

**Centre for *Infrastructure, Sustainable Transportation and Urban Planning (CiSTUP),  
Indian Institute of Science, Bangalore 560 012***

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*Workshop on Free and Open Source Geospatial Technologies (FOSS4G) for Urban Environment Applications (mapping, inventorying and Monitoring)*

**21-24<sup>th</sup> August 2015 (4 days)**

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Venue: CiSTUP Seminar Hall, Indian Institute of Science

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Rapid urbanization has been associated with the alteration of landscape structure, local ecology and environment affecting the sustenance of natural resources. Urbanisation in India is drastically changing the land cover and often resulting in the sprawl. The sprawl regions lack basic amenities such as treated water supply, sanitation, etc. This necessitates regular monitoring and understanding of the rate of urban development in order to visualize the likely sprawl pockets to provide basic amenities. The rate of change of land use and extent of urban sprawl can effectively be visualized and modeled with the help of geo-informatics.

However, the growth of Geoinformatics gained impetus with the recent progress in free and open source softwares (FOSS). This has overcome the limitations in environment monitoring associated highly priced proprietary softwares and non-availability of public geodata. Many of such licensed softwares remain unutilized in various government offices because they require either extensive

training or easy availability on multiple locations. All this needs to be changed by the use of Free/Open source software tools. This is significant since all government data and most educational institutions work in local language media. FOSS GIS or Free/Open source Geospatial softwares are more powerful and usable for developing systems where more and more public participation is sought. In this regard, the proposed workshop during 21-24 August 2015 helps to understand the potential and limitations of Open source geospatial technologies. Resource persons of the workshop include experts who have contributed significantly to the development of open source geospatial technologies in India

**Registration fee:**

- Rs. 500 for student participants and fresh graduates
- Rs 2000 for faculty from colleges and universities
- Rs. 10000 for participants from industries, Government agencies and NGO's

Interested participants are required to send the duly filled in registration form with the registration fee by demand draft drawn in favour of “**The Registrar, Indian Institute of Science, Bangalore**” to the Chairman, Centre for *Infrastructure*, Sustainable Transportation and Urban Planning (CiSTUP), Indian Institute of Science, Bangalore 560 012 on or before 1<sup>st</sup> August 2015.

Selected candidates need to make their own arrangements for travel and accommodation (during FOSS4G workshop period, accommodation is not available at IISc campus, due to the beginning of academic session).

Last date for submission of application form **1<sup>st</sup> August 2015**.

**Please mail the application form along with demand draft to**

The Chairman, Centre for *Infrastructure*, Sustainable Transportation and Urban Planning (CiSTUP),

Indian Institute of Science, Bangalore 560 012

### The workshop plan

The plan for 4 days GIS workshop using Free and Open Source Software (FOSS) tools is as under

Day 1	Day 2	Day 3
<ul style="list-style-type: none"> <li>• Introduction to Free and Open Source Geospatial tools</li> </ul> <p><b>Desktop-GIS Paper map to Digital Map</b></p> <ul style="list-style-type: none"> <li>• Scanning/Digitizing</li> <li>• Topology</li> </ul>	<p><b>Map Visualization to Map Layout making</b></p> <ul style="list-style-type: none"> <li>• View data/Making Legends</li> <li>• Labeling/Symbology/Thematic mapping</li> <li>• Multi-layer/Overlay/Legends</li> <li>• Export as</li> </ul>	<p><b>Raster Analysis</b></p> <ul style="list-style-type: none"> <li>• Raster Clipping using vector polygon</li> <li>• Raster to Vector</li> <li>• Reclassification and Resampling</li> </ul>

<p>Building</p> <ul style="list-style-type: none"> <li>• Geo-referencing (Warping)</li> <li>• Attribute Creation</li> </ul>	<p>SVG/JPEG</p> <ul style="list-style-type: none"> <li>• Making map layout</li> </ul> <p><b>Spatial Analysis</b></p> <ul style="list-style-type: none"> <li>• Single Layer Queries (Simple queries/Attribute queries)</li> <li>• Multi-layer queries (Spatial queries)</li> <li>• Intersection/Clipping/Point to surface interpolation</li> </ul> <p>Generating new layers using queries</p>	<p><b>Database</b></p> <ul style="list-style-type: none"> <li>• How to design DB</li> <li>• Populate GeoDB from Desktop GIS</li> <li>• Query GeoDB from Desktop GIS</li> </ul> <p><b>Web-GIS</b></p> <ul style="list-style-type: none"> <li>• Overview</li> </ul>
<p><b>Fourth Day:</b> Field data collection and GIS analysis followed by presentations by participants</p> <p><b>Queries and Feedback</b></p>		

**Software:** Desktop GIS: OpenJUMP/ QGIS/GRASS, **Database:** Postgre SQL

**Workshop Anticipated Outcome:** At the end of workshop, the trainees will have learnt not only the fundamentals but application in Geoinformatics for desktop use. In addition, the trainees will have a very good grounding on open source databases and their use. The practical integrated workshops will further enhance the capacities in use of open source GIS. The trainees will also have a very good understanding of the concepts of web GIS.

## REGISTRATION FORM

(Please mail to reach before 1 August 2015)

Name: \_\_\_\_\_

Office Address: \_\_\_\_\_

PASTE  
YOUR  
  
Photograph  
(latest)

Permanent Address \_\_\_\_\_

E Mail: \_\_\_\_\_

Mobile \_\_\_\_\_

Tele (+ STD Code): \_\_\_\_\_

Fax (+ STD code): \_\_\_\_\_

Date of Birth: \_\_\_\_\_

Sex : Male / Female

Highest Academic Qualification and subject (with proof)

Professional Experience:

Teaching / Research Interest: \_\_\_\_\_

Accommodation: NOT AVAILABLE AT IISC Campus

Registration fee

Rs. 500 for student participants and fresh graduates

Rs 1000 for CiSTUP stakeholder organizations

Rs 2000 for faculty from colleges and universities

Rs. 10000 for participants from industries, Government agencies and NGO's

Demand Draft No: \_\_\_\_\_ Rs. \_\_\_\_\_

dated: \_\_\_\_\_ Bank: \_\_\_\_\_

I agree to abide by the rules of the CiSTUP workshop. If selected I shall participate in the workshop for the entire duration .

Date

Place

Signature

Name:

(Photocopy of this form may be used).

The applicant Mr. / Ms. \_\_\_\_\_

\_\_\_\_\_ from our institution will be permitted to attend the **Workshop on Free and Open Source Geospatial Technologies (FOSS4G) for Urban Environment Applications to be held during 21-24 August 2015 (4 days)** at CiSTUP, Indian Institute of Science, Bangalore, if selected for the same.

Date

Place

Signature of the Head of the institution with seal.