2018
FOSS4G-ASIA
MORATUWA,SRILANKA

‘Open Source for Sustainable Development’

@

Department of Town & Country Planning,

University of Moratuwa

2nd - 5th , December 2018

OSGeo

OSGeo
Sri Lanka

WORKSHOP SCHEDULE

WORKSHOP SCHEDULE

Date: 2nd December 2018
Venue: Department of Town & Country Planning, University of Moratuwa

Morning Session (9.30 – 12.30)

1. W01: Mobile open source GIS applications for societal needs (Natraj Vaddadi) @ Studio 1, 3rd Floor
2. W02: Building a 4ONSE Weather Station (Rangajeewa Rathnayake, Massimiliano Cannata & Sudantha, B.H.) @ Main Auditorium - G Floor
3. W03: Web-GIS Using GeoServer and OpenLayers (Shailesh Chaure) @ Mini Auditorium - G Floor
4. W04: ZOO-Project Introduction Workshop (Grald Fenoy) @ Studio 2, 3rd Floor
5. W05: Workshop on SLEUTH a land use change model (Vani, M.) @ GIS/RS Lab, 1st Floor
6. W06: Introduction to GeoNetwork (Maria Arias de Reyna) @ Studio 3, 4th Floor
7. W07: The LAS tools LiDAR Processing toolbox in QGIS (Martin Isenburg) @ Studio 4, 4th Floor
8. W08: The DART model (Discrete Anisotropic Radiative Transfer) (Salghuna Nair) @ Research Lab, 1st Floor

Evening Session (1.30 – 4.30)

1. W01: Mobile open source GIS applications for societal needs (Natraj Vaddadi) @ Studio 1, 3rd Floor
2. W02: Building a 4ONSE Weather Station (Rangajeewa Rathnayake, Massimiliano Cannata & Sudantha, B.H.) @ Main Auditorium - G Floor
3. W03: Web-GIS Using GeoServer and OpenLayers (Shailesh Chaure) @ Mini Auditorium - G Floor
4. W09: Geopaparazzi: never out of data in the field (Andrea Antonello) @ Research Unit, 1st Floor
5. W10: Building Standards Compliant Geospatial Web Applications – the Quick and Easy MapMint Way (Grald Fenoy) @ Research Lab, 1st Floor
6. W11: OSGeo.JP Workshop for UN Vector Tile Toolkit – Let's make sustainable web maps (Hidenori Fujimura) @ Studio 2, 3rd Floor
7. W12: MapServer hand-on: learn the fastest online mapping engine in the world (Jeff McKenna) @ Studio 3, 4th Floor
8. W13: Tile-based batch Processing of Photogrammetry Points with the LAS tools LiDAR Processing toolbox in QGIS (Martin Isenburg) @ Studio 4, 4th Floor
9. ~~W14: Geospatial Application Development using MongoDB Geospatial Query operators and Aggregation Framework (Sasikala Ramasamy) (Cancel)~~
10. W15: Land use change modelling using Cellular Automata based SLEUTH (M.C. Chandan) @ GIS/RS Lab, 1st Floor

INSTRUCTION TO PARTICIPANTS

1. Workshops are half (4 hours) or full-day (8 hours) hands-on experiences with participants following along with an instructor.

2. Workshops are organized in computer labs and regular lecture rooms.

3. Participants **must attend to the registered workshop session only**. If you wish to change the workshop, you have to obtain permission form organizing committee.

4. Participants for workshops not taking place computer labs **must bring their own computer with the requested software installed on it**.

5. **Install relevant tools/software and download necessary data/libraries prior to attend** to the workshop as mentioned in the workshop instructions

   W01: Mobile open source GIS applications for societal needs (Natraj Vaddadi) @ Studio 1, 3rd Floor: Each participant needs to bring his/her own android smartphone / tablet

   W04: ZOO-Project Introduction Workshop (Grald Fenoy) @ Studio 2, 3rd Floor: Install VirtualBox in your computer and download OSGeoLive 12 and setup as virtial machine

   W07: The LAS tools LiDAR Processing toolbox in QGIS (Martin Isenburg) @ Studio 4, 4th Floor: QGIS 2.18 should be installed. Non-Windows laptops also need Wine installed

   W08: The DART model (Discrete Anisotropic Radiative Transfer) (Salghuna Nair) @ Research Lab, 1st Floor

   Requirements

   In order to make the tutorial more efficient, participants are advised:

   - to get a free DART license before the training.
   - to get an overview of the DART User Manual
   - to make a few exercises of work packages 1 and 2 of DART User Manual.

   W09: Geopaparazzi: never out of data in the field (Andrea Antonello) @ Research Unit, 1st Floor: Android mobile device with Android 4.1 or later

   W10: Building Standards Compliant Geospatial Web Applications – the Quick and Easy MapMint Way (Grald Fenoy) @ Research Lab, 1st Floor: Install VirtualBox in your computer and download OSGeoLive 12 and setup as virtial machine

W11: OSGeo.JP Workshop for UN Vector Tile Toolkit – Let's make sustainable web maps (Hidenori Fujimura) @ Studio 2, 3rd Floor: Participants are welcome to bring not only their personal computer (PC) but also their vector geospatial data. Participants shall install Node.js, tippecanoe, and git in their computing environment**.**

W12: MapServer hand-on: learn the fastest online mapping engine in the world (Jeff McKenna) @ Studio 3, 4th Floor: Possibly have already installed MapServer on their laptops. We will go through installing MapServer together on Windows, using MS4W

W13: Tile-based batch Processing of Photogrammetry Points with the LAS tools LiDAR Processing toolbox in QGIS (Martin Isenburg) @ Studio 4, 4th Floor: QGIS 2.18 should be installed. Non-Windows laptops also need Wine installed.

W15: Land use change modelling using Cellular Automata based SLEUTH (M.C. Chandan) @ GIS/RS Lab, 1st Floor: Laptop with Windows 10 or Ubuntu OS essential if they need hands on training on MongoDB

REGISTERED PARTICIPANTS BY WORKSHOP

W01: Mobile open source GIS applications for societal needs (Natraj Vaddadi) @ Studio 1, 3rd Floor

Each participant needs to bring his/her own android smartphone / tablet

Name	Company/Affiliation
1. A.S.S.Wijesinghe	University of Moratuwa
2. Aahlaad	Asian Institute of Technology, Thailand
3. Abeynayaka T.A	University of Moratuwa
4. Anujit Vansarochana	Naresuan University
5. Anuradha Kulathunge	University of Moratuwa
6. Anuradha Rajanayake	GeoEDGE (Pvt) Ltd
7. Anuradhi Shamantha Ranathunga	University of Moratuwa
8. B.V.K. Uresha Priyadarshani	University of Moratuwa
9. Butt Asuquo Essien	Environmental Ethics and Safety Training Institute
10. Champika Priyadarshani Kumari	University of Moratuwa
11. D.M.K.J.Dissanayake	University of moratuwa
12. D.W.Y.G. Dayarathna	University of Moratuwa
13. Eya Celestine Chinekwu	Ondo State University of Science and Technology Akure Ondo State
14. Igbo Chigozie Collins	Envieronmental Ehics and Safety Training Institute
15. J.P. Janani Yasodara Jayasooriya	University of Moratuwa
16. K.V.S.S Karunapala	University of moratuwa
17. Kapugama Geeganage Dinusha Lakmali	University of Moratuwa
18. L.R.M.N.L.Lankadhikara	University of Moratuwa
19. Lakshika Meetiyagoda	University of Moratuwa
20. Lasantha Bandara	Urban Development Authority, Sri Lanka
21. Loh Kai Cong	Singapore Land Authority
22. M.R.Y.P.Karunarathna	University of Moratuwa
23. Malith Senevirathne	University of Moratuwa
24. Maya Dasuni Shalika Kodithuwakku	University of Moratuwa
25. Nalaka Kodippili	University of Sri Jayewardenepura
26. Natraj Vaddadi	Centre for Education & Research in Geosciences
27. Ossai Chinedu Samuel	Nigeria Sambo Federation
28. P.E.I.L.Ekanayake	University of Moratuwa
29. P.M.D. Chameshi Kasunika Perera	University of Moratuwa
30. Prason Patheepphoemphong	i-bitz company
31. R.N.S Rajapaksha	University of Moratuwa
32. S.D.A.N.S.Dissanayaka	University of Moratuwa
33. Sammu Thilini Amaivi Ranashura	University of Moratuwa
34. Sanduni Tharushika Pathmasiri	University of Moratuwa
35. Sanindu Kashintha Wijethunga	University of Moratuwa
36. Sauri Jayakody	Town and Country Planning Department
37. Suthakaran	The World Bank, Sri Lanka
38. Tino Raphael Nabib TOUPANE	GeoSynapse Guibea
39. U.P.L.V.Pathirana	University of Moratuwa
40. W.D.Mihirani	University of Moratuwa
41. W.M.R.M. Warnasooriya	University of Moratuwa
42. Wathsala Gunawardena	University of Moratuwa, Sri Lanka
43. Welle Hewage Sanduni Tharushika Pathmasiri	University of Moratuwa
44. Yash Mehta	CEPT University

W02: Building a 4ONSE Weather Station (Rangajeewa Rathnayake, Massimiliano Cannata & Sudantha, B.H.) @ Main Auditorium - G Floor

Name	Company/Affiliation
1. A.A.G.Upeksha	University of Moratuwa
2. Asika Sewwandi	University of Moratuwa
3. B.M.Lakmini Mendis	Urban Development Authority
4. BVS Samanthika	University of Moratuwa
5. Chamali	University of Moratuwa
6. Felix Jim Rufus	Ondo State University of Technology
7. G.L.N.Dayarathne	University of Moratuwa
8. Gayani Ranasinghe	University of Moratuwa
9. H.A.S.Udeshika	University of Moratuwa
10. H.G.U.Ganegoda	University of Moratuwa
11. H.M.Pawani Sithara Kumarasinghe	University of Moratuwa
12. H.P.Wishmi Piumika Pathirana	University of Moratuwa
13. Hemal Lakpethum	Urban Development Authority
14. Imran Shahid	Institute of Space Technology, Islamabad
15. K.G.Wathsala Sewwandi Jayathissa	University of Moratuwa
16. K.L.K.T.B.Sandarwani	University of Moratuwa
17. M.K.Hansika	University of Moratuwa
18. Naduni Wickramaarachchi	University of Moratuwa
19. Nileesha Seneviratne	Urban Development Authority, Sri Lanka
20. Ojobor Chigozie Vincent	Ondo State University Of Science And Technology Akure
21. R.A.C.M.Ranasinghe	University of Moratuwa
22. Rizvi Noordeen	University of Moratuwa
23. Sattawat Arab	i-bitz company
24. Thilakarathna H.M.H.A	University of Moratuwa
25. Vishvajith Peiris	University of Moratuwa
26. W.A.C.Deshani	University of Moratuwa
27. W.G.Chathuri Dilthara Gunagena	University of Moratuwa
28. W.K.D.Kumara	University of Moratuwa
29. W.W.G.M.I.U.Wijesekara	University of Moratuwa
30. WPDP Somaweera	University of Moratuwa
31. Yann Chemin	Harvesting.co

W03: Web-GIS Using GeoServer and OpenLayers (Shailesh Chaure) @ Mini Auditorium - G Floor

Name	**Company/Affiliation**
1. A.M.H.Shereen	University of Moratuwa
2. Buddima Amarathunge	Geographic Information System Club (Director, IT/ Team Leader, Esala Perahera App Project)
3. Chandan M C	IIT Kharagpur
4. Charles Limin	Singapore Land Authority
5. Dhadimuni Dimesh Dharmathilake	GeoEDGE (Pvt)Ltd.
6. Dilan Sankalpa	University of Moratuwa
7. Divyesh Vyas	School Of Earth Sciences, S.R.T.M.University , Nanded , India
8. G.P.L.K.Gunarathna	Survey Department
9. H.M.S.S.Herath	Survey Department
10. Hasintha Naowd	University of Moratuwa
11. K.M.V.S.Bandula	University of Moratuwa
12. K.R.M. Piyathilaka	Survey Department
13. Kim Jiyoon	Digital Spatial Lab
14. Mr. B.S.Dasanayaka	Survey Department
15. Mrs. G.P.L.K. Gunarathna	Survey Department
16. Nandanavanam VBS Sudarsan Karthikeya	Asian Instiute of Technology, Thailand
17. NIMARSHIKA DILHARI	University of Moratuwa
18. Nimsha Chamodhi Bandara	University of Moratuwa
19. R.J.Nilantha	University of Moratuwa
20. Sahan	University of Moratuwa
21. Taichi Furuhashi	Aoyama Gakuin University
22. Tanusri Roy	The University of Burdwan
23. Vajeeha Naguib	University of Moratuwa
24. Yoshiaki Fukami	Rikkyo University

W04: ZOO-Project Introduction Workshop (Grald Fenoy) @ Studio 2, 3rd Floor

Install VirtualBox in your computer and download OSGeoLive 12 and setup as virtial machine

Name	**Company/Affiliation**
1. Arjan Odedra	Nascent Infotechnologies Pvt. Ltd.
2. B.V.K. Uresha Priyadarshani	University of Moratuwa
3. Chethika Abenayake	University of Moratuwa
4. Eya Celestine Chinekwu	Ondo State University Of Scinece And Technology Akure Ondo State
5. Hirofumi Hayashi	Applied Technology Co.,LTD.
6. Loh Kai Cong	Singapore Land Authority
7. Maulik Bhagat	Nascent Infotechnologies Pvt. Ltd.
8. Ojobor Chigozie Vincent	Ondo State University Of Science And Technology Akure
9. Pillappan Karuppiah	Nascent Infotechnologies Pvt. Ltd.
10. R.N.S Rajapaksha	University of Moratuwa
11. Rahul Kanani	Nascent Infotechnologies Pvt. Ltd.
12. Santosh Gaikwad	Nascent Infotechnologies Pvt. Ltd.

W05: Workshop on SLEUTH a land use change model (Vani, M.) @ GIS/RS Lab, 1st Floor

Name	Company/Affiliation
1. A.A.G.Upeksha	University of Moratuwa
2. A.S.S.Wijesinghe	University of Moratuwa
3. Abeynayaka T.A	University of Moratuwa
4. Amila Jayasinghe	Dept. of Town & Country Planning, University of Moratuwa
5. Anuradhi Shamantha Ranathunga	University of Moratuwa
6. Butt Asuquo Essien	Environmental Ethics and Safety Training Institute
7. Chamali	Senior Lecturer
8. Champika Priyadarshani Kumari	University of Moratuwa
9. Chulesha Geeganage	Urban Development Authority
10. D.M.K.J.Dissanayake	University of moratuwa
11. D.W.Y.G. Dayarathna	University of Moratuwa
12. Felix Jim Rufus	Ondo State University of Technology
13. G.P.L. Kaushalya Gunarathna	Survey Department
14. Gayani Ranasinghe	University of Moratuwa
15. H.G.U.Ganegoda	University of Moratuwa
16. H.M.Pawani Sithara Kumarasinghe	University of Moratuwa
17. H.P.Wishmi Piumika Pathirana	University of Moratuwa
18. Hemal Lakpethum	Urban Development Authority
19. Igbo Chigozie Collins	Envieronmental Ehics and Safety Training Institute
20. Isuru Biyanwila	PMU- Colombo Port City Project
21. J.P. Janani Yasodara Jayasooriya	University of Moratuwa
22. K.G.Wathsala Sewwandi Jayathissa	University of Moratuwa
23. K.L.K.T.B. Sandarwani	University Of Moratuwa
24. K.M.V.S.Bandula	University of Moratuwa
25. K.V.S.S Karunapala	University of moratuwa
26. Kapugama Geeganage Dinusha Lakmali	University of Moratuwa
27. Keertana Daliarthy	IIIT Hyderabad
28. L.R.M.N.L.Lankadhikara	University of Moratuwa
29. Lakshika Meetiyagoda	University of Moratuwa
30. Lasantha Bandara	Urban Development Authority, Sri Lanka
31. M VANI	IIIT-H
32. M.K.Hansika	University of Moratuwa
33. M.R.Y.P.Karunarathna	University of Moratuwa
34. Maya Dasuni Shalika Kodithuwakku	University of Moratuwa
35. Nishamani Priyanwadha Abeyratne	Urban Development Authority
36. Ossai Chinedu Samuel	Nigeria Sambo Federation
37. P.E.I.L.Ekanayake	University of Moratuwa
38. P.M.D. Chameshi Kasunika Perera	University of Moratuwa
39. Pradeep Lakshan Dissanayala	Urban Development Authority
40. prathibhani	Department of Town & Country Planning
41. R A M P Rupasinghe	Urban DevelopmentAuthority
42. R.A.C.M.Ranasinghe	University of Moratuwa
43. Rizvi Noordeen	University of Moratuwa
44. Sahan	University of Moratuwa
45. Sammu Thilini Amaivi Ranashura	University of Moratuwa
46. Sanduni Tharushika Pathmasiri	University of Moratuwa

Name	Company/Affiliation
47. Sanindu Kashintha Wijethunga	University of Moratuwa
48. Sauri Jayakody	Town and Country Planning Department
49. Thilakarathna H.M.H.A	University of Moratuwa
50. U.P.L.V.Pathirana	University of Moratuwa
51. Vichithra Sampath	Urban Development Authority
52. Vishvajith Peiris	University of Moratuwa
53. W.D.Mihirani	University of Moratuwa
54. W.G.Chathuri Dilthara Gunagena	University of Moratuwa
55. W.M.R.M. Warnasooriya	University of Moratuwa
56. Wathsala Gunawardena	University of Moratuwa, Sri Lanka
57. Welle Hewage Sanduni Tharushika Pathmasiri	Student
58. WPDP Somaweera	University of Moratuwa
59. Yash Mehta	CEPT University

W06: Introduction to GeoNetwork (Maria Arias de Reyna) @ Studio 3, 4th Floor

Name	**Company/Affiliation**
1. Anuradha Kulathunge	University of Moratuwa
2. Anuradha Rajanayake	GeoEDGE (Pvt) Ltd
3. Buddima Amarathunge	Geographic Information System Club (Director, IT/ Team Leader, Esala Perahera App Project)
1. Chandan M C	IIT Kharagpur
4. Divyesh Vyas	School of Earth Sciences, S.R.T.M.University , Nanded , India
5. Enrico Bezuidenhoudt	Namibia Statistics Agency
6. G.L.N.Dayarathne	University of moratuwa
7. Malika Gunawardana	Ministry of Megapolis & Western Development
8. Malith Senevirathne	University of Moratuwa
9. Naduni Wickramaarachchi	University of Moratuwa
10. Nandanavanam VBS Sudarsan Karthikeya	Asian Instiute of Technology, Thailand
11. Nimarshika Dilhari	University of Moratuwa
12. Nimsha Chamodhi Bandara	University of Moratuwa
13. W.W.G.M.I.U.Wijesekara	University of Moratuwa

W07: The LAS tools LiDAR Processing toolbox in QGIS (Martin Isenburg) @ Studio 4, 4th Floor

QGIS 2.18 should be installed. Non-Windows laptops also need Wine installed

Name	Company/Affiliation
1. Aahlaad	Asian Institute of Technology, Thailand
2. Asika Sewwandi	University of Moratuwa
3. B.W.G.I.D.Gunarathna	University of Moratuwa
4. BVS Samanthika	University of Moratuwa
5. Chaitanya Kumar CH	Cyient Ltd.
6. Dhadimuni Dimesh Dharmathilake	GeoEDGE (Pvt)Ltd.
7. G.H.M. Thamarasi	Urban Development Authority
8. G.P.L.K.Gunarathna	Survey Department
9. Gaurav Gandhi	Nascent Infotechnologies Pvt. Ltd.
10. H.A.S.Udeshika	University of Moratuwa
11. Hasintha Naowd	University of Moratuwa
12. Kim Jiyoon	Digital Spatial Lab
13. Mr. B.S.Dasanayaka	Survey Department
14. Mrs. G.P.L.K. Gunarathna	Survey Department
15. Nalaka Kodippili	University of Sri Jayewardenepura
16. Nileesha Seneviratne	
17. Pongsakorn Udombua	i-bitz company
18. Sai Sadguru Murty Chodavarapu	IIIT-Hyderabad
19. Sukhitha Ranasinghe	Urban development authority
20. Suthakaran	The World Bank, Sri Lanka
21. Taichi Furuhashi	Aoyama Gakuin University
22. Tino Raphael Nabib TOUPANE	GeoSynapse Guibea
23. W.A.C.Deshani	University of Moratuwa
24. W.K.D.Kumara	University of Moratuwa
25. Yoichi Kayama	Aeroasahi Corporation

W08: The DART model (Discrete Anisotropic Radiative Transfer) (Salghuna Nair) @ Research Lab, 1st Floor

Requirements

In order to make the tutorial more efficient, participants are advised:

- to get a free DART license before the training.
- to get an overview of the DART User Manual
- to make a few exercises of work packages 1 and 2 of DART User Manual.

Name	Company/Affiliation
1. Charles Limin	Singapore Land Authority
2. G.J.C.Wimaladasa	Urban Development Authority, Battaramulla.
3. Salghuna N N	IIIT-H
4. Tarnpreet Singh Gill	IIIT-Hyderabad
5. Yann Chemin	Harvesting.co
6. Yoshiaki Fukami	Rikkyo University

W09: Geopaparazzi: never out of data in the field (Andrea Antonello) @ Research Unit, 1st Floor

Android mobile device with Android 4.1 or later

Name	Company/Affiliation
1. D.M.K.J.Dissanayake	University of moratuwa
2. Harish Kumar Solanki	National Institute of Rural Development and Panchayati Raj, Hyderabad, India
3. Kokila Sooriyagoda	T&CP Department, University of Moratuwa
4. María Arias de Reyna	GeoCat bv / OSGeo
5. Vishvajith Peiris	University of Moratuwa
6. W.D.Mihirani	University of Moratuwa
7. W.M.R.M. Warnasooriya	University of Moratuwa

W10: Building Standards Compliant Geospatial Web Applications – the Quick and Easy MapMint Way (Grald Fenoy) @ Research Lab, 1st Floor

Install VirtualBox in your computer and download OSGeoLive 12 and setup as virtial machine

Name	Company/Affiliation
1. Anuradha Rajanayake	GeoEDGE (Pvt) Ltd
2. B.V.K. Uresha Priyadarshani	University of Moratuwa
3. Chulesha Geeganage	Urban Development Authority
~~4. Fenoy~~	~~GeoLabs SARL~~
5. G.P.L.K.Gunarathna	Survey Department
6. Keertana Daliarthy	IIIT Hyderabad
7. Loh Kai Cong	Singapore Land Authority
8. Mr. B.S.Dasanayaka	Survey Department
9. Mrs. G.P.L.K. Gunarathna	Survey Department
10. Tarnpreet Singh Gill	IIIT-Hyderabad

W11: OSGeo.JP Workshop for UN Vector Tile Toolkit – Let's make sustainable web maps (Hidenori Fujimura) @ Studio 2, 3rd Floor

Participants are welcome to bring not only their personal computer (PC) but also their vector geospatial data. Participants shall install Node.js, tippecanoe, and git in their computing environment**.**

Name	Company/Affiliation
1. Arjan Odedra	Nascent Infotechnologies Pvt. Ltd.
2. Dhadimuni Dimesh Dharmathilake	GeoEDGE (Pvt)Ltd.
3. Hidenori Fujimura	UN Geospatial Information Section
4. Hirofumi Hayashi	Applied Technology Co.,LTD.
5. Isuru Biyanwila	PMU- Colombo Port City Project
6. Maulik Bhagat	Nascent Infotechnologies Pvt. Ltd.
7. Nobusuke IWASAKI	
8. Pillappan Karuppiah	Nascent Infotechnologies Pvt. Ltd.
9. PONGSakorn Udombua	i-bitz company
10. Pradeep Lakshan Dissanayala	Urban Development Authority
11. R.N.S Rajapaksha	University of Moratuwa
12. Rahul Kanani	Nascent Infotechnologies Pvt. Ltd.
13. Santosh Gaikwad	Nascent Infotechnologies Pvt. Ltd.
14. Taichi Furuhashi	Aoyama Gakuin University
15. Vichithra Sampath	Urban Development Authority
16. Yoichi Kayama	Aeroasahi Corporation
17. Yoshiaki Fukami	Rikkyo University

W12: MapServer hand-on: learn the fastest online mapping engine in the world (Jeff McKenna) @ Studio 3, 4th Floor

Possibly have already installed MapServer on their laptops. We will go through installing MapServer together on Windows, using MS4W

Name	**Company/Affiliation**
1. Sai Sadguru Murty Chodavarapu	IIIT-Hyderabad
2. Divyesh Vyas	School of Earth Sciences, S.R.T.M.University , Nanded , India
3. Nileesha Seneviratne	Urban Development Authority
4. Gaurav Gandhi	Nascent Infotechnologies Pvt. Ltd.
5. Eya Celestine Chinekwu	Ondo State University Of Scinece And Technology Akure Ondo State
6. Ossai Chinedu Samuel	Nigeria Sambo Federation
7. R A M P Rupasinghe	Urban DevelopmentAuthority
8. Sukhitha Ranasinghe	Urban development authority
9. Enrico Bezuidenhoudt	Namibia Statistics Agency
10. Philip Whitten	Penn State
11. M.R.Y.P.Karunarathna	University of Moratuwa
12. Abeynayaka T.A	University of Moratuwa
13. Anuradhi Shamantha Ranathunga	University of Moratuwa
14. Champika Priyadarshani Kumari	University of Moratuwa
15. J.P. Janani Yasodara Jayasooriya	University of Moratuwa
16. Nimsha Chamodhi Bandara	University of Moratuwa
17. Nimarshika Dilhari	University of Moratuwa
18. Kapugama Geeganage Dinusha Lakmali	University of Moratuwa
19. Sanindu Kashintha Wijethunga	University of Moratuwa
20. Maya Dasuni Shalika Kodithuwakku	University of Moratuwa
21. P.M.D. Chameshi Kasunika Perera	University of Moratuwa
22. Sanduni Tharushika Pathmasiri	University of Moratuwa
23. Sammu Thilini Amaivi Ranashura	University of Moratuwa
24. U.P.L.V.Pathirana	University of Moratuwa
25. R.J.Nilantha	University of Moratuwa

W13: Tile-based batch Processing of Photogrammetry Points with the LAS tools LiDAR Processing toolbox in QGIS (Martin Isenburg) @ Studio 4, 4th Floor

QGIS 2.18 should be installed. Non-Windows laptops also need Wine installed.

Name	**Company/Affiliation**
1. Aahlaad	Asian Instiute of Technology, Thailand
2. Chaitanya Kumar CH	Cyient Ltd.
3. Charles Limin	Singapore Land Authority
4. D.W.Y.G. Dayarathna	University of Moratuwa
5. G.H.M. Thamarasi	Urban Development Authority
6. G.J.C.Wimaladasa	Urban Development Authority, Battaramulla.
7. G.L.N.Dayarathne	University of moratuwa
8. Hasintha Naowd	University of Moratuwa
9. Kim Jiyoon	Digital Spatial Lab
10. Nandanavanam VBS Sudarsan Karthikeya	Asian Instiute of Technology, Thailand
11. Suthakaran	The World Bank, Sri Lanka
12. W.W.G.M.I.U.Wijesekara	University of Moratuwa
13. Welle Hewage Sanduni Tharushika Pathmasiri	Student

W15: Land use change modelling using Cellular Automata based SLEUTH (M.C. Chandan) @ GIS/RS Lab, 1st Floor

Laptop with Windows 10 or Ubuntu OS essential if they need hands on training on MongoDB

Name	Company/Affiliation
1. A.A.G.Upeksha	University of Moratuwa
2. A.S.S.Wijesinghe	University of Moratuwa
3. Asika Sewwandi	University of Moratuwa
4. Chandan MC	IIT Kharagpur
5. Chethika Abenayake	University of Moratuwa
6. Gayani Ranasinghe	University of Moratuwa
7. H.G.U.Ganegoda	University of Moratuwa
8. H.M.Pawani Sithara Kumarasinghe	University of Moratuwa
9. H.P.Wishmi Piumika Pathirana	University of Moratuwa
10. Hemal Lakpethum	Urban Development Authority
11. Igbo Chigozie Collins	Envieronmental Ehics and Safety Training Institute
12. K.G.Wathsala Sewwandi Jayathissa	University of Moratuwa
13. K.L.K.T.B.Sandarwani	University Of Moratuwa
14. K.M.V.S.Bandula	University of Moratuwa
15. K.V.S.S Karunapala	University of moratuwa
16. L.R.M.N.L.Lankadhikara	University of Moratuwa
17. Lakshika Meetiyagoda	University of Moratuwa
18. Lasantha Bandara	Urban Development Authority, Sri Lanka
19. M VANI	IIIT-H
20. M.K.Hansika	
21. M.K.Hansika	
22. Nishamani Priyanwadha Abeyratne	Urban Development Authority
23. Ojobor Chigozie Vincent	Ondo State University of Science And Technology Akure
24. P.E.I.L.Ekanayake	University of Moratuwa
25. R.A.C.M.Ranasinghe	University of Moratuwa
26. Rizvi Noordeen	University of Moratuwa
27. Sahan	University of Moratuwa
28. Sauri Jayakody	Town and Country Planning Department
29. Thilakarathna H.M.H.A	University of Moratuwa
30. Tino Raphael Nabib Toupane	GeoSynapse Guibea
31. W.G.Chathuri Dilthara Gunagena	University of Moratuwa
32. WPDP Somaweera	University of Moratuwa
33. Yash Mehta	CEPT University

WORKSHOP ABSTRACT

W01: Mobile open source GIS applications for societal needs by Natraj Vaddadi

This workshop aims at presenting the use of Mobile Open Source applications for collecting and further visualization of data and their use in sustainable development. The workshop will focus on the details of installing and using field data collection application (ODK) running on Android devices.

Any individual who is in the field of research and uses data for further study will benefit from this workshop. It will equip participants with tools & skills to leverage mobiles for data collection and its visualization for a variety of societal needs related to awareness and management of natural resources (like water), disaster mitigation, public health, asset/facility management and environmental monitoring, education and research.

Workshop Outline - Description

- Introduction to Open source data collection tools
- ODK Tools and Aggregate – Introduction
- ODK Build - Form design/creation – Simple and advanced
- ODK Collect - Field data collection app
- Actual data collection in the field
- Deploying ODK Aggregate for Field data aggregation, visualization, and analysis.
- Case studies of usage in community based projects.

Who can attend the workshop?

Suitable for anyone who knows English and is able to use a Smartphone (android) / tablet. This workshop is specifically designed for people / organizations who use computers but are not IT specialists. Knowledge of computer programming is not required.

Duration: One day

Type of activity: Classroom facilitation with form design & hands on field data collection.

Material required: Each participant needs to bring his/her own android smartphone / tablet

W02: Building a 4ONSE Weather Station by Rangajeewa Rathnayake & Massimiliano Cannata

The workshop is dedicated to professionals, researchers and students who want to build a non- conventional and low-cost weather station. We termed this weather station 4ONSE as it is 4 times open: Open Hardware, Open Software, Open Standards and Open Data. "Non-conventional" means we intend a low-cost system which does not respect all the high standard requirements in term of sensor construction, precision and testing and, finally, for "effective way" we intend to adapt to meet the users' needs. In this workshop, participants will have an opportunity to build a weather station with the electronic engineers' assistance. User manual, sensors, Arduino board, other necessary electronic items, solar panel, battery and a pole will be provided at the workshop.

Pre-requisite knowledge for the attendees/background of participants

This workshop intends to train irrigation engineers, agricultural researchers, metrological officers, students and farmers on how to program computers and sensors to take temperature, soil moisture, humidity, rain measurements. Pre-requisite knowledge in Arduino and open source electronic platforms will be desirable. We will limit the workshop to 15 participants.

Pre-requisite for attending a workshop

Participants those who are interested in attending this workshop will have to register and make the required payment to attend the workshop.

Demo/hands-on

Instruments and electronic parts to build and program weather stations will be provided. In this workshop, each of the participants will learn how to install the Arduino software on a computer and program, to connect and operate electronic circuits with sensors that measure soil moisture, temperature and humidity at a weather station site. We will station a staff member to stay during the entire workshop to provide an assistance to participants during the practice sessions.

W03: Web-GIS Using GeoServer and OpenLayers by Shailesh Chaure

The advent of web mapping has changed the way geography is perceived by people. This

has been largely powered by a few open source software and systems that have matured over time and provide the functionality, elegance, strength, and user-friendliness equivalent to that of proprietary web-GIS products. These tools have made it possible for everyone to collect, manage, and publish spatial data on the Internet. This workshop will cover, how to use GeoServer and OpenLayers for web-based GIS application development with hands-on sessions. GeoServer is a powerful open source map server and can be used to create lightweight applications using open JavaScript frameworks such as OpenLayers and Leaflet, which run in web browsers. It publishes data from any major spatial data source, such as shapefiles, PostGIS etc. The emphasis of the workshop will be on hands-on learning about developing web-GIS applications. The fundamental concepts of Web-GIS will be covered in a brief session followed by the hands-on session. In the hands-on session, various aspects of web-GIS application development using GeoServer and OpenLayers will be covered. The details are as under:

Installing Postgres/PostGIS and importing shapefiles to it.

Installation of GeoServer.

Adding Shapefiles and PostGIS layers to GeoServer.

Adding styles to the layers.

Publishing/ previewing added layers as WMS and WFS.

Consuming spatial data published from GeoServer as WMS and WFS in QGIS.

Demonstration of applications based on GeoServer.

Building /developing a simple web application using OpenLayers and HTML.

Pre-requisite knowledge for the attendees/background of participants

Anybody who has a good understanding of GIS and wants to learn the basics of Web-GIS and wishes to start web development. The participant should have basic computer skills along with the experience of GIS data creation and analysis. Knowledge of PostGIS and basics of programming scripts like JavaScript/HTML is desirable.

Duration and Participants

Duration of the workshop will be a full day and the maximum participants may by up to 20.

Any other information

Participants are required to bring their own laptops (Windows OS) with QGIS installed.

W04: ZOO-Project Introduction Workshop by Grald Fenoy

The ZOO-Project is an open source software which provides a WPS (Web Processing Service) compliant and developer-friendly framework to easily create and chain OGC Webservices. The ZOO-Project is made of four parts. ZOO-Kernel is a powerful server-side C Kernel which makes possible to manage and chain Web services coded in different programming languages. ZOO-Services is a growing suite of example Web services based on various Open Source libraries. ZOO-API is a server-side JavaScript API able to call and chain the ZOO Services, which makes the development and chaining processes easier, and ZOO-Client is a JavaScript library to interact with WPS servers from your web applications.

The ZOO-Project will first be presented, along with few details on using the WPS (1.0.0 and 2.0.0). The participants will first learn how to setup the ZOO Kernel and to get a WPS server running in a few simple steps. Some basic services will be presented to the attendees to give them the capability to reuse them later in their own application. Then, they will learn how to develop simple WPS service using the Python language, trough simple programming exercises. A ready to use client will be used to interact with the available WPS Services and the one to be developed. Participants will finally learn how to chain the different available WPS Services using the server-side Javascript ZOO-API. The final client application, based on ZOO-Client, will provide a user interface to first search and display of shortest path, then display the corresponding profile.

Install VirtualBox in your computer and download OSGeoLive 12 and setup as virtial machine

W05: Workshop on SLEUTH a land use change model by M. Vani

Population growth and the consequent economic needs of the community impacts the land use-land cover of the region resulting in changes on the landscape through urbanization and depletion of the available natural resources causing unsustainable development. Hence it is essential to monitor the changes in the landscape and also forecast the land use to ensure a lively secured environment and resources. Geographical Information System is an integral part of landscape planning and management when coupled with forecasting and predictive models on land use land cover change analysis.

About SLEUTH

S(slope) L(land cover) E(exclusion) U(urbanization) T(transportation) H(hillshade) is an open source landuse change model developed by Dr. Keith C. Clarke at the University of California, Santa Barbara,

Department of Geography. This model is designed exclusively for urban growth analysis and is a universally compatible model.

What you learn in the workshop

- Basic understanding of land use land cover change models
- Introduction to the SLEUTH model
- Model requirements
- Data preparation
- Model calibration
- Growth scenarios
- Validation*
- Prediction*

*Explained with a case study

Target group

Academicians, Researchers, Administrators, Enthusiasts

Maximum number of participants

10 - 20

Prerequisite

No prior experience. Though basic knowledge on Remote Sensing and GIS concepts will be an added advantage

W06: Introduction to GeoNetwork by Maria Arias de Reyna

To participate in the workshop, it is NOT necessary to have any basic knowledge about spatial catalogs or GeoNetwork.

This workshop will focus on what a spatial catalog is, using GeoNetwork as an example and how can we use it for multiple use cases. We will deploy GeoNetwork using a simple administration tool like Docker and then we will go through quick-start like steps to configure it and start using the catalog with our own data.

W07: The LAStools LiDAR Processing toolbox in QGIS by Martin Isenburg

Hands-on workshop that guides the attendees through a complete LiDAR processing pipeline using a small example project. We'll cover quality checking, pre-processing, point classification, and raster and vector derivative generation and integrate / compare the extracted products with other data such as Open Street Map vectors and background layers. The latest LAStools version bundled with data will be provided.

QGIS 2.18 should be installed. Non-Windows laptops also need Wine installed.

W08: The DART model (Discrete Anisotropic Radiative Transfer) by Salghuna Nair

DART is a 3D radiative transfer model allowing simulation of complex and heterogeneous landscapes acquired by different sensors, including imaging spectrometers and LiDAR. It is a useful tool to understand radiometric mechanisms involved when using remotely sensed information. The objective of this tutorial is to introduce recent developments dedicated to the utilization of DART in the case of simulation of imaging spectroscopy data, and it will be illustrated by study cases corresponding to forest ecosystems. Sensitivity studies will be explored through graphical user interface as well as dedicated python scripts.

DART models radiative transfer in the system "Earth - Atmosphere", from visible to thermal infrared. It simulates measurements (images, waveforms,) of passive and active (lidar) satellite/plane sensors, as well as the radiative budget, for urban and natural landscapes.

These simulations are computed in any experimental (atmosphere, terrain, forest, crop, date, ...) and instrumental (spatial and spectral resolutions, viewing direction ...) configuration.

It is very useful for the study and monitoring of land surfaces from remote sensing measurements.

Agenda

Overview of DART scientific related questions, including major radiometric terms used in optical remote sensing. Interactive presentation of DART major functionalities and Graphic User Interface. From this stage, participants work with their laptops. DART is installed if needed. Exercises about reflectance in the optical domain for 2D landscapes.

Creation of 3D mock-up.

Requirements

In order to make the tutorial more efficient, participants are advised:

- to get a free DART license before the training.
- to get an overview of the DART User Manual
- to make a few exercises of work packages 1 and 2 of DART User Manual.

Maximum number of Participants: 20

Note:

The software, manual and materials will be provided to the selected participants only.

W09: Geopaparazzi: never out of data in the field by Andrea Antonello

The workshop is dedicated to professionals, researchers and students that needs to collect data from the field and use this information to update or create GIS data, but also to OpenStreetMappers as well as tourists that want to keep a geo-diary.

Geopaparazzi is an easy to use and intuitive mobile application for digital field mapping for Android devices developed to support the work of the technicians in the field, offering a mapping environment with real time GPS position and the possibility to take georeferenced notes, georeferenced and oriented pictures and georeferenced sketches

Furthermore, Geopaparazzi provides a powerful support for structured data collection forms. Forms may contain combo and check boxes, text fields, pictures and sketches organized over multiple tabs.

Background data on the map view can be personalized using available local data or on-line services with the possibility to use vector offline Mapsforge basemaps, Mbtiles offline databases, TMS and WMS services. Vector layers in Spatialite DB can be visualized in the map view with a style prepared on the device or directly imported in the DB from SLD style files and edited with simplified tools developed to be used on a device in the filed.

In the past years we developed a plugin for Geopaparazzi in the gvSIG GIS desktop which supplies an userfriendly GUI with GIS functionalities to: prepare the base raster data for the map view in Geopaparazzi, prepare the overlay vector layers as Spatialite DB with the support of the styling (original SLD), prepare the forms with all the detailed sections, export as shapefiles of all the data collected in the field (GPS tracks, text notes, pictures and form based notes

The workshop starts with an introduction of the application, installation and description of the main features. Then a short section will be dedicated to the preparation of the input data: background maps, vector layers and forms. Following these sections there is a practical testing of Geopaparazzi outdoor in the field. The last section, back in the room, is dedicated to the export of the collected data. The data collected can be visualized or used directly in a GIS environment using gvSIG or can be synchronized with the data collected by the other surveyors of the team using the new web application Geopaparazzi Survey Server

The expected participants have to have basic knowledge of both Android and Windows/Linux environment as well as of the most important GIS data formats (raster and vector). is required that the participants have an Android device with Android 4.1 or later.

Prerequisites for attending the workshop

Android mobile device with Android 4.1 or later

Software used

Geopaparazzi on Android mobile device, Geopaparazzi Survey Server Sync (GSSS) on Android mobile device, gvSIG as desktop GIS, Geopaparazzi Survey Server as web application on desktop require computer lab (pre-installed in the labs) require mobile Android device

W10: Building Standards Compliant Geospatial Web Applications – the Quick and Easy MapMint Way by Grald Fenoy

This workshop will introduce the MapMint framework that provides quick and easy way to build and manage geospatial web applications using Open Source, Open Standards and Open Data. The MapMint is a development framework built based on ZOO-Project, MapServer, GDAL/OGR on the server side and jQuery, Bootstrap and OpenLayers on the client side. The MapMint framework is built on the principle that "Everything is a Service", including data oriented services such as WMS, WFS, WFS-T, WCS and WMTS and task oriented services by deploying WPS based on existing geospatial libraries such as GDAL/OGR, pgRouting, R etc. After a brief presentation of every modules and general workflow to create and publish a webmapping application, the MapMint Manager will be used to edit web maps application and create style for layers. Finally, the MapMint Publisher will be used to define modules to be included in the web application accessible from any browser on computer or mobile devices.

Install VirtualBox in your computer and download OSGeoLive 12 and setup as virtial machine

W11: OSGeo.JP Workshop for UN Vector Tile Toolkit – Let's make sustainable web maps by Hidenori Fujimura

We are progressively applying technologies from web maps in professional operations, such as disaster response, situational awareness, sustainable development and statistical analysis.

Among other applications, mobile applications for the use of tablets and smartphones make web map technology virtually essential, because such application needs to work with relatively limited device performance and bandwidth. The virtue of web map technology to work with the limited but connected environment by design benefits professional operations well.

On the other hand, such mobile applications are enablers for the utilization of geospatial technology in the actual field of substantive importance. In this view, web map technologies are of strategic importance.

Professional operations often require adequate basemap which meets the requirements of the respective professional fields. In such cases, such basemaps need to reflect the expertise of individual organizations, rather than just making use of the basemaps from dominant web map platforms.

Such a requirement for a customized basemap of often seen in public organizations. For example, the United Nations (UN) situational awareness platform for the peacekeeping operations requires a custom basemap reflecting knowledge accumulated in the operations.

In this context, the UN Open GIS Initiative initiated a project to support production and consumption of basemaps which endure operational use using the modern web map technology. The project started in 2018 under the name of UN Vector Tile Toolkit.

The UN Open GIS Initiative is a participatory initiative to identify and develop an open source GIS bundle that meets the requirements of UN operations, taking full advantage of the expertise partners. The UN Vector Tile Toolkit is a project under Spiral 4 of the UN Open GIS Initiative, taking full advantage of the expertise originated from free and open source geospatial software communities worldwide and the national geospatial information authority of Japan.

The UN Vector Tile Tooklit is open software intended to support mainstreaming of the vector tile technology in basemap used in public organization. Dominant web map platforms put vector tile technology into service since around 2010. Carefully produced vector tiles can realize fast and beautiful rendering of basemap with small data size footprint. Besides, the clients can adjust the basemap rendering on their request. Open source implementation of the vector tile technology has been there since around 2014. At present, more and more organizations and vendors are adopting this technology.

The UN Vector Tile Toolkit takes full advantage of existing open source software. And it aims to enable sustainable production, consumption, and optimization of basemap vector tiles. Also, the UN Vector Tile Toolkit aims to ensure interoperability of vector tiles so that various software can make use of the vector tiles produced using the toolkit.

The UN Vector Tile Toolkit consists of scripts and documentation for the following six domains:

Production: Automation and continuous update of vector tiles

Statistics: Indicators for optimizing the size of each vector tile

Hosting: Simple and fast hosting of vector tiles

Styling: Browsing and style editing of vector tiles

Interoperability: Making vector tiles usable from various software

Conversion: converting existing vector tiles into optimized vector tiles

The OSGeo Japan chapter hosts this workshop for UN Vector Tile Toolkit with Mr. Hidenori Fujimura. Hidenori is the lead of the UN Vector Tile Toolkit. He is currently working at UN Geospatial Information Section, Department of Field Support of the UN Secretariat.

This hands-on workshop introduces how we can produce, statistically evaluate, host, and consume basemap vector tiles which integrate existing basemap data and your data. The session exemplifies it by using openly available basemap data and the data you bring or choose in the session.

This hands-on session requires basic knowledge of command line interface (CLI) because the UN Vector Tile Toolkit uses CLI.

Knowledge on Node.js and git will be useful because the UN Vector Tile Toolkit uses such software.

Participants are welcome to bring not only their personal computer (PC) but also their vector geospatial data. Participants shall install Node.js, tippecanoe, and git in their computing environment. A limited number of remote log-in environment will be available. The hands-on covers the way to produce vector tiles integrating Shapefile data. So, it is preferable to bring your geospatial data in Shapefile format. This workshop program assumes the Internet connection available to participants in the session.

Latest information on this workshop will be available at the GitHub repository https://github.com/hfu/osgeo-jp-moratuwa. Any questions are welcome at https://github.com/hfu/osgeo-jp-moratuwa/issues. You need a GitHub account to submit a question or other kinds of input.

The OSGeo Japan Chapter supports this workshop.

W12: MapServer hand-on: learn the fastest online mapping engine in the world by Jeff McKenna

MapServer (https://mapserver.org), sometimes known as “Cheetah” for its unmatched speed in the online mapping world, has recently had some great enhancements to its list of features. This hands-on workshop is intended as an introduction to sharing your geospatial data with the popular MapServer software, by one of its longtime passionate leaders. The participants will go through the process of setting up a MapServer environment, configuring your data, and sharing the data through MapServer services. Workshop attendees will also get to see the recent MapServer 7.2 changes in person. The goal is to show you that getting started with MapServer is fun :)

Don’t miss a hands-on session with a much needed introduction to the famous MapServer project!

Pre-requisite knowledge for the attendees/background of participants

None just be enthusiastic to learn.

Pre-requisite for attending the workshop

Possibly have already installed MapServer on their laptops. We will go through installing MapServer together on Windows, using MS4W(https://ms4w.com)

Would prefer to give this workshop on Windows machines, but can support other platforms.

W13: Tile-based batch Processing of Photogrammetry Points with the LAS tools LiDAR Processing toolbox in QGIS by Martin Isenburg Martin Isenburg

Hands-on workshop that guides the attendees through a complete tile-based multi-core point processing pipeline for photogrammetry points generated from aerial imagery (aircraft or drones) using dense-matching software. We'll cover the differences between LiDAR and photogrammetry points and the resulting difficulties in terms of ground, building, vegetation classification. We explore different options for generating reasonable terrain models and vector derivatives using one or two example projects.

The latest LAStools version bundled with data will be provided. QGIS 2.18 should be installed. Non-Windows laptops also need Wine installed.

W14: Proposal for the workshop on Geospatial Application Development using MongoDB Geospatial Query operators and Aggregation Framework by Sasikala Ramasamy

Presently NoSQL databases are leading Bigdata data technology, IoT and Mobile Application development Industries. Hence it is essential for the Academic institutions to prepare faculty members and students to get trained in NoSQL database technologies through lab practices, projects, trainings and research. Moreover the best of the NoSQL databases are Opensource and hence less expensive to implement innovative project ideas. The following are the extensive and programming friendly NoSQL databases

•MongoDB

•Apache Cassandra

•Redis

•Neo4J

•Apache HBase

Setting up lab for Bigdata and giving training on two or three tools above are foremost important. With the above, the tools R, Spark, Scala, Python and Panda are necessary for learning Data Analytics, Data mining, Aggregation framework, Sharding and Geospatial queries.

Integrating Geospatial data with Aggregation framework, sharding(partitioning and replication), Geospatial queries for mining and data analysis gives a complete package to the learners to proceed their research work and projects either in geospatial data or any real time databases of structured or unstructured format.

Since MongoDB documentation and MongoDB University provides more assistance to the data scientists and supports various languages such as Python, Java, PHP. Node JS and C #etc., doing research and setting up lab for MongoDB is effective. The default scripting language for MongoDB is JavaScript.

MongoDB has built in queries for Aggregation framework, sharding and geospatial queries. The following are the details of coverage in workshop

Demo and training on

•MongoDB installation

•MongoDB JSON

•MongoDB CRUD operators

•MongoDB aggregation framework

•MongoDB Geospatial query operators

•Visualizing Geo spatial data

•Example of Geospatial application development using MongoDB

•Research examples

Pre-requisite knowledge for the attendees/background of participants

•Pre-requisite knowledge: Basic knowledge about Databases

•Background of Participants: Computer Science and Engineering or equivalent

Pre-requisite for attending workshop

Laptop with Windows 10 or Ubuntu OS essential if they need hands on training on MongoDB

Any other information/specifications

According to the requirements of participants and availability of time, hands on and Demo can be provided on Integration of MongoDB and R for Data analytics research. At the end of the session, institution Lab would be ready with NoSQL DB and R software. Providing help to register MongoDB online free certification course

W15: Urban Simulation based on SLEUTH by M.C. Chandan