

---

# From the Editor...

by Barend Köbben



Welcome to this issue of the OSGeo Journal, comprising twelve research papers selected from the submissions to the Academic Track of FOSS4G 2013, the global conference for Open Source Geospatial Software, which took place in Nottingham (UK), from 17 to 21 September 2013.

FOSS4G is not an academic conference. The core audience has always been the people who make up the *open source communities*: The people that develop, create and craft the open source geo-spatial software. The actual applications are the glue which binds the community together; the aim of the FOSS4G community is to enable and enfranchise anyone to harness the power of geo-spatial software, regardless of their economic status. To acknowledge this, and to not cre-

ate an isolated, exclusive, part of the conference, we scheduled presentations of the papers clustered with other, non-academic, papers based on subject matter. By this, we hope to have generated attention for academic input in the community and to cross-pollenate with industry, developers and users.

This year, the Academic Track motto was “Science for Open Source, Open Source for Science”, and we made an effort to gather papers describing both the use of open source geospatial software and data, in and for scientific research, as well as academic endeavours to conceptualize, create, assess, and teach open source geospatial software and data. We hope that the papers in this issue reflect that idea.

We thank the reviewers (listed on the imprint page at the end of this issue) for making the Academic Track possible.

Barend Köbben, ITC–University of Twente

FOSS4G2013 Proceedings Editor OSGeo Journal  
<http://osgeo.org>  
[b.j.kobben@utwente.nl](mailto:b.j.kobben@utwente.nl)

---

## Contents of this volume:

From the Editor...	1	OSM–GB	41
<b>FOSS4G 2013 ACADEMIC PAPERS</b>	<b>2</b>	Using Free and Open Source GIS to Automatically Create Standards-Based Spatial Metadata in Academia	51
A New Zealand case study	2	Gestural Interaction with Spatiotemporal Linked Open Data	60
Spatial Data Infrastructure of the Plurinational State of Bolivia	13	AEGIS	68
GIS for All: Exploring the Barriers and Opportunities for Underexploited GIS Applications	19	A new GIS toolbox for integrating massive heterogeneous GIS data for land use change analysis	78
Web-based Participatory GIS with data collection on the field – A prototype architecture	29	Open Source in accessibility analyses	90
Taarifa	34	Bytecode unification of geospatial computable models	103

## Imprint

### Editor in Chief:

Landon Blake - [sunburned.surveyor AT gmail.com](mailto:sunburned.surveyor@gmail.com)

### FOSS4G 2013 Proceedings Editor:

B.J. Köbben

### FOSS4G 2013 Academic Track Chairs:

Barend Köbben (ITC, University of Twente, Netherlands) & Franz-Josef Behr (Stuttgart University of Applied Science, Germany)

### FOSS4G 2013 Academic Track Reviewers:

R. Jaishankar (Indian Institute of Information Technology & Management), Eric Grosso (Institut Géographique National, France), Stefan Neumeier (Johann Heinrich von Thünen-Institut, Germany), Didier Leibovici (University of Leeds, UK), Rafael Moreno (University of Colorado Denver, USA), Homayoon Zahmatkesh (Tehran University, Iran), Gregory Giuliani (UNEP GRID, Switzerland), A.P. Pradeepkumar (University of Kerala, India), Brent Alexander Wood (Environmental Information Delivery, New Zealand), Peter Löwe (German Research Centre for Geosciences), Helena Mitasova (North Carolina State University, USA), Matthias Möller (Beuth University Berlin, Germany), Muki Haklay (University College London, UK), Hans-Jörg Stark (University of Applied Sciences Switzerland), Simon Jirka (52North.org, Germany), Maria Brovelli (Politecnico di Milano, Italy), Rolf de By (ITC, University of Twente, Netherlands), Serena Coetzee (University of Pretoria, South Africa), Ivana Ivanova (ITC, University of Twente, Netherlands), Charlie Schweik (University of Massachusetts, Amherst, USA), Tomasz Kubik Wroclaw (University of Technology, Poland), António J.F. da Silva (Universidade Nova de Lisboa, Portugal), Anusuriya Devaraju (IBG3-Forschungszentrum Juelich, Germany), Philip James (University of Newcastle, UK), Claire Ellul (UCL, UK), Jorge Gustavo Rocha (Universidade do Minho, Portugal), Tuong Thuy Vu (UNMC, Malaysia), Thierry Badard (Laval University, Canada), Kathrin Poser (GFZ Helmholtz-Zentrum Potsdam, Germany), Songnian Li (Ryerson University, Canada).

The *OSGeo Journal* is a publication of the *OSGeo Foundation*. The base of this journal, the  $\LaTeX$  2 $\epsilon$  style source has been kindly provided by the GRASS and R News editorial boards.



This work is licensed under the Creative Commons Attribution-No Derivative Works 3.0 License. To view a copy of this licence, visit:

<http://creativecommons.org/licenses/by-nd/3.0/> or send a letter to Creative Commons, 171 Second Street, Suite 300, San Francisco, California 94105, USA.



All articles are copyrighted by the respective authors. Please use the OSGeo Journal url for submitting articles, more details concerning submission instructions can be found on the OSGeo homepage.

Journal online: <http://www.osgeo.org/journal>

OSGeo Homepage: <http://www.osgeo.org>

Mail contact through OSGeo, PO Box 4844, Williams Lake, British Columbia, Canada, V2G 2V8



ISSN 1994-1897