnviroInfo 2011 wrap-up: conclusions and next steps**

*Paul Smits, Sven Schade*

# EnviroInfo 2011 – CONFERENCE ROOMS



Program Design: Dagny Streicher  
Water color painting: Adelheid Pillmann

Conference cooperatively organised by:  
JRC, Institute for Environment and Sustainability  
Technical Committee Environmental Informatics  
International Society for Environmental Protection