Mojgan (Amaneh) Jadidi Mardkheh, P.Eng, MSc, Ph.D.
Assistant Professor – Teaching
Geomatics Engineering,
Earth & Space Science & Engineering Department,
Lassonde School of Engineering,
York University

1. Personal

1.1   Name and Address

Legal Name	Amaneh Jadidi Mardkheh
Preferred Name	Mojgan Jadidi
Program	Geomatics Engineering,
Department	Earth & Space Science & Engineering Department
Faculty	Lassonde School of Engineering
Address	Petrie Science and Engineering Building, #148 York University, 4700 Keele St. Toronto (ON), M3J 1P3
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1.2   Degrees

2014 – 2016   **Postdoctoral in Geomatics Engineering,** GeoICT Lab, York University, Toronto, Canada
Title: *Geospatial 3D Modeling and Visualization*
Supervisor: Dr. Gunho Sohn

2008 – 2014   **Ph.D. in Geomatics,** Université Laval, Quebec City, Canada
Title of thesis: *Towards Development of Fuzzy Spatial Datacubes: Fundamental Concepts with Example for Multidimensional Coastal Erosion Risk Assessment and Representation,*
Supervisors: Dr. Mir A. Mostafavi and Dr. Yvan Bédard.

2006 – 2007   **MSc. in Engineering Seismology,** Université Joseph Fourier, Grenoble, France and ROSE School, Pavia, Italy.
Title of dissertation: *Analysis of the Iranian Permanent GPS Network in the North East and East of Iran (time series and velocity field) and Modeling the Stress Transfer between Active Faults Bounding the Lut Block,*
Supervisors: Dr. Andrea Walpersdorf and Dr. Mathilde Vergnolle.

1999 – 2003   **BSc. in Civil – Survey Engineering,** Iran University of Science and Technology (IUST), Iran.

1.3   Employment History

07/2017 – present	**Assistant Professor,** Tenure Track Teaching Stream, Geomatics Engineering, Earth & Space Science & Engineering, Lassonde School of Engineering, York University, Toronto, Canada
01/2019 – present	**Graduate Attribute Lead (GAL)** at Earth & Space Science & Engineering, Lassonde School of Engineering, York University, Toronto, Canada
07/2016 – 07/2017	**Sessional Assistant Lecturer**, Geomatics Engineering, Earth & Space Science & Engineering, Lassonde School of Engineering, York University, Toronto, Canada
11/2015 – 06/2016	**Intern Engineer,** Applied Research and Corporate Monitoring, Planning & Policy, Metrolinx, Toronto, Canada
	Involved in Triplinx, a Transit Trip Planner, system development project to support geospatial data engineering, Triplinx performance analysis, improve search engine performance (https://www.triplinx.ca/).
09/2014 – 06/2016	**Postdoctoral Researcher,** GeoICT (Geospatial Information and Communication Technology) Lab, Earth and Space Science and Engineering, York University, Toronto, Canada.
	Involved in research and development and student supervision mostly in 3D geospatial data modeling, visualization and application, supervised by Dr. Gunho Sohn.
09/2008 - 06/2014	**Research Assistant,** Center of Research for Geomatics (CRG), Geomatics Department, Université Laval, Quebec City, Canada.
09/2013 – 12/2013 09/2011 – 12/2011 09/2008 – 05/2009	**Teaching Assistant**, Geomatics Department, Université Laval, Quebec City, Canada. - GMT-1002 Drawing, Planning and GIS for Engineers - SCG-6003 Digital Terrain Modeling, Concepts and Applications - GMT-2000 Physics for Geomatics - GMT-1005 Fundamental in GIS - SCG-6033 Geomatics and its Applications
10/2007 – 12/2007	**Research Assistant,** Laboratoire de Géophysique Interne et de Tectonophysique (LGIT), Grenoble, France.
2003 – 2006	**Geomatics Engineer** at Geodesy and Geodynamics Department, National Cartographic Center (NCC), Tehran, Iran.
11/2005 – 12/2005	**Research Engineer,** Laboratoire de Géophysique Interne et de Tectonophysique (LGIT), Grenoble, France.

2005	**Lecturer:**
	▪ **GAMIT-GLOBK Software for Geodynamic Application**: National Cartographic Center (NCC), Iran,
	▪ **Global Positioning Systems (GPS)**: Geomatics Engineering, Amir Kabir University, Iran (Summer Course).
2002 – 2003	**Teaching Assisstant**, Iran University of Science and Technology (IUST), Iran: **Theory of Errors**

1.4 Certification and Professional Development

2020 – 2021	EduCaTE program, Teaching Common, York University.
2020	First Year Engineering Experience Workshop, Lassonde School of Engineering, York University.
2019 – 2020	Reading for Teaching, Teaching Commons
2019	Peer Scholar Workshop, Lassonde School of Engineering, York University
2018	REDI Certificate, York University.
2018	Classroom Observation Research Project, Teaching Common York University.
2016	Instructional Skills Workshop (ISW), Teaching Common York University.
2016	How to deal with First Year Students, Teaching Common York University.
2013	Open Source Software in Geomatics, Canadian Institute of Geomatics – Champlain Section, Quebec City.
2012	ESRI Online Campus:
	▪ Managing LiDAR Data in ArcGIS 10
	▪ Using LiDAR Data in ArcGIS 10
	▪ Building Models for GIS Analysis in ArcGIS 10
	▪ Processing Raster Data using in ArcGIS 10
	▪ Introduction to Surface Modeling using ArcGIS 10
2012	Terrestrial and Aerial LiDAR: Principals and Applications, Canadian Institute of Geomatics – Champlain Section, Quebec City.
2011	Risk Analysis and Management, GEOIDE Summer School, University of Toronto, Toronto.
2009	Urban Geomatics, GEOIDE Summer School, University of British Colombia, Vancouver.
2008	Platform OCS 4.x Basic, Configuration and Administration, REGARD Lab, Laval University, Qeubec City.

1.5 Honors and Awards

2018: BEST Paper Award**,** ISPRS Commission IV Symposium 2018, Delft, Netherlands.

2016-2018: NSERC Postdoctoral Fellowship Award, Canada, declined Due to Faculty position held at Lassonde School of Engineering, York University

2010: ESRI Student Award, Canada.

11/2007 – 12/2007: ÉGIDE Scholarship for Research Training, LGIT, Grenoble, France.

2006 - 2007: Erasmus Mundus European Commission Scholarship for MSc Program, 25 Selected among more than 500 applicants around the world.

11/2005 – 12/2005: ÉGIDE Scholarship for Research Training, LGIT, Grenoble, France.

05/2006: Best Paper Presentation in Geomatics Conference, NCC, Iran.

2002: Ranked first among 24 students in the third year of B.Sc., IUST, Iran.

2. Scholarly and Professional Contribution
2.1   Publication

2.1.1 Journal Publications

1. **<u>Xuyang Han,</u>** C. Armenakis, **M. Jadidi**, *"Modeling Vessel Behaviours by Clustering AIS Data Using Optimized DBSCAN", Sustainability Journal, submitted Feb 2021*
2. **<u>A.H. Nourbakhsh</u>**, M. Delavar**, M.A. Jadidi***, B. Moshiri*,* *"A Novel Context-aware System to Improve Driver's Field of View in Urban Traffic Networks",* Journal of Intelligent Transportation Systems: Technology, Planning, submitted August 2020.
3. Francesca Noardo, Lars Harrie, Ken Arroyo Ohori, Filip Biljecki, Claire Ellul, Helen Eriksson, Dogus Guler, Dean Hintz, **Mojgan A. Jadidi**, Maria Pla, Santi Sanchez, Rudi Stouffs, Jernej Tekavec, Jantien Stoter. *"Tools for BIM-GIS integration (IFC georeferencing and conversions): results from the GeoBIM benchmark 2019",* ISPRS Int. J. Geo-Inf. 2020, 9(9), 502; https://doi.org/10.3390/ijgi9090502
4. **<u>S. Keykhosravi</u>**, U. Khan, **M.A. Jadidi,** "*An investigation of the effect of climate change and urbanization on the demand for Low Impact Development for three Canadian cities*", Water 2020, 12, 1280; doi:10.3390/w12051280, 2020.
5. Martin Breunig, Patrick Bradley, Markus Jahn, Paul Kuper, Nima Mazroob, Norbert 4 Rösch, Mulhim Al-Doori, Emmanuel Stefanakis, and **Mojgan Jadidi**; "*Geospatial Data Management Research: Progress and Future Directions*", ISPRS Int. J. Geo-Inf. 2020, 9, 95; doi:10.3390/ijgi9020095, 2020.
6. **<u>S. Keykhosravi</u>**, U. Khan, **M.A. Jadidi, "***The Low Impact Development Demand Index: A new approach to identify locations for LID*", *Water 2019, 11(11), 2341.*
7. **<u>S. Keykhosravi</u>**, U. Khan, **M.A. Jadidi, "***A comprehensive review on modeling low impact development (LID) techniques in a lab, large and small scales watersheds",* Water, 2018, 10, 1541; doi:10.3390/w10111541.
8. K. Shahriari, A.G. Hessami, **M. A. Jadidi**, N. Lehoux *"An Approach toward a Conceptual Collaborative Framework based on a Case Study in a Wood Supply Chain"*, IEEE Systems Journal, Vol. 9, No. 4, December 2015

9. **M. A. Jadidi**, Y. Bédard, M.A. Mostafavi, K. Shahriari, "*Spatial representation of coastal risk: A fuzzy approach to deal with uncertainty*", *ISPRS International Journal of Geo-information*, 3(3), 2014.

10. *M. A. Jadidi,* M.A. Mostafavi, Y. Bédard, B. Long, E. Grenier, "*Using Geospatial Business Intelligence Paradigm to Design a Multidimensional Conceptual Model for Efficient Coastal Erosion Risk Assessment*", *Journal of Coastal Conservation*, 17(3), 527-543, 2013.

11. Walpersdorf, A., I. Manighetti, Z. Mousavi, F. Tavakoli, M. Vergnolle, D. Hatzfeld, **M. A. Jadidi**, et al.,"*Present-day kinematics and fault slip rates in Central-Eastern Iran, derived from 11 years of GPS data*", *J. Geophys. Res., doi:10.1002/2013JB010620, 2014.*

12. **M. A. Jadidi,** A. Walpersdorf, H. Nankali, Y. Djamour, "Establish a New Strategy to Analysis of Iranian Permanent GPS network", *NCC Journal of Surveying*, 17 (82), 2006.

2.1.2 Peer Reviewed Conferences

13. **M. Jadidi,** J. Harris, A. Maxwell, K. Zhaung, The Unexpected Journey: Reinventing Lassonde's flagship Experiential Renaissance Engineering Course, thanks to Covid, CEEA ACEG June 20-22, 2021, submitted.

14. **M. Jadidi, M. Usman,** Virtual Field Surveying: A Gamification Approach, Canadian Engineering Education Conference CEEA ACEG, June 20-22, 2021, submitted.

15. Bolkas D., **Jadidi M.A.,** Chiampi J., **Usman M.** *"Web based Game vs Virtual Reality Field Surveying Labs Towards Enhancing Experiential Education",* American Society of Engineering Education Conference, Long Beach California, June 27-30 2021.

16. Deborah Carberry, **Amirhossein Nourbakhsh, Jay Karon**, Mark Nicholas Jones, **Mojgan Jadidi**, Kyarash Shahriari, Christian Beenfeldt, Martin Peter Andersson and Seyed Soheil Mansouri, *"Quantum Computing Education in Chemical and Biochemical Engineering",* The 31st European Symposium on Computer Aided Process Engineering, Istanbul Turkey, June 2021

17. **Aman Ullah**, M. Jadidi, G. Sohn, *"Automatic Ontology Generation of BIM And GIS Data",* ISPRS Archive, XXIV ISPRS Congress 2020, France.

18. **Xuyang Han,** C. Armenakis, **M. Jadidi,** *"Marine Trajectory Clustering Using Optimized DBSCAN"*, ISPRS Archive, XXIV ISPRS Congress 2020, France.

19. **S. Keykhosravi**, U. Khan, **M.A. Jadidi**, *"The Low Impact Development Demand Index: a geospatial framework to identify LID demand for three Canadian cities",* 2nd International Conference on New Horizons in Green Civil Engineering (NHICE-02), Victoria, Canada from Wednesday, April 29th to May 1st, 2020.

20. **M. Koushafar**, M Gordon, **M. Jadidi**, *"Automated measurements of smokestack plume rise using video images"*, Canadian Meteorological and Oceanographic Society Conference, Montreal, Canada, 2019.

21. **A.H. Nourbakhsh**, M. Delavar, **M. Jadidi**, B. Moshiri, *"Reducing the Time to Get Emergency Assistance for Accident Vehicles on the Road Through an Intelligent Transportation System"*, ISPRS International Joint Conferences SMPR and GIResearch 2019, Tehran, 2019.

22. **S. Keykhosravi**, U. Khan, **M.A. Jadidi,** *"A physical – based geospatial approach for strategic allocation of Low Impact Development (LID) based on flooding, environmental and socio – economical benefit of LID*", CAWQ 2019, Toronto.

23. **S. Keykhosravi**, U. Khan, **M.A. Jadidi,** *"Developing a Hydrological Index (HHI) for the strategic allocation of low Impact development: A city of Toronto case study*", CSCE Annual Conference, Montreal, 2019.

24. **H. Kiavarz**, **M. Jadidi**, A. Rajabifard, G. Sohn, *"BIM-GIS Oriented Intelligent Knowledge Discovery"*, Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci., XLII-4/W10, 79-82, 2018.

25. <u>Hor, A.-H</u>., Sohn, G., Claudio, P., **Jadidi, M.,** and Afnan, A. *"A Semantic Graph Database For BIM-GIS Integrated Information Model for an Intelligent Urban Mobility Web Application"*, ISPRS Ann. Photogramm. Remote Sens. Spatial Inf. Sci., IV-4, 89-96, https://doi.org/10.5194/isprs-annals-IV-4-89-2018, 2018.

26. <u>S. Dibadin</u>, **M. Jadidi,** C. Armenakis, *"Towards the Development Of Crowdsource Bathymetric Mapping Platform"*, FOSS4G -NA 2018 – Academic Track, St-Louise, USA, 2018.

27. <u>S. Keykhosravi</u>, U. Khan, **M.A. Jadidi, "***A comprehensive review on available tools for modeling low impact development (LID) techniques in lab, small and large-scale watersheds"*, ICWMM 2018, Feb 28 – March 02, Toronto.

28. <u>A-H. Hor</u>, **M. A. Jadidi**, G. Sohn, *"BIM-GIS Integrated Geospatial Information Model Using Semantic Web Services and RDF graphs"*, ISPRS Annals, III (4), 73-79, 2016.

29. **M. A. Jadidi,** M.A. Mostafavi, Y. Bédard, *"Fuzzy-based Spatial Knowledge Discovery in Service of Efficient Coastal Erosion Risk Assessment"*, *Spatial Knowledge Information Conference*, Banff, 7-9 Feb 2014.

30. *M. A. Jadidi,* M.A. Mostafavi, Y. Bédard, B. Long, *"Toward a Spatial Decision Support System to Improve Coastal Erosion Risk Assessment: Modeling and Representation of Risk Zones",* 35th *FIG Working Week,* Rome, Italy, 6-10 May 2012.

31. Walpersdorf, F. Tavakoli, D. Hatzfeld, **M. A. Jadidi**, et al., *"A New Present-Day Velocity Field for Eastern Iran"*, *Geophysical Research, EGU General Assembly*, Vol:11, 2009.

32. Walpersdorf, F. Tavakoli, D. Hatzfeld, I. Manighetti, **M. A. Jadidi**, et al., *"NS Shear Kinematics across the Lut Block from a Dense GPS Velocity Field in Eastern Iran"*, *Eos Trans. AGU,* Fall Meet. Suppl., G33D-0668, 2009.

33. Walpersdorf, F. Tavakoli, D. Hatzfeld, **M. A. Jadidi**, et al., "*10 Years of GPS Measurements in Iran to Evidence the Present-Day Deformation Pattern from the Zagros to the Kopeh Dagh"*, *XIV Assembly of Wegener*, Darmstadt, 2008.

34. **M. A. Jadidi,** A. Walpersdorf, H. Nankali, A. Aghamohammadi, F. Tavakoli, Y. Djamour, *"Analysis of the Different Strategies for IPGN Processing and Determination of the Best ITRF Reference Frame for it"*, *85 NCC Geomatics Conference*, Tehran, Iran, 2006.

2.1.3 Technical and Conference Presentations

35. **M. Jadidi**, Gamification enhancing Experiential Learning, York University Experiential Learning Conference, Feb 4th, 2021.

36. **M. Jadidi**, M. Perras, "*Augmented Reality in First Year Engineering Experience".* Teaching Focus Conference, York University, 2020. (postpone to May 2021)

37. <u>Xuyang Han,</u> C. Armenakis, **M. Jadidi,** *"Optimize DBSCAN Clustering Method via Applying Mahalanobis Metric to Improve Marine Trajectory Clustering and Anomaly Detection"*, AOLS AGM Poster Competition, 2020.

38. <u>Aman Ullah</u>, M. Jadidi, *"Bridging the gap between BIM and GIS using Semantic Web"*, GIS Research Conference, Toronto, 2020.

39. <u>S. Keykhosravi</u>, U. Khan, **M. Jadidi,** *"Developing Low Impact Development (LID) Site Selection Tool Using Model Builder and Python"*, GIS Research Conference, Toronto, 2020

40. **M. A. Jadidi,** *"New Trends on Big Transit Data Analytics & Visualization Systems",* Transportation Research Symposium at York University, June 2017

41. **M. A.Jadidi** & <u>J. Karon</u>, *"Transit: Big Data for big decision",* GIS Research in Education Conference, Toronto, Oct 2017.

42. <u>S. Sahni</u> & **M. A. Jadidi** "*How Accessible is the York University Keele Campus for People with Disabilities?"* GIS Research in Education Conference, Toronto, Oct 2017.

43. *M. A. Jadidi* & V. Thomas**,** *" Retour sur la 35e semaine professionnelle de la FIG"*, *Géomatique*, 39(4), 2013.

44. **M. A. Jadidi,** M.A. Mostafavi, Y. Bédard, "*Dealing with Uncertainty in Coastal Risk Assessment: Fuzzy Representation of Coastal Risk Zones", Global Geospatial Conference,* Quebec City*, 14-17 May 2012.*

45. **M. A. Jadidi,** M.A. Mostafavi, Y. Bédard, B. Long, "Développement d'un outil géo-décisionnel pour améliorer l'évaluation du risque d'érosion côtière" *Géomatique 2011*, Montréal, 12-13 Oct 2011.

46. **M. A. Jadidi,** M.A. Mostafavi, B. Long, E. Propeck- Zimmermann, "*Where are we in Risk Assessment of Coastal Erosion Using GIS?*" *Géomatique 2009*, Montreal, 21-22 Oct 2009.

2.2   Funding

2020 – 2022: AIF Category I: "A new realm of Experiential Education using an Augmented Reality Sandbox"; a first kind Engineering Education research team collaborating with Dr Matthew Perras, Dr Usman Khan, and Dr Melanie Baljko, $99,150 (Lead)

2019 – 2020: Lassonde School of Engineering, "Developing on Learning Analytics Datacube System Architecture for Lassonde School of Engineering"; one course release working closely with accreditation strategist and visual analytics team to conceptualize a school-wide backend system. (Lead)

2018– 2020 Mitacs Accelerate Grants $53,333 (Co-Investigator with Dr Costas Armenakis)

2017– 2019: COMREN-CIDCO $45,580 (Co-Investigator with Dr Costas Armenakis)

2017– 2022: NSERC Discovery Grant $100,000 (Investigator)

2016 – 2020: York University Startup Fund, $50,000 (Investigator)

2016 – 2017: BRAIN Alliance, Ontario Research Fund (in-kind contribution) (Collaborator)

2.3   Professional Service
2.3.1 Paper Review

2020– Present	Reviewer, Geomatica Journal
2019 – Present	Reviewer, ISPRS Congress 2019, Nice, France
2017/9 – Present	Reviewer, Cartographica, Journal
2016/9 – Present	Reviewer, ISPRS International Journal of Geo-Information, Journal
2016/2 – 2016/9	Reviewer, Geospatial Big Data – Trends, Applications, and Challenges (GBD – TAC) 2016, Conference
2016/3 – Present	Reviewer, Transaction in GIS, Journal
2014/9 – Present	Reviewer, Journal of Remote Sensing and GIS, Journal
2014/9 – Present	Reviewer, Sustainability, Journal
2014/9 – Present	Reviewer, Water, Journal
2014/9 – Present	Reviewer, Climate Change, Journal
2014/9 – Present	Reviewer, Journal of Earth Science Informatics, Journal
2014/9 – Present	Reviewer, Journal of Environmental Informatics, Journal

2.3.2 Professional Association Membership

2020 – Present	American Society of Engineering Education (ASEE) – Lassonde School of Engineering Representative
2019 – Present	ISPRS GeoInformation Reviewer Board
2019 – Present	Canadian Board of Professional Surveying (CBEPS) – Technical Examiner
2018 – Present	Etobicoke Professional Engineering of Ontario Chapter, Treasurer
2018 – Present	Canadian Institute of Geomatics, Toronto Branch, Treasurer
2017 – Present	Etobicoke Professional Engineering of Ontario Chapter member
2016 – Present	Professional Engineering of Ontario (PEng)
2016 – Present	Board Member, International Society of Photogrammetry and Remote Sensing (ISPRS)-Commission IV/W07 Geo-data Management
2016 – Present	Active member, International Society of Photogrammetry and Remote Sensing (ISPRS)-Commission IV/W02: Ontologies, Semantics, and Knowledge Representation for Geospatial Information
2011 – Present	Canadian Institute of Geomatics, active member
2010 – Present	IEEE Geoscience member
2010 – Present	IEEE Women in Engineering member
2011 – 2014	Board member, Canadian Institute of Geomatics – Champlain Section, Quebec City.
2010 – 2011	President of Student Association (AGREGE), Laval University, Quebec City.

2.3.3 Conference Organization

2020	ESRI Canada App Challenge, ECCE York University
2019	GIS Day Seminars, Lassonde School of Engineering
2019	ESRI Canada App Challenge, ECCE York University
2018	GIS Day Seminars, Lassonde School of Engineering
2018	ESRI Canada App Challenge, ECCE York University
2017	GIS Day Seminars, Lassonde School of Engineering
2017	ESRI Canada App Challenge, ECCE York University
2017	Scientific Committee, ISPRS Workshop on Modeling and Managing Cartographic Data, Washington, DC, July 2, 2017
2016	Member of Program Committee, International Workshop on Geospatial Big Data – Trends, Applications, and Challenges, London, UK.
2015	Member of Local Organizing Committee, International Conference on Unmanned Aerial Vehicles in Geomatics, Toronto.
2014	Member of Local Organizing Committee, Joint International Conference on Geospatial Theory, Processing, Modeling and Applications, Toronto.
2013	Organizing Scientific Poster Competition, Champlain Evening Event, Canadian Institute of Geomatics – Champlain Section, Quebec City.
2012	Organizing "Geomatics Expert Stories" Session, International Geospatial Conference, Quebec City.
2010 – 2011	Communication and Administration Officer of Executive Committee of GEOIDE Summer School, University of Toronto.
2010	Member of Local Organizing Committee, 7th International Symposium in Voronoi Diagram Science and Engineering (ISVD07), Quebec City.

2.3.4 Advisory and Consultation

2019: Examiner, 04-Geom-A1: Surveying and 04-Geom-A7: Geospatial Information Systems Technical Course Exam, Professional Engineering of Ontario.

2018: Examiner, 04-Geom-A1: Surveying Technical Course Exam, Professional Engineering of Ontario.

2017- 2018: Executive member of Rosethorn Junior School STEM program.

2017: Examiner, 04-Geom-A7: Geospatial Information Systems Technical Course Exam, Professional Engineering of Ontario.

2016: Member of Board Committee on Crowd source data of building footprint onto OpenStreetMap, initiated by Statistics Canada**.**

3. Teaching and Student Supervision

3.1   Undergraduate Courses

Fall 2016   LE/ESSE 3620 3.00 Adjustment Calculus (~15 students)
               LE/ESSE 4220 3.00 Remote Sensing of Earth's Surface (~40 students)

Winter 2017   LE/ESSE 3620 3.00 Adjustment Calculus (~15 students)
               LE/ESSE 4600 3.00 GIS and Data Integration (~30 students)

Summer 2017 LE/ESSE 2630 Field Survey (~105 students)

Fall 2017   LE/ESSE 3620 3.00 Adjustment Calculus (~15 students)
               LE/ESSE 3600 3.00 GIS and Spatial Analysis (~20 students)
               LE/ESSE 1010 3.00 The Dynamics of Earth and Space Geodesy (~65 students)

Winter 2018   LE/ESSE 3620 3.00 Adjustment Calculus (~15 students)
               LE/ESSE 1012 3.00 Earth Environment (~280 students)

Summer 2018 LE/ESSE 2630 Field Survey

Fall 2018   LE/ESSE 3600 3.00 GIS and Spatial Analysis (~37 students)
               LE/ENG 1101 4.00 Renaissance Engineer 1: Ethics, Communication & Problem Solving (~120 students)

Winter 2019   LE/ESSE 1012 3.00 Earth Environment (~276 students)

Summer 2019 LE/ESSE 2635 3.00 Land Surveying for Civil Engineers (~96 students)

Fall 2019   LE/ESSE 3600 3.00 GIS and Spatial Analysis (~30 students)
               LE/ENG 1101 4.00 Renaissance Engineer 1: Ethics, Communication & Problem Solving (~120 students)

Winter 2020   LE/ESSE 1012 3.00 Earth Environment (~270 students)

Summer 2020 LE/ESSE 2635 3.00 Land Surveying for Civil Engineers (~70 students) – offer the course first time as virtual field course practice

Fall 2020 LE/ESSE 3600 3.00 GIS and Spatial Analysis (~30 students)
LE/ENG 1101 4.00 Renaissance Engineer 1: Ethics, Communication & Problem Solving (~110 students)

Winter 2021 LE/ESSE 2615 Fundamental of Geomatics Engineering (15 students)

Summer 2021 LE/ESSE 2635 3.00 Land Surveying for Civil Engineers (~100 students)

3.2 Graduate Courses

Fall 2016 GS/ESS 5180 3.00 Physical Principles of Remote Sensing (3 students)

Winter 2017 GS/ESS 5400 3.00 Geographical Information Systems and Advanced Spatial Analysis (5 students)

Fall 2018 GS/ESS 5110 3.00 Direct Reading, Advanced Geospatial Database Management Systems (3 students)

3.3 Guest Lecturer

June 2017 Reshape Decision Practice: Using System of System Engineering and Big Data Visualization in Transit System, University of Windsor, Canada

June 2019 Geospatial Data Analytics, SHADS Canada Summer School

3.4 Capstone Project

F17 – W18 Capstone Project Supervisor: **EZ-Ways:** An indoor-outdoor navigation app for people with physical disabilities of YorkU Keele Campus. (Team: Dawid Szeremeta, Jesse D'Olivera, Agata Szeremeta, Joshua Karon) – Winner of inclusivity and service to community Award!

F19 – W20 Capstone Project Supervisor Developing an Indoor/outdoor way finding app of York University Campus, (Team: Sean Doyle, Abarna Kucheri Subburaman, Elijah Nnorom, Sara Attalla, Camilla Castaldo, Jeffrey Davis, Derek Abernethy)

3.5 HQP Supervision

High School Students
1. Sejal Sahni, Grade 11 High school, "How Accessible Is York University Keele Campus for People With Physical Disability.

Undergrad Students
1. Joshua Karon, Research Assistant, Geomatics Engineering student, ESSE Dept., York University, **Supervisor:** May 2017 – May 2018, Title: Big Transit Data Analytics System

Design (completed, MapSted Inc)

2.   Sepideh Didaban, Geomatics Engineering student, ESSE dept., York University, **Supervisor:** May 2017- Sept 2017, Title: "Develop A GIS System Presenting The Demography Of GE And EATS Programs". (Master Student)

3.   Jacob Karon, USRA Research Assistant, Computer Science Student, EECS Dept, York University, **Supervisor:** May 2018 – Sept 2019, Title: Crowdsourced database Design and administration, System Architecture Developer. (Developer)

4.   Alex Xu, USRA Research Assistant, Computer Security Student, EECS Dept, York University, **Supervisor:** May 2018 – August 2018, Title: Crowdsourced Front-End Interface Design (completed)

5.   Nhi Voung, LURA Research Assistant, Computer Engineering Student, EECS Dept, York University, **Supervisor:** May 2018 - August 2018, Title: Big Transit Data Analytics (completed)

MSc Students

1.   Shohreh Sahebi, MSc Student, GIS and RS Dept., Beheshti University, Iran, **Advisor:** Jan 2015-Sept 2016, Geospatial business intelligence system for drought risk assessment. She successfully graduated with Excellence qualification. (GIS Consultant at PTA)

2.   Muhammed Usman, Research Assistant, ESSE Dept., York University, **Mentor:** Feb 2016-Sept 2016, Title: Dynamic visualization of transit data and 3D web visualization. (PhD in Progress)

3.   Amirhossein Nourbakhsh, MSc Student, Geomaitcs dept., University of Tehran, Iran, **Advisor:** July 2017 – Aug 2019, Title: "Developing a data-driven Urban Traffic Intelligent System for reducing accident by improving driving safety". (MSc Student York University)

4.   Sepideh Dibadin, MSc student, ESSE Dept., York University, **Co-Supervisor**: Jan 2018 – Present, Title: Development of Crowd-sourced bathymetric Data management Platform, (MSc in progress)

5.   Aman Ullah, MSc student, ESSE Dept., York University, **Supervisor**: May 2018 – Present, Thesis Title: BIM-GIS Interoperability with IoT Data Using Semantic Web Technology, (MSc in progress)

6.   Xuyang Han, MSc Student, York University, **Co-Supervisor**: Sept 2018 –Present, Title: Development of Collaborative Visual Analytics platform for bathymetric Data, (MSc in progress)

7.   Amirhossein Nourbakhsh, MSc Student, ESSE Dept., York University, **Supervisor**: Jan 2020 – present, BIM and IoT, (MSc in progress)

PhD Student

1.   El-Hadi Hor, PhD Candidate, ESSE Dept., York University, **Mentor:** Sept 2014- Aug 2016 and **Committee member:** Aug 2016 – Dec 2019, Title: BIM-GIS data integration. (GIS Developer at Weather Network)

2.   Sahareh Keykhosravi, PhD Candidate, Civil Engineering Dept., York University, **Co-Supervisor:** May 2017 – Present, Title: Pluvial Flood Risk Reduction Using Low Impact Development (LID) Techniques, (PhD in Progress)

3. Hamid Kiavarz, Part-time PhD Candidate, ESSE Dept., York University, **Supervisor:** May 2018 – Present, Title: Knowledge discovery in 3D spaces within an integrated BIM-GIS and IoT platform. (PhD in progress)

4. Mohammad Koushafar, PhD Candidate, ESSE Dept., York University, **Committee member:** May 2018 – Present, Title: "stack smoke detection using deep learning". (PhD in progress)

5. Muhammad Kamran, PhD Candidate, ESSE Dept., York University, **Committee member:** Sept 2019 – Present, Title: "Automatic Reconstruction of 3D Building Model using deep learning". (PhD in progress)

Examination Committee

1. Andrew Joachim Lohmann, MSc Candidate, Earth and Space Science and Engineering, York University, Star Imager For Nanosatellite Applications, Supervisor: Dr. Regina Lee, Sept 2017

2. Rojin Majd Zarringhalam, MSc Candidate, Department of Electrical and Computer Engineering and Computer Science, York University, Title of Thesis: Consonant Classification Based on Tongue Tip Trajectories, Supervisor: Dr. Melanie Baljko, Dec 2017

3. Leihan Chen, MSc Candidate, Earth and Space Science and Engineering, York University, Multi-scale Hierarchical Conditional Random Field for Railway Electrification Scene Classification Using Mobile Laser Scanning Data, Supervisor: Dr. Gunho Sohn, June 2018

4. Garrett Seepersad, PhD Candidate, Earth and Space Science and Engineering, York University, Improving Reliability and Assessing Performance Of Global Navigation Satellite System Precise Point Positioning Ambiguity Resolution, Supervisor: Dr Sunil Bisnath.

5. Abdullah T.A.B Albourae, PhD Candidate, Earth and Space Science and Engineering, York University, Architectural Heritage Exploration and Visualization Using Interactive and Immersive Technologies, Supervisor: Dr Costas Armenakis, Aug 2018

6. Elisabeth Smith, MSc Candidate, Earth and Space Science and Engineering, York University, Method for Using A Laser and Camera to Determine The Turbidity Of Methane Lakes On Titan, Supervisor: Dr John Moores, Sept 2018

7. Houda Lamarfa, MSc Candidate, Geomatics department, Laval University, Développement d'une méthode multi-échelle de traitement des nuages de points LiDAR mobile pour la détection de convergence des tunnels miniers souterrains, Supervisor: Dr. Mir Abolfazl Mostafavi, Nov 2018.

8. Farah Tasneem, MSc Candidate, ESSE, York University, Use of Geospatial Methods to Characterize Dispersion of The Emerald Ash Borer In Southern Ontario, Canada, Supervisor: Dr Boaxin Hu, Feb 2019.

9. Benjamin Bronson, MSc Candidate, ESSE, York University, SAR Phase Unwrapping Using Path-Based Least-Squares Phase Estimation and Region-Growing with Polynomial-Based Phase Prediction, Supervisor: Dr Jiangou Wang, June 2019 – Chair of Committee

10. Catheryn Ryan, MSc Candidate, ESSE, York University, The Distribution of Organic

Material in Mars-Analogue Volcanic Rocks, as Determined with Ultraviolet Laser-Induced Fluorescence Spectroscopy, Supervisor: Dr Mike Daly, June 2019 – Chair of Committee

11. Knag Zhao, MSc Candidate, ESSE, York University, Using Deep Neural Networks for Automatic Building Extraction with Boundary Regularization from Satellite Images, Supervisor: Dr Gunho Sohn, August 2019 – Chair of Committee

12. Ali Baligh, PhD Candidate, ESSE, York University, 3D Reconstruction of Indoor Corridor Model Using Single Imagery and Video Sequences, Supervisor: Dr Gunho Sohn, August 2019 – Chair of Committee

13. Yousif Abdul-kadhim Mousa, PhD, Remote Sensing and Photogrammetry, Curtin University, Australia, Building Footprint Extraction from LiDAR Data and Imagery Information, Supervisor: Dr Petra Helmholz, 2020.

14. Saim Mehmood, MSc Candidate, EECS, York University, Learning Semantic Relationships of Geographical Areas Based on Trajectories, supervisor: Dr. Manos Papagelis, 2020.

15. Kunwoo Park, MSc Candidate, ESSE, York University, Ultra-Wideband Based UAV Positioning in GNSS-Denied Environment, Supervisor: Dr Gunho Sohn, April 2020.

16. Eros Gulo, MSc Candidate, ESSE, York University, Indoor Positioning Using WLAN Signal Fingerprint Matching and Path Evaluation with Retroactive Adjustment on Mobile Devices, supervisor: Dr Gunho Sohn, May 2020 – Chair of Committee.

17. Breannon Lewis, Mission Scheduling and Optimization Algorithm For Small Satellite Constellations, Supervisor: Dr Regina Lee and Dr Franz Newland, Sept 2020.

4. Service
4.1 Faculty and Department Committees

2020 – present	Space Engineering Faculty Search Committee member (Chair: Dr Franz Newland)
2019 – Present	Graduate Attribute Lead (GAL) (Reporting to Chair of ESSE and Vice Dean)
2019 – 2020	Leading Learning Analytics data cube development Project (reporting to Vice Dean)
2019 – Present	Space Engineering Curriculum Committee (Chair: Dr Franz Newland)
2019 – Present	Program Assessment Group on Evaluation and Systems (PAGES) Committee (Chair: Vice Dean)
2018 – Present	Mechanical Engineering Faculty Search Committee (Dr George Zhu)
2018 – Present	ESSE T&P Adjudication Committee (Peter Taylor)
2018 – 2019	Faculty LURA/URSA Award Committee (Associate Dean of Research)
2017 – Present	ESSE T&P File Preparation Committee – 4 Faculties Files
2017 – Present	ESSE LURA/URSA Award Committee (Chairs: Dr John Moores / Dr Jinjun Shan)
2017 – Present	LE Co-op/Internship Report Evaluation Group
2017 – Present	LE Award Committee (Chair: Dr Rashid Bashir)
2017	LE hearings – Academic Honesty Committee (Seven times)
2016 – Present	ESSE Canadian Board of Examiner for Professional Surveyor (CBEPS) Accreditation Committee, member (Chair: Dr Costas Armenakis)
2016 – Present	Geomatics Engineering Curriculum Committee
2016 – 2019	LE Co-op/Internship Committee (Chair: Bob Eichvald)

2016 – 2019   Faculty and ESSE Outreach Committee (Chair of ESSE)
2016 – Present   ESSE Young Faculty Committee

4.2   University Related Outreach Activities

2020 – Nov   Judge, Lassonde Engineering Competition
2020– 2021   Organizer, Engineering Idol Competition – High school level, initiated by PEO Etobicoke Chapter to promote engineering and STEM in high school
2020 – present   Faculty mentor, York University STEM Fellowship
2020 – present   Faculty advisor, Future Engineering club
2020 – August   Faculty Advisor, Hellen Carswell STEAM for Women Program
2020 – Feb   Judge, National Geomatics Competition, University of Waterloo
2019 – Nov   Judge, Lassonde Engineering Competition
2019 – 2020   Organizer, Engineering Idol Competition – High school level, initiated by PEO Etobicoke Chapter to promote engineering and STEM in high school
2019 – Oct   Lassonde Declaration Day
2019 – Sep   Ontario University Fair
2019 – Aug   BEST Boot camp, Geocaching Activity
2019 – July   Summer Research Program – Geocaching activity
2019 – July   Lassonde Community Interview (two sessions)
2019 – Aug   Judge, Summer Research Program Competition
2019 – Apr   York University Open House
2019 – Apr   York University Open House
2018 – Nov   York University Fall Campus Day
2018 – Oct   Judge, York Engineering Competition
2018 – Nov   Lassonde Declaration Day
2018 – Nov   Ontario University Fair
2018 – 2019   Organizer, Engineering Idol Competition – High school level, initiated by PEO Etobicoke Chapter to promote engineering and STEM in high school
2018 – August   50:50 Challenge Girls: Hosting 70 High School girls Geomatics workshop
2018 – May   Lassonde Discovery Day
2018   Judge, Lassonde Undergraduate Research Conference
2018 – Apr   Lassonde Open House
2017 – Nov   Judge, York Engineering Competition
2017 – Sept   Ontario University Fair
2017 – Nov   Fall Campus Day
2017 – Nov   Lassonde Declaration Day
2017 – Nov   Running GIS Day@ York U: across campus event with a series of GIS related seminars from Industries, grad students from ESSE, Civil, Environmental Studies, and Geography departments.
2017 – Jul-Aug   50:50 Challenge Girls to Engineering School Summer Research Program
2017 – Mar   ESSE Outreach Day
2016 – Sept   Ontario University Fair

4.3   University Related Development Activities

2016 – present   Associate Director of ESRI Center of Excellence, Lassonde School of Engineering, York University