## Contents

**InSuEdu 2012 — First International Symposium on Innovation and Sustainability in Education**

**Position Paper**

Innovation and Sustainability in Education ................................................. 3  
*Antonio Cerone and Donatella Persico*

**Regular Papers**

Inquiry-Based Science Education in Secondary School Informatics – Challenges and Rewards ............................................................. 17  
*Nikolina Nikolova and Eliza Stefanova*

Innovation and Sustainability in Higher Education: Lessons Learnt from the Case Study of an Online University .................................................. 35  
*Donatella Persico, Stefania Manca, and Francesca Pozzi*

Mobile Augmented Reality with Audio: Supporting Fieldwork of Cultural Sciences Students in Florence ..................................................... 53  
*Stefaan Ternier, Fred de Vries, Dirk Börner, and Marcus Specht*

Mathematical Literacy as a Condition for Sustainable Development ........ 64  
*Luís Soares Barbosa and Maria Helena Martinho*

Learning CSCW Through Fairytales: A Practical Model .......................... 78  
*Nicole Bittel and Marco Bettoni*

The Role of Peer Review in Supporting the Sustainability of Technology-Enhanced Learning Environments .................................................. 89  
*Pantelis M. Papadopoulos and Antonio Cerone*

Creative Classrooms: A Systemic Approach for Mainstreaming ICT-Enabled Innovation for Learning in Europe ............................................. 104  
*Stefania Bocconi, Panagiotis Kampylis, and Yves Punie*

FLOSS in Technology-Enhanced Learning ................................................. 121  
*Sara Fernandes, Antonio Cerone, Luís Soares Barbosa, and Pantelis M. Papadopoulos*
Short Papers

A Preliminary Analysis of Learning Awareness in FLOSS Projects . . . . . . . 133
Sara Fernandes, Antonio Cerone, and Luís Soares Barbosa

Concept and Experiences on Using a Wiki-Based System
for Software-Related Seminar Papers . . . . . . . . . . . . . . . . . . . . . . . . . . 140
Dominik Franke and Stefan Kowalewski

MoKMaSD 2012 — First International Symposium on Modelling
and Knowledge Management for Sustainable Development

Position Paper

Modelling and Knowledge Management for Sustainable Development . . . . 149
Antonio Cerone and Alexeis Garcia-Perez

Keynote Paper

Algorithmic Systems Ecology: Experiments on Multiple Interaction Types
and Patches . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 154
Ozan Kahramanogullar, James F. Lynch,
and Corrado Priami

Regular Paper

Modelling Population Dynamics Using Grid Systems . . . . . . . . . . . . . . . . . 172
Roberto Barbuti, Antonio Cerone, Andrea Maggiolo-Schettini,
Paolo Milazzo, and Suryana Setiawan

Short Papers

Transition to Sustainability: Italian Scenarios Towards a Low-Carbon
Economy . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 190
Giovanni Bernardo and Simone D’Alessandro

Models of Knowledge Transfer for Sustainable Development. . . . . . . . . . . 198
Ettore Bolisani, Francesca Scramoncin, and Siraj Ahmed Shaikh

A Framework for Translating Legal Knowledge into Administrative
Processes: Dynamic Adaption of Business Processes . . . . . . . . . . . . . . . . . . 204
Yiwei Gong and Marijn Janssen
**OpenCert 2012 — 6th International Workshop on Foundations and Techniques for Open Source Software Certification**

### Regular Papers

- **Model-Based Tool Qualification: The Roadmap of Eclipse Towards Tool Qualification.**
  - Oscar Slotosch
  - Page 215

- **Secure Migration of Legacy Applications to the Web.**
  - Zisis Karampaglis, Anakreon Mentis, Fotios Rafailidis, Paschalis Tsolakidis, and Apostolos Ampatzoglou
  - Page 229

- **A Web Portal for the Certification of Open Source Software.**
  - Pedro Martins, João P. Fernandes, and João Saraiva
  - Page 244

- **Open Source Software Process: A Potential Catalyst for Major Changes in Electronic Health Record Systems.**
  - Mirjan Merruko, Eleni Berki, and Pirkko Nykänen
  - Page 261

### Short Papers

- **Using Open Source Projects in Higher Education: A Two-Way Certification Framework.**
  - Pantelis M. Papadopoulos, Ioannis G. Stamelos, and Antonio Cerone
  - Page 274

- **Guidelines for the Application of Data Envelopment Analysis to Assess Evolving Software.**
  - Alexander Chatzigeorgiou
  - Page 281

- **A Certification Process for Android Applications.**
  - Harsha K. Kalutarage, Padmanabhan Krishnan, and Siraj Ahmed Shaikh
  - Page 288

**Author Index**

Page 305
Information Technology and Open Source: Applications for Education, Innovation, and Sustainability
SEFM 2012 Satellite Events, InSuEdu, MoKMaSD, and OpenCert Thessaloniki, Greece, October 1-2, 2012
Revised Selected Papers
Cerone, A.; Persico, D.; Fernandes, S.; Garcia-Perez, A.;
Katsaros, P.; Shaikh, S.A.; Stamelos, I. (Eds.)
2014, XV, 305 p. 70 illus., Softcover
ISBN: 978-3-642-54337-1