OSGeo Journal Volume 8

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FOSS4G 2009
Conference Proceedings

OSGeo Community
News & Announcements
Case Studies
Integration Examples

The Annual International

FREE & OPEN SOURCE SOFTWARE FOR GEOSPATIAL

Conference Event

2011.FOSS4G.ORG

OSGeo
Your Open Source Compass

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From the Editor

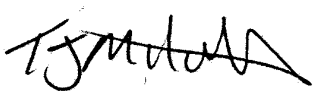
OSGeo has just past its 5th birthday, along with this 8th volume of the OSGeo Journal! With this edition we bring a few news headlines from the past couple months, a few general articles and, most significantly, several top papers from the **FOSS4G 2009** conference event held in Sydney, Australia.

The Journal has become a diverse platform for several groups and growth in each area is expected to continue. The key groups that read and contribute to the Journal include software developers sharing information about their projects or communities, power users showing off their solutions, academia seeking to publish their research and observations in a peer-reviewed, open source friendly medium. OSGeo also uses the Journal to share community updates and the annual reports of the organisation.

Welcome to those of you who are new to the OSGeo Journal. Our Journal team and volunteer reviewers and editors hope you enjoy this volume. We also invite you to submit your own articles to any of our various sections. To submit an article, register as an "author" and sign in at `http://osgeo.org/ojs`. Then when you log in you will see an option to submit an article.[1]

We look forward to working with, and for, you in the upcoming year. It's sure to be an interesting year as we see OSGeo, Open Source in general and all our relate communities continue to grow. Nowhere else is this growth more apparent than at our annual conference: **FOSS4G 2011 Denver**, September, 2011.[2] Keep an eye on your OSGeo mailing lists, blogs and other feeds to follow the latest FOSS4G announcements, including the invitation to submit presentation proposals.[3] It will be as competitive as ever to get a speaking slot, so be sure to make your title and abstract really stand out.

Wishing you the best for 2011 and hoping to see you in Denver!



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[1] The direct URL for article submission is: `https://www.osgeo.org/ojs/index.php/journal/author/submit`
[2] FOSS4G 2011 Denver: `http://2011.foss4g.org`
[3] FOSS4G 2011 Abstract Submission: `http://2011.foss4g.org/program`

FOSS4G 2009 Conference Proceedings

From the Academic Track Chair

Prof. Thierry Badard

The FOSS4G 2009 academic track aimed to bring together researchers, developers, users and practitioners – all who were carrying out research and development in the free and open source geospatial fields and who were willing to share original, recent developments and experiences.

The primary goal was to promote cooperative research between OSGeo developers and academia, but the academic track has also acted as an inventory of current research topics. This track was the right forum to highlight the most important research challenges and trends in the domain and let them become the basis for an informal OSGeo research agenda. It has fostered interdisciplinary discussions in all aspects of the free and open source geospatial domains. It was organized to promote networking between the participants, to initiate and favour discussions regarding cutting-edge technologies in the field, to exchange research ideas and to promote international collaboration.

In addition to the OSGeo Foundation[23], the ICA (International Cartographic Association) working group on open source geospatial technologies[24]) was proud to support the organisation of the track.

The coordinators sought to gather paper submissions globally that addressed theoretical, technical, and practical topics related to the free and open source geospatial domain. Suggested topics included, but were not limited to, the following:

- State of the art developments in Open Source GIS
- Open Source GIS in Education
- Interoperability and standards - OGC, ISO/TC 211, Metadata
- Spatial Data Infrastructures and Service Oriented Architectures
- Free and open source Web Mapping, Web GIS and Web processing services
- Cartography and advanced styling
- Earth Observation and remote sensing
- Spatial and Spatio-temporal data, analysis and integration
- Free and Open Source GIS application use cases in Government, Participatory GIS, Location based services, Health, Energy, Water, Urban and Environmental Planning, Climate change, etc.

In response to the call for papers, 25 articles were submitted to the academic track. The submissions were highly diversified, and came from USA, Canada, Thailand, Japan, South Korea, Sri Lanka, Australia, New Zealand, Italy, Denmark, France, Germany, Switzerland, Romania and Turkey. Selection of submissions were based on the full papers received. All submissions were thoroughly peer reviewed by two to three members of the international scientific committee and refereed for their quality, originality and relevance. The scientific committee selected 12 papers (48% acceptance rate) for presentation at the FOSS4G 2009 conference. From those, 6 papers were accepted for presentation in the proceedings of the academic track, which are published in this volume of the OSGeo Journal. They correspond to the 6 best papers assessed by the international scientific committee.

The accepted and published papers covered a wide

[23]OSGeo: Open Source Geospatial Foundation: http://osgeo.org
[24]ICA open source working group: http://ica-opensource.scg.ulaval.ca/

range of cutting-edge research topics and novel applications on Free and Open Source Geospatial technologies. I am particularly proud and happy to see some very high quality scientific contributions published in the OSGeo Journal. This will undoubtedly encourage more interesting research to be published in this volume, as our OSGeo journal is an open access journal. In addition, it helps draw attention to this important project of the OSGeo Foundation. I hope the publication of these proceedings in the OSGeo journal will encourage future scientists, researchers and members of academia to consider the OSGeo Journal as an increasingly valuable place to publish their research works and case studies.

As a concluding note, I would like to take the opportunity to thank the individuals and institutions that made the FOSS4G 2009 academic track possible. First, I would like to thank the international scientific committee members and external reviewers for evaluating the assigned papers in a timely and professional manner. Next, I would like to recognize the tremendous efforts put forward by members of the local organising committee of FOSS4G 2009 for accommodating and supporting the academic track. Finally, I want to thank the authors for their contributions, efforts, patience and support that made this academic track a huge success.

January, 2011
Prof. Thierry Badard
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Co-chair, ICA Working Group on Open Source Geospatial Technologies

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