

PREFACE: PROCEEDINGS OF THE FOSS4G 2022 ACADEMIC TRACK – A NEW RENAISSANCE

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ABSTRACT:

We are here presenting the proceedings of the Free and Open Source Software for Geospatial conference, or FOSS4G for short – a well-established annual conference hosted by OSGeo (the Open Source Geospatial Foundation: <https://www.osgeo.org>) and focused on building awareness, collaboration, and development of open source geospatial software cementing existing bonds and cooperations and fostering new challenges. In 2022, the conference takes place in beautiful Florence in Italy.

The Italian community has been particularly active and involved since the dawn of open source geospatial software, in fact we can say that in Italy University and Geospatial Open Source are good companions with a long history of participation, cooperation and friendship. The first meeting of Italian geographic open source enthusiasts took place in 2000 (January 28, 2000) at Politecnico di Milano, at the Campus located in Como (Northern Italy). At that time, the concept of GIS itself was not very widespread in Italy (the first university teaching of GIS occurred only in 1993) and the Open Source GIS was more than worthily represented by GRASS GIS. The name chosen for this meeting was indeed “First meeting of GRASS users”. The participation was above expectations (about sixty people), a sign that something was happening. The proceedings of the conference were collected in a volume called Geomatics Workbooks Volume 1 and are still available, as a historical find for the most curious. The open source geospatial had peeped out in Italy, we had studied and counted each other and we had understood that it would be a great adventure, which manifests itself today with this conference and with bright hopes to continue in the future. This first meeting was followed by others (about one per year), with growing attention and participation. The proceedings of these events are also available in the following volumes of the Geomatics Workbooks.

After the organization of the “Second meeting of GRASS users” in Trento in 2001, noticing the growing interest and number of participants, it was a natural consequence for the Italian geographic open source enthusiasts to try to test the international interest around these topics. Therefore, the Open Source Free Software GIS - GRASS users international conference 2002 was organized in Trento, as a result of the joint effort of many GRASS GIS developers and users all over the world to foster closer relations and to provide opportunities for greater interactions among the Open GIS and GRASS GIS communities, with a special attention for users from developing countries. The conference, organized by the Department of Civil and Environmental Engineering of the University of Trento with the help of an Organizing Committee including some of the most prominent GIS/GRASS experts around the world, gathered around 140 participants. Therefore, although the first event that was officially branded as a FOSS4G international conference was held in 2004 in Bangkok, we can state that the first international event gathering together the key international figures was held in Trento, Italy, on 11-13 September 2002. Many of the important key individuals that came together at that time from all over the world initiated collaborations, research projects, and software development, which set off a chain of events that ultimately brought us all to Florence 20 years later. It must be noticed that many of the international experts that were present in 2002 in Trento are still active members of the community.

After these successes, the Italian FOSS4G community never lost its moment and continued to spread the use and development of software with conferences, educational initiatives, courses and involving scientific communities of different groups. We are extremely grateful to the Italian research and education community, which is made up of universities and research centres, young researchers and PhD students for their commitment and ongoing efforts to promote and enhance FOSS4G and also to the user and community segment, represented by GFOSS.it that the academic sector strongly contributed to create.

Thanks to these efforts, a few years later, even in Italy, geospatial web applications were permeating the world of research. In 2010, hosted by the International Society for Photogrammetry and Remote Sensing (ISPRS) and specifically the Technical Commission of Geospatial Information, the 1st International Workshop on Pervasive Web Mapping, Geoprocessing and Services was organized, an event in which open source still had an important role. Contributions from this workshop (43 papers) were published and are still available in the ISPRS Archives Volume XXXVIII-4/W13.

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The largest event organised so far in Italy in the domain of geospatial open source software happened in 2015, when the campus of Politecnico di Milano located in Como hosted the [FOSS4G Europe 2015 conference](#), gathering together about 450 enthusiasts from all over Europe and even beyond. The conference was supported by OSGeo, ISPRS and the International Cartographic Association. In addition to the standard General Track and Academic Track, for the first time at a FOSS4G event separate tracks were organised on domain-specific topics: Open Data, Water, Positioning and Library (see the [conference proceedings](#)).

The tradition of organizing the FOSS4G Academic Track as a joint effort of ISPRS and OSGeo formally began with the FOSS4G Europe Conference in 2017, in Marne La Vallée, France. 28 papers were collected in the [ISPRS Archives Volume XLII-4/W2](#), 2017 | WG IV/4, edited by M. A. Brovelli, D. Kotzinos, N. Paparoditis, and V. Raghavan. The success of the initiative elicited in making the Academic Track a consolidated part of the global FOSS4G conferences. Therefore we had:

- FOSS4G 2018 Academic Track in Dar Es Salaam, Tanzania: [ISPRS Archives Volume XLII-4/W8](#), Editors: M. A. Brovelli and A. H. Namangaya with 36 papers;
- FOSS4G 2019 Academic Track in Bucharest, Romania: [ISPRS Archives Volume XLII-4/W14](#), Editors: M. A. Brovelli and A. F. Marin with 39 papers;
- FOSS4G 2021 Academic Track in Buenos Aires, Argentina: [ISPRS Archives Volume XLVI-4/W2](#), Editors: M. Gasparotto, S. Acosta y Lara, and M. A. Brovelli, dedicated to Malena Libman (1984–2021), international geospatial leader and chairwoman of FOSS4G 2021, with 32 papers.

The last face-to-face events held in 2017 in Bonn (Germany), in 2018 in Dar es Salaam (Tanzania) and in 2019 in Bucharest (Romania) attracted between 1000 and 1200 attendees each. Then the Covid-19 emergency forced to cancel the 2020 conference in Calgary (Canada) and to hold the 2021 conference in Buenos Aires (Argentina) as an online event, attracting anyway around 1900 participants. The last years with Covid-19 proved difficult for all of us as people and for the community as a whole. We lacked the effervescence of the community, the pleasure of meeting in person, exchanging ideas and triggering innovation in an open environment without preclusions and full of life.

After all these difficulties, we are ready for a new start, and what is a better place than Italy, where we gathered for the first time as an international community and everything started? And what a better location than Florence, the cradle of the Renaissance, as an ideal cradle of the next 20 years of FOSS4G development?

The Academic vitality of FOSS4G is back again and is demonstrated by the large numbers of submissions to the Academic Track, 100! All the submissions were blind reviewed by at least 3 reviewers. The papers finally accepted for publication are 76, and represent an all-time world record for FOSS4G conferences! Honestly, we are certainly very proud of this record, but we hope we will be beaten soon by the next conferences to demonstrate how alive this community is.

We close this editorial by expressing our gratitude to Sisi Zlatanova and Lena Halounova for approving, on behalf of ISPRS, this joint Academic Track event in collaboration with OSGeo. Finally, we thank all the authors of the papers and the 48 reviewers and members (together with us) of the FOSS4G 2022 Scientific Committee, coming from all over the world and all listed here below.

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