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**ABOUT**

I am an urban geographer, with specialisation in urban environments, geography, and environmental epidemiology. Most of my work is focussed on understanding human-environment interactions with a strong geographical information science (GIS) dimension.

**RESEARCH EXPERIENCE AND SKILLS**

November 2017- December, 2018 (Part time) **Research Associate (GIS Specialties)**  
**Organization:** SEED, University of Manchester. Part of RESIN project, under Horizon 2020 program (PI: Dr. Jeremy Carter)

- Analysing the traffic flow, and network connectivity of TfGM network.
- **Spatial modelling** for assessment of climate risk of transport network.
- **Co-authored policy report** for RESIN 2020.
- Assisted in preparing conference presentation for Resilient Cities 2018.

October' 2017- 2020 (Final year) **PhD Research**  
**Organization:** SEED, University of Manchester.

- Integrating **machine learning models with GIS** to better understand and predict land use changes;
- Developing a novel **green space exposure** metric using detailed land use land cover, digital elevation model, and Google Street view data considering challenges of big geo-spatial data, and
- Publishing of scientific papers in peer-reviewed journals.

September 2014- December 2014 **Research Assistant**  
**Organization:** Department of Urban and Regional Planning (DURP), Bangladesh University of Engineering and Technology (BUET).

- Assisted in designing **questionnaire for accessing travel modes and locational preferences** of university students for new campus.
- Assisted in drafting Traffic Impact Assessment, Environmental Impact Assessment report for a new university campus in Dhaka city.

February 2012 – March 2013 (Part time) **Research Assistant**  
**Organization/person:** Md. Musleh Uddin Hasan (PhD research in UCL), DUPR, Bangladesh University of Engineering and Technology (BUET).

- Assist in PhD survey (e.g. Traffic volume count, Spot survey, travel diary),
- Survey data entry and mapping traffic network data.

**Relevant****Research Skills**

- Analysis of spatial data from **diverse sources** (e.g., GIS, remote sensing)
- Use of cutting-edge geo-spatial software (e.g. QGIS, ArcGIS, ENVI) packages and **programming languages** (e.g. Python, R, JavaScript).
- Geo-Spatial modelling and mapping urban environmental issues.
- **Integrating spatial data and model** with other modelling environment.

**AWARDS**

October' 2017- September' 2020 **School of Environment, Education and Development Postgraduate Research Scholarship.** University of Manchester.  
 Value: £102,000 (approx.)

|                                   |   |
|-----------------------------------|---|
| December' 2017                    | <b>Best Student of MSc in GIS.</b> <i>SEED, University of Manchester.</i><br>Value: £100  |
| October' 2016-<br>September' 2017 | <b>Equity and Merit Scholarship.</b> <i>University of Manchester.</i><br>Value: £32,000 (approx.)   |
| July' 2014                        | <b>Abdul Hamid Award (for best undergraduate thesis) and Dean's award.</b> <i>Bangladesh University of Engineering and technology.</i><br>Value: £250 (approx.) |

## TEACHING EXPERIENCE

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|-------------------------------|---|
| February' 2018-<br>Continuing | <b>Demonstrator;</b> <i>SEED, University of Manchester.</i><br><ul style="list-style-type: none"> <li>• Level 7 &amp; 2, GIS and remote sensing modules (e.g., practical in ArcGIS, QGIS)</li> <li>• Level 7 Environment modelling modules (e.g., practical in FloodModeller)</li> <li>• Providing <b>pro-active support</b> to students <b>in practical activities</b>, discussing ideas to solve particular problems.</li> <li>• Providing feedback to course leader any problems with the practical materials</li> </ul> |
| February' 2019-<br>July' 2019 | <b>Dissertation Coaching;</b> <i>SEED, University of Manchester.</i><br><ul style="list-style-type: none"> <li>• Providing <b>dissertation support</b> for MSc level (Level 7) students in formulating research objectives and framework.</li> <li>• <b>Conducting seminars</b> (groups of up to 25 students) to discuss research proposals and methodological approaches.</li> </ul>   |
| February' 2018-<br>July' 2018 | <b>Tutor;</b> <i>SEED, University of Manchester.</i><br><ul style="list-style-type: none"> <li>• Delivering tutorial sessions for undergraduate (Level 1) courses in Geography.</li> <li>• <b>Prepare tutorial materials</b>, delivery of the session, and grade assignments.</li> </ul>  |

## EDUCATION

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|---|--|
| 2017- Continuing<br>(2020)                                      | <b>PhD in Geography</b><br><i>University of Manchester</i><br><b>Research Topic:</b> Green Infrastructure and health: Active living and Greenspace. (Supervisors: Prof. Sarah Lindley, And Dr Jonny Huck)  |
| 15 <sup>th</sup> August, 2017-<br>25 <sup>th</sup> August, 2017 | <b>Data Science and Big Data Analytics</b><br><i>London School of Economics – LSE Methods Summer School</i><br>Core Modules: Basic of Data Science, Statistical Learning and Machine Learning, and R-Programming.  |
| 2016-2017   | <b>MSc. Geographical Information Science</b><br><i>University of Manchester</i><br><b>Result:</b> Distinction (Average: 78.87%, Best student of the group)<br>Core Modules: GIS and Environmental Application (85%), Environmental remote sensing (86%), GIS and the web (JavaScript course, 72%), Digital Image processing (85%), Understanding GIS ( <i>Python</i> course, 78%). |
| 2015-2016   | <b>Master of Urban &amp; Regional Planning</b><br><i>Bangladesh University of Engineering and Technology</i><br><b>Result:</b> No Final Grade. Dropped after completing theory courses.<br>Core Modules: Traffic Simulation; GIS Applications in Planning.   |
| 2009-2014   | <b>Bachelor of Urban and Regional Planning</b><br><i>Bangladesh University of Engineering and Technology</i><br><b>Result:</b> CGPA 3.86 out of 4.00 (Merit position 2 <sup>nd</sup> )<br>Core Modules: Urban Planning, Transportation Planning (Theory and Lab), Environmental Planning, GIS and Remote Sensing.  |

- Relevant Technical Skills**
- GIS Packages: *ArcGIS Pro, ArcGIS 10.x, QGIS.*
  - Remote sensing: Google Earth Engine, *ENVI, GRASS.*
  - Transportation Modelling: *TransCAD (macro scale travel modelling), PTV VISSIM (micro-simulation).*
  - Programming languages: *R, Python, JavaScript*
  - Statistical Packages: *SPSS, R-Studio, STATA.*

## ADDITIONAL RELEVANT EXPERIENCE

- July 2019- August 2019 (Part-time project) **Business Collaboratories for Early Career Researchers**  
**Organization:** *University of Manchester, and ESRC.*
- Consultancy services on Artificial Intelligence and spatial data science for a legal service business based in Liverpool.
  - Integrating customer data with spatial data to develop AI models in predicating potential client pools in different areas of UK.
- February 2016- June 2016 **Junior GIS Analyst**  
**Organization:** *Institute of Water Modelling (IWM), Dhaka, Bangladesh.*
- Spatial analysis for hydrological models for irrigation projects.
  - Preparing spatial data from Google Earth open imagery.
- April 2015- January 2016 **Urban Planner**  
**Organization:** *Department of Urban and Regional Planning (DURP), (Client: UNICEF, UKAID and Local government).*
- Collect and Analyse data and prepare planning reports
  - Prepare **GIS maps** (Using ArcGIS) for different levels of the prepared plans

## RELEVANT PROFESSIONAL TRAININGS

- Professional Trainings
- Name: **The Principles of Traffic and Transport** (September, 2018);  
Organization: PTRC, Chartered Institute of Logistics and Transport (CILT).
- Name: **Training on Remote Sensing** (September 2013 – November 2013);  
Organization: Bangladesh Institute of Planners (BIP).
- Name: **Training Course on TransCAD & Trans-modeler** (26-30<sup>th</sup> September, 2012); Organization: Department of Urban and Regional Planning, BUET.

## PUBLICATIONS

- Upcoming Articles **Labib S.M., Lindley, S. and Huck, J.J. (2020).** Scale effects and how to deal with it in natural environmental exposure assessments. (Target Journal: Computer, Environment and Urban systems) [PhD second year paper]
- Labib, S.M.;** et al. Factors influencing the use of urban green space for middle-aged residents of an emerging megacity in global south: A case study of Dhaka City, Bangladesh. *Targeted Journal: Journal of Urban health.*
- Journal Articles **Labib S.M., Lindley, S. and Huck, J.J., (2019).** Spatial Dimensions of the Influence of Urban Green-Blue Spaces on Human Health: A Systematic Review. *Environmental research*, 180, p.108869.
- Labib, S. M. (2019).** Investigation of the likelihood of green infrastructure (GI) enhancement along linear waterways or on derelict sites (DS) using machine learning. *Environmental Modelling & Software*, 118, 146-165.

**Labib** et al., (2019). Integrating Data Mining and Microsimulation Modelling to Reduce Traffic Congestion: A Case Study of Signalized Intersections in Dhaka, Bangladesh. *Urban Science*, 3(2), p.41.

**Labib**, et al. (2018). Carbon Dioxide Emission and Bio-capacity indexing for transportation activities. *Journal of environmental management*, 223, pp.57-73.

**Labib** S.M. and Harris, A., (2018). The potentials of Sentinel-2 and LandSat-8 data in Green Infrastructure extraction, using Object-Based Image Analysis (OBIA) method. *European Journal of Remote Sensing*, 51(1), pp.231-240.

**Labib**, S. M., et al. (2013). Transport Sustainability of Dhaka: A Measure of Ecological Footprint and Means for Sustainable Transportation System. *Journal of Bangladesh Institute of Planners (BIP)*. 6, pp 137-147.

Conferences  
Presentation and  
papers

**Labib, S.M.;** Rahman, M.S.; Ahmed, B. (2019). Social Media Analytics in understanding the Rohingya crisis: An exploration of public sentiment and geo-political responses. Institute for Risk and Disaster Reduction (IRDR), University College London (UCL), UK.

Connelly, A; Ellis, M.; Carter, J; and **Labib, S.M.** (April, 2018). Assessing climate risk in Greater Manchester (UK) and prioritising adaptation options: a step by step approach. Resilient cities 2018, Bonn, Germany.

**Labib, S.M., et al.** (2018). Exploring the Potentials of UAV Based Geo-Spatial Data Acquisition in Urban Environment: A Case study in Dhaka City, Bangladesh. In *Proceedings of the AGSE Eighth International Summer School and Conference* (pp. 69-75). Karlsruhe, Germany: AGSE Publishing.

**Labib, S.M., et al.**, (2018, April). Environmental Cost of Refugee Crisis: Case Study of Kutupalong Balukhali Rohingya Camp Site a Remote Sensing Approach. In *Proceedings of the 26th Annual GIScience Research UK (GISRUK 2018)*, Leicester, UK.

**Labib, S. M.** (2017, November). Volunteer GIS (VGIS) based waste management: A conceptual design and use of web 2.0 for smart waste management in Dhaka City. In *2017 Third International Conference on Research in Computational Intelligence and Communication Networks (ICRCICN)* (pp. 137-141). IEEE.

Hira, S.; & **Labib, S. M.** (2017, April). Conceptual study of Web-based PPGIS for Designing Built Environment: Identifying Housing Location Preferences in Littleborough. In *Proceedings of the 25th Annual GIScience Research UK (GISRUK 2017)*, Manchester, UK.

**Labib, S. M., et al.** (2017, April). Participatory Vulnerability Mapping: A case study on community based disaster management in (ward 13) Dhaka city, Bangladesh. In *Proceedings of the 25th Annual GIScience Research UK (GISRUK 2017)*, Manchester, UK.

**Labib, S. M., et al.** (2016, October). Comprehensive evaluation of urban public Non-Motorized Transportation Facility services in Dhaka. In *Proceedings of the 8th Multidisciplinary Academic Conference, Prague, Czech Republic* (pp. 14-15).

**References are available on request.**