sybilderrible.com   csun.uic.edu

Sybil Derrible
Urban Engineer

Current Position

University of Illinois Chicago

Professor, Department of Civil, Materials, and Environmental Engineering

Research Professor, Institute for Environmental Science and Policy (joint appointment)

Professor, Department of Computer Science (courtesy appointment)

Director, Complex and Sustainable Urban Networks (CSUN) Laboratory

Research Interests

My work is at the nexus of urban metabolism, infrastructure planning and design, data science / artificial intelligence, complexity science, environmental justice, and future studies to redefine how infrastructure is planned, designed, built, and operated, championing principles of livability, sustainability, and resilience.

Address

2095 Engineering Research Facility
842 W. Taylor Street (M/C 246)
Chicago, IL 60607-7023
United States
Tel: +1 312 996 2429
Email: derrible@uic.edu

Highlights

Author of textbook *Urban Engineering for Sustainability* (MIT Press, 2019)

Lead Author on the United Nations Environmental Program (UNEP) Seventh Global Environment Outlook (GEO-7) assessment report.

Recipient of the American Society of Civil Engineers (ASCE) Walter L. Huber Civil Engineering Research Prize and US National Science Foundation (NSF) CAREER Award.

Recognized in the top 2% researcher in my field for career and single-year impact by Elsevier since 2019.

Selected participant to the National Academy of Engineering (NAE) Grainger Foundation Frontiers of Engineering Symposium.

Editorial responsibilities with Scientific Reports, the ASCE Journal of Infrastructure Systems, and Cleaner Production Letters.

Chair of AMR10, the Critical Transportation Infrastructure Protection Committee at the Transportation Research Board (TRB).

Web: https://sybilderrible.com/
Research Group: https://csun.uic.edu/
LinkedIn: sybilderrible

Table of Content   **Page**

01 Education, Skills, & Web Presence

Education

Massachusetts Institute of Technology (United States)   2012
Post-Doctorate at Singapore-MIT Alliance for Research and Technology (SMART)

University of Toronto (Canada)   2010
Ph.D. in Civil Engineering
Thesis title: The Properties and Effects of Metro Network Designs

Ecole Centrale of Lyon (France)   2006
D.E.S.O. in Industrial Engineering: Innovation, Development
Exchange under Erasmus program

Imperial College London (UK)   2006
M.Eng. in Mechanical Engineering
1st class honours

Languages

French: native
English: fluent
Spanish: conversational

IT skills

Python (including Scikit-Learn, TensorFlow, NumPy, SciPy, NetworkX, MatPlotLib libraries), R, HTML, CSS, JavaScript, XML, C++, LaTeX, ArcGIS, AutoCAD, Adobe (Photoshop, Illustrator, InDesign, Dreamweaver), MS Office (Word, Excel, PowerPoint)

Web Presence

Academic

CSUN (research group)
Professional website
UIC Faculty Profile
ORCID
GitHub
Google Scholar

Social Media

LinkedIn
Mastodon
Medium
Twitter

02 Professional Experience

University of Illinois Chicago – Chicago (United States)   Aug. 2023 – Pres.
Professor, Department of Civil, Materials, and Environmental Engineering
Research Professor, Institute for Environmental Science and Policy (joint appointment)
Professor, Department of Computer Science (courtesy appointment)
Director, Complex and Sustainable Urban Networks (CSUN) Laboratory

Institute for Research on Urban Sciences and Techniques   Aug. 2020 – Pres.
Institut de Recherche sur les Sciences et Techniques de la Ville (IRSTV) – Nantes (France)
Associate Researcher

University of Illinois Chicago – Chicago (United States)   Aug. 2017 – Aug. 2023
Associate Professor, Department of Civil, Materials, and Environmental Engineering
Research Associate Professor, Institute for Environmental Science and Policy (joint appointment)
Associate Professor, Department of Computer Science (courtesy appointment)
Director of the Complex and Sustainable Urban Networks (CSUN) Laboratory

University of Transport Technology – Hanoi (Vietnam)   Jun. 2019 – Nov. 2019
Visiting Professor, Faculty of Civil Engineering

University of Illinois Chicago – Chicago (United States)   Aug. 2012 – Aug. 2017
Assistant Professor, Department of Civil and Materials Engineering
Research Assistant Professor, Institute for Environmental Science and Policy (joint appointment)
Director of the Complex and Sustainable Urban Networks (CSUN) Laboratory

Massachusetts Institute of Technology – Singapore   Aug. 2011 – Jul. 2012
Visiting Research Fellow, Singapore-MIT Alliance for Research and Technology – Future of Urban Mobility

University of Toronto – Toronto (Canada)   Aug. – Dec. 2010
Post-Doctoral Researcher, Department of Civil & Mineral Engineering and Cities Centre

University of Toronto – Toronto (Canada)   Sep. 2006 – Jul. 2010
Research Assistant and Teaching Assistant, Department of Civil & Mineral Engineering

Accenture Paris – Paris (France)   Apr. – Jul. 2006
Business Analyst

RONA – Saint Pierre (Saint Pierre and Miquelon)   Jun. – Aug. 2005
Key Account Manager in Industrial Sales

Imperial College London – London (United Kingdom)   Jun. – Aug. 2004
Research student in Strength of Polymers

03 Publications

Refereed Publications

1. Chauhan, R.S., Sutradhar, U., Rozhkov, A., & **Derrible, S.,** "Causation versus Prediction: Comparing Causal Discovery and Inference with Artificial Neural Networks in Travel Mode Choice Modeling", under review, available on arXiv

2. Lapamonpinyo, P., **Derrible, S.,** & Corman, F., "A Python tool and database of Amtrak departure and arrival times with weather information", under review, available on engrXiv

3. Chauhan, R.S., Riis, C., Adhikari, S., **Derrible, S.**, Zheleva, E., Choudhury, C., & Pereira, F., 2024 "Determining Causality in Travel Mode Choice", *Travel Behaviour and Society*, in press

4. Chauhan, R.S, Bhagat-Conway, M.W., Magassy, T., Corcoran, N., Rahimi, E., Dirks, A., Pendyala, R., Mohammadian, A., **Derrible, S.**, & Salon, D., 2024 "COVID Future Panel Survey: A Unique Public Dataset Documenting How U.S. Residents' Travel Related Choices Changed During the COVID-19 Pandemic", *Transportation*, in press

5. Banik, S., Balasubramanian, K., Manna, S., **Derrible, S.**, & Sankaranarayananan, S., 2024 "Evaluating generalized feature importance via performance assessment of machine learning models for predicting elastic properties of materials", *Computational Materials Science*, 236:112847

6. Wang, W., Zhou, Z., Derrible, S., Song, Y., & Lu, Z., 2024 "Deep Learning Analysis of Smart Meter Data from a Small Sample of Room Air Conditioners Facilitates Routine Assessment of their Operational Efficiency", *Energy and AI*, 100338

7. Wu, M., Qi, C., **Derrible, S.**, Choi, Y., Fourie, A., & Ok, Y.S., 2024 "Regional and global hotspots of arsenic contamination of topsoil identified by deep learning", Communications Earth & Environment, 5(1):10

8. Sutradhar, U., Spearing, L., & **Derrible, S.**, 2024 "Depopulation and associated challenges for US cities by 2100", *Nature Cities*, 1(1):51-61 (downloaded 55k+ times and featured in more than 100+ news articles)

9. Jalloul, H., Choi, J., Manheim, D., Yesiller, N., & **Derrible, S.**, 2024 "Incorporating Disaster Debris into Sustainable Construction Research and Practice", *Journal of Construction Engineering and Management*, 150(1): 02523001

10. Rozhkov, A., Movahedi, A., & **Derrible, S.**, 2023 "A machine learning framework to assess the impact of the COVID-19 pandemic on electricity consumption patterns", *Cities*, 143:104639

11. Acosta-Sequeda, J., Palani, H., Movahedi, A., Karatas, A., & **Derrible, S.**, 2023 "Residential Electricity Consumption Patterns and their Relationship to Commute Times by Mode", *Findings*, DOI:10.32866/001c.87940

12. Boda, P., Fusi, F., Miranda, F., Palmer, G.J.M., Flax-Hatch, J., Siciliano, M., Sambanis, A., Johnson, L., **Derrible, S.**, & Cailas, C. 2023 "Environmental Justice through Community-Policy Participatory Partnerships", *Journal of Environmental Protection*, 14:616-636

13. Sutradhar, U., Badhrudeen, M., Chauhan, R.S., & **Derrible, S.** 2023 "A Survey to Investigate Transport Conditions in Depopulating Cities in Illinois", *Transportation Research Interdisciplinary Perspectives*, 21:100886

14. Palani, H., Acosta-Sequeda, J., Karatas, A., & **Derrible, S.**, 2023 "The role of socio-demographic and economic characteristics on energy-related occupant behavior", *Journal of Building Engineering*, 75: 106875

15. Magassy, T.B., Batur, I., Mondal, A., Asmussen, K.E., Bhat, C.R., Salon, D., Bhagat-Conway, M., Javadinasr, M., Chauhan, R., Mohammadian, A., **Derrible, S.**, & Pendyala, R., 2023 "Evolution of Mode Use During the COVID-19 Pandemic in the United States: Implications for the Future of Transit", *Transportation Research Record*, DOI: 10.1177/03611981231166942, online first

16. Acosta-Sequeda, J., & **Derrible, S.**, 2023 "GTdownloader: A Python Package to Download, Visualize, and Export Georeferenced Tweets From the Twitter API", *Journal of Open Research Software*, 11:7

17. Mulrow, J., Bozeman III, J., Pai, S., Grubert, S., & **Derrible, S.**, 2023 "Energy-Material Cycles: A materials-based perspective of vehicle energy systems", *Resources, Conservation and Recycling*, 196:107039

18. Jayasinghe, P.A., **Derrible, S.**, & Kattan, L., 2023 "Interdependencies Between Urban Transport, Water, and Solid Waste Infrastructure Systems", *Infrastructures*, 8(4):76

19. Movahedi, A., Bahador Parsa, A., Rozhkov, A., Lee, D., Mohammadian, A., & **Derrible, S.**, 2023 "Interrelationships between urban travel demand and electricity consumption: a deep learning approach", *Scientific Reports*, 13(1): 6223

20. Cats, O., **Derrible, S.**, & Chow, J., 2023 "Special issue on "Reliability and resilience of emerging mobility systems", an editorial note", *Transportmetrica B: Transport Dynamics*, 11:1, 1092-1094

21. Bozeman III, J., Chopra, S., James, P., Muhammad, S., Cai, H., Tong, K., Carrasquillo, M., Rickenbacker, H., Nock, D., Ashton, W., Heidrich, O., **Derrible, S.**, & Bilec, M. 2023 "Three research priorities for just and sustainable urban systems: now is the time to refocus", *Journal of Industrial Ecology*, 27(2):382-394

22. Mohammadi, M., Rahimi, E., Davatgari, A., Javadinasr, M., Mohammadian, A., Bhagat-Conway, M.W., Salon, D., **Derrible, S.**, Pendyala, R., & Khoeini. S., 2023 "Examining the Persistence of Telecommuting after the COVID-19 Pandemic", *Transportation Letters*, 15(6):608-621

23. Nafakh, A.J., Mohammadian, A., **Derrible, S.**, Pendyala, R.M., & Salon, D., 2022 "Examining the Impacts of the Pandemic on Employment for Women", *Open Journal of Social Sciences*, 10(13):318-334

24. Nafakh, A.J., Mohammadian, A., **Derrible, S.**, Pendyala, R.M., & Salon, D., 2022 "Examining the Impacts of the Pandemic on Work-from-Home for Individuals with Disabilities", *Open Journal of Social Sciences*, 10(13):167-183

25. Salon, D., Mirtich, L., Bhagat-Conway, M.W., Costello, A., Rahimi, E., Mohammadian, A., Chauhan, R.S., **Derrible, S.**, da Silva Baker, D., Khoeini, S., & Pendyala, R.M., 2022 "The COVID-19 Pandemic and the Future of Telecommuting in the United States", *Transportation Research Part D: Transport and Environment*, 112:103473

26. Javadinasr, M., Magassy, T.B., Mohammadi, M., Mohammadian, A., Rahimi, E., Salon, D., Conway, M.W., Pendyala, R., & **Derrible, S.**, 2022 "The Long-Term Effects of COVID-19 on Travel Behavior in the United States: A Panel Study on Work from Home, Mode Choice, Online Shopping, and Air Travel", *Transportation Research Part F: Traffic Psychology and Behaviour*, 90:466-484

27. Labi, S., Lee, H., & **Derrible, S.**, 2022 "Smart Cities: Infrastructure, Air Quality, Disaster Response, and Data Management", *Journal of Infrastructure Systems*, 28(4):02022001

28. Lapamonpinyo, P., **Derrible, S.**, & Corman, F., 2022 "Real-Time Passenger Train Delay Prediction using Machine Learning: A Case Study with Amtrak Passenger Train Routes", *IEEE Open Journal of Intelligent Transportation Systems*, 3:539-550

29. Chen, W., Cartensen, T., Wang, R., **Derrible, S.**, Rueda, D., Nieuwenhuijsen, M., & Liu, G., 2022 "Historical patterns and sustainability implications of worldwide bicycle ownership and use", *Communications Earth & Environment*, 3(1):171

30. Li, Y., Mo, W., **Derrible, S.**, & Lu, Z., 2022 "Integration of Multi-Objective Spatial Optimization and Data-driven Interpretation to Direct the City-wide Sustainable Promotion of Building-based Decentralized Water Technologies", *Water Research*, 222: 118880

31. Ngo, T.T.T., Pham, H.T., Acosta-Sequeda, J., & **Derrible, S.**, 2022 "Predicting Bike-Sharing Demand Using Random Forest", *Journal of Science and Transport Technology*, 2(2):13-21

32. Badhrudeen, M., Boria, E., Fonteix, G., **Derrible, S.**, & Siciliano, M., 2022 "The C2G Framework to Convert Infrastructure Data from Computer-Aided Design (CAD) to Geographic Information Systems (GIS)", *Informatics*, 9(2):42

33. Badhrudeen, M., **Derrible, S.**, Verma, T., Kermanshah, A., & Furno, A. 2022 "A Geometric Classification of World Urban Road Networks", *Urban Science*, 6(1):11

34. Sindhusuta, Chi, S-W, & **Derrible, S.**, 2022 "Text-mining based literature review of meshfree methods", *Computer Assisted Methods in Engineering and Science*, 28(4):265–290

35. Jalloul, H., Choi, J., Yesiller, N., Manheim, D., & **Derrible, S.**, 2022 "A systematic approach to identify, characterize, and prioritize the data needs for quantitative sustainable disaster debris management", *Resources, Conservation & Recycling*, 180:106174

36. Arora, M., Yeow, L.W., Cheah, L., & **Derrible, S.**, 2022 "Assessing Water Circularity in Cities: Methodological Framework with a Case Study", *Resources, Conservation & Recycling*, 178:106042

37. Taghipour, H., Parsa, A.B., Chauhan, R.S., **Derrible, S.**, & Mohammadian, A., 2022 "A novel deep ensemble based approach to detect crashes using sequential traffic data", *IATSS Research*, 46(1):122-129

38. Asif, K., Zhang, L., **Derrible, S.**, Indacochea, J.E., Ozevin, D., & Ziebart, B., 2022 "Machine learning model to predict welding quality using air-coupled acoustic emission and weld inputs", *Journal of Intelligent Manufacturing*, 33(3):881–895

39. Truong, T.M.T, Ly, H.-B., Lee, D., Pham, B.T., & **Derrible, S.**, 2021 "Analyzing travel behavior in Hanoi using Support Vector Machine", *Transportation Planning and Technology*, 44(8):843-859

40. Jafari Gukeh, M., Moitra, S., Ibrahim, A.N., **Derrible, S.**, & Megaridis, C.M., 2021 "Machine Learning Prediction of TiO2-Coating Wettability Tuned via UV Exposure", *ACS Applied Materials & Interfaces*, 13(38): 46171-46179

41. Chauhan, R.S., Conway, M.W., Capasso da Silva, D., Salon, D., Shamshiripour, A., Rahimi, E., Khoeini, S., Mohammadian, A., **Derrible, S.**, & Pendyala, R., 2021 "A database of travel-related behaviors and attitudes before, during, and after COVID-19 in the United States", *Scientific Data*, 8(1):245.

42. Broesicke, O.A., Yan, J., Thomas, V., Grubert, E., **Derrible, S.**, & Crittenden, J.C., 2021 "Combined Heat and Power May Conflict with Decarbonization Goals—Air Emissions of Natural Gas Combined Cycle Power versus Combined Heat and Power Systems for Commercial Buildings", *Environmental Science and Technology*, 55(15):10645-10653

43. Mirtich, L., Conway, M.W., Salon, D., Kedron, P., **Derrible, S.**, Khoeini, S., Mohammadian, A., & Rahimi, E., "How stable are transport-related attitudes over time?", *Findings*, DOI: 10.32866/001c.24556

44. Salon, D., Conway, M.W., Capasso da Silva, D., Chauhan, R.S., **Derrible, S.**, Mohammadian, A., Khoeini, S., Parker, N., Mirtich, L., Shamshiripour, A., Rahimi, E., & Pendyala, R., 2021

"The potential stickiness of pandemic-induced behavior changes in the United States", *Proceedings of the National Academy of Sciences (PNAS)*, 118(27): e2106499118

45. Capasso da Silva, D., Khoeini, S., Salon, D., Conway, M.W., Chauhan, R.S., Pendyala, R., Shamshiripour, A., Rahimi, E., Magassy, T., Mohammadian, A., & **Derrible, S.**, 2021, "How are Attitudes Toward COVID-19 Associated with Traveler Behavior During the Pandemic?", *Findings*, DOI: 10.32866/001c.24389

46. Chauhan, R.S., Capasso da Silva, D., Salon, D., Shamshiripour, A., Rahimi, E., Sutradhar, U., Khoeini, A., Mohammadian, A., **Derrible, S.** & Pendyala, R., 2021 "COVID-19 Related Attitudes and Risk Perceptions across Urban, Rural, and Suburban Areas in the United States", *Findings*, DOI: 10.32866/001c.23714

47. **Derrible, S.**, Truong, T.T.M., Pham, H.T., & Nguyen, Q.H., 2021 "Learning from Hanoi to imagine the future of water distribution", *npj Urban Sustainability*, 1(1):9

48. Movahedi, A., & **Derrible, S.**, 2021 "Interrelationships between electricity, gas, and water consumption in large-scale buildings", *Journal of Industrial Ecology*, 25(4):932

49. Seyrfar, A., Ataei, H., Movahedi, A., & **Derrible, S.**, 2021 "Data-Driven Approach for Evaluating the Energy Efficiency in Multifamily Residential Buildings", *ASCE Practice Periodical on Structural Design and Construction*, 26(2):04020074

50. Balasubramani, B., Badhrudeen, M., **Derrible, S.**, & Cruz, I., 2020 "Smart Data Management of Urban Infrastructure using Geographic Information Systems", *Journal of Infrastructure Systems*, 26(4):06020002

51. **Derrible, S.**, Chester, M., & Guikema, S., 2020 "Infrastructure Resilience to Climate Change", *Journal of Infrastructure Systems*, 26(2): 02020001

52. Barua, L., Zou, B., Noruzoliaee, M., & **Derrible, S.**, 2020 "A Gradient Boosting Machine Approach to Predicting Airport Runway and Taxiway Pavement Conditions", *International Journal of Pavement Engineering*, 22(13): 1673-1687

53. Mulrow, J., & **Derrible, S.**, 2020 "Is Slower More Sustainable? The Role of Speed in Achieving Environmental Goals", *Sustainable Cities and Society*, 57:102030

54. Dayeen, F.R., Sharma, A., & **Derrible, S.**, 2020 "A Text Mining Analysis of the Climate Change Literature in Industrial Ecology", *Journal of Industrial Ecology*, 24:276–284

55. Parsa, A.B., Movahedi, A., Taghipour, H., **Derrible, S.**, & Mohammadian, A., 2020 "Toward Safer Highways, Application of XGBoost and SHAP for Real-Time Accident Detection and Feature Analysis", *Accident Analysis and Prevention*, 136:105405

56. Ly, H.-B., Le, L.M., Phi, L.V., Phan, V.-H., Tran, V.Q., Pham, B.T., Le, T.-T., & **Derrible, S.**, 2019 "Development of an AI Model to Measure Traffic Air Pollution from Multisensor and Weather Data", *Sensors*, 19:4941.

57. Lee, D., & **Derrible, S.**, 2019 "Predicting Residential Water Consumption: Modeling Techniques and Data Perspectives", *Journal of Water Resources Planning and Management*, 146(1): 04019067

58. Mulrow, J., **Derrible, S.**, & Samaras, C., 2019 "Sociotechnical convex hulls and the evolution of transportation activity: A method and application to US travel survey data", *Technological Forecasting and Social Change*, 149:119789

59. Lu, Z., Broesicke, O.A., Chang, M.E., Yan, J., Xu, M., **Derrible, S.**, Mihelcic, J.R., Schwegler, B., & Crittenden, J.C., 2019 "Seven Approaches to Manage Complex Coupled Human and Natural Systems: A Sustainability Toolbox", *Environmental Science and Technology*, 53(16):9341-9351

60. Parsa, A.B., Taghipour, H., **Derrible, S.**, & Mohammadian, A., 2019 "Real-Time Accident Detection: Coping with Imbalanced Data", *Accident Analysis and Prevention*, 129:202-210

61. Lee, D., Mulrow, J., Haboucha, C.J., **Derrible, S.**, & Shiftan, Y., 2019 "Attitudes on Autonomous Vehicle Adoption using Interpretable Gradient Boosting Machine", *Transportation Research Record*, 2613(11):865-878

62. Trabucco, J., Lee, D., **Derrible, S.**, & Marai, G.E., 2019 "Visual Analysis of a Smart City's Energy Consumption", *Multimodal Technologies and Interaction*, 3(2):30, 10.3390/mti3020030

63. Mulrow, J., Machaj, K., Deanes, J., & **Derrible, S.**, 2019 "The state of carbon footprint calculators: An evaluation of calculator design and user interaction features", *Sustainable Production and Consumption*, 18:33-40

64. **Derrible, S.**, 2019 "An approach to designing sustainable urban infrastructure", *MRS Energy and Sustainability*, 5(1):13

65. Lee, D., **Derrible, S.**, & Pereira, F., 2018 "Comparison of Four Types of Artificial Neural Networks and Multinomial Logit Model for Travel Mode Choice Modeling", *Transportation Research Record*, 2672(49):101-112

66. Wisetjindawat, W., **Derrible, S.**, & Kermanshah, A., 2018 "Modeling the Effectiveness of Infrastructure and Travel Demand Management Measures to Improve Traffic Congestion During Typhoons", *Transportation Research Record*, 2672(1):43-53

67. Ahmad, N., & **Derrible, S.**, 2018 "An information theory based robustness analysis of energy mix in US States", *Energy Policy*, 120:167-174
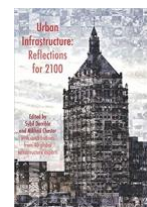
68. Ahmad, N., & **Derrible, S.**, Managi, S., 2018 "A Network-Based Frequency Approach to Representing the Inclusive Wealth of World Countries", *Journal of Environmental Management*, 218:348-354

69. Chancé, E., **Derrible, S.**, & Ashton, W., 2018 "The need to adapt emerging sustainability audits to atypical business models", *Clean Technologies and Environmental Policy*, 20(5): 1113-1118

70. Golshani, N., Shabanpour, R., Mahmoudifard, S., **Derrible, S.**, & Mohammadian, A., 2018 "Modeling Travel Mode and Timing Decisions: Comparison of Artificial Neural Networks and Copula-based Joint Model", *Travel Behaviour and Society*, 10:21-32

71. Chancé, E., Ashton, W., Mulrow, J., Norberto, J., **Derrible, S.**, & Guilbert, S., 2018 "The Plant—An experiment in urban food sustainability", *Environmental Progress & Sustainable Energy*, 37(1):82-90

72. Kermanshah, A., **Derrible, S.**, & Berkelhammer, M., 2017, "Using Climate Models to Estimate Urban Vulnerability to Flash Floods", *Journal of Applied Meteorology and Climatology*, 56(9):2637-2650

73. Akbarzadeh, M., Memarmontazerin, S., **Derrible, S.**, & Reihani. S., 2017, "The Role of Travel Demand and Network Centrality on the Connectivity and Resilience of an Urban Street System", *Transportation*, 46:1127–1141

74. Wisetjindawat, W., Kermanshah, A., **Derrible, S.**, & Fujita, M., 2017 "Stochastic Modeling of Road System Performance to Multi-Hazard Events: Flash Floods and Earthquakes", *Journal of Infrastructure Systems*, 23(4):04017031

75. Tennant, A., Ahmad, S., & **Derrible, S.**, 2017 "Complexity Analysis in the Sport of Boxing", *Journal of Complex Networks*, 5(6):953–963

76. Mulrow, J., **Derrible, S.**, Ashton, W., & Chopra, S., 2017, "Industrial Symbiosis at the Facility Scale", *Journal of Industrial Ecology*, 21(3):559-571

77. Shabanpour, R., Golshani, N., **Derrible, S.**, Mohammadian, A., & Miralinaghi, M., 2017 "Joint Discrete-Continuous Model of Travel Mode and Departure Time Choices", *Transportation Research Record*, 2669:41-51

78. Peiravian, F., & **Derrible, S.**, 2017 "Multi-Dimensional Geometric Complexity in Urban Transportation Systems", *Journal of Transport and Land Use*, 10(1):589-625

79. Ahmad, N., **Derrible, S.**, & Cabezas, H., 2017 "Using Fisher information to assess stability in the performance of public transportation systems", *Royal Society Open Science*, 4: 160920

80. Wang, X., Koc, Y., **Derrible, S.**, Ahmad, N., Pino, W., & Kooij, R., 2017 "Multi-Criteria Robustness Analysis of Metro Networks", *Physica A: Statistical Mechanics and its Applications*, 474:19-31

81. **Derrible, S.**, 2017 "Complexity in Future Cities: The Rise of Networked Infrastructure", *International Journal of Urban Sciences*, 21(sup1): 68-86

82. Kermanshah, A., & **Derrible, S.**, 2017 "Robustness of Road Systems to Extreme Flooding: Using Elements of GIS, Travel Demand, and Network Science", *Natural Hazards*, 86(1):151-164

83. **Derrible, S.**, 2017 "Urban Infrastructure is not a Tree: Integrating and Decentralizing Urban Infrastructure Systems", *Environment and Planning B: Urban Analytics and City Science*, 44 (3):553-569

84. Ahmad, N., **Derrible, S.**, Eason, T., & Cabezas, H., 2016 "Using Fisher Information to Track Stability in Multivariate Systems", *Royal Society Open Science*, 3:160582

85. Amini, B., Peiravian, F., Mojarradi, M. & **Derrible, S.** 2016 "Comparative Traffic Performance Analysis of Urban Transportation Network Structures", *Transportation Research Record*, 2594:159-16

86. Karduni, A., Kermanshah, A., & **Derrible, S.**, 2016 "A protocol to convert spatial polyline data to network formats and applications to world urban road networks", *Scientific Data*, 3:160046

87. Kermanshah, A., & **Derrible, S.**, 2016 "A Geographical and Multi-Criteria Vulnerability Assessment of Transportation Networks Against Extreme Earthquakes", *Reliability Engineering & System Safety*, 153:39-49

88. Mohareb, E., **Derrible, S.**, & Peiravian, F., 2016 "Intersections of Jane Jacobs' Conditions for Diversity and Low-Carbon Urban Systems: Global Look at Four Cities", *ASCE Journal of Urban Planning and Development*, 142(2):05015004

89. **Derrible, S.**, & Ahmad, N., 2015 "Network-Based and Binless Frequency Analyses", *PLoS ONE*, 10(11): e0142108

90. **Derrible, S.**, & Reeder, M., 2015 "The Cost of Over-Cooling Commercial Buildings in the United States", *Energy and Buildings*, 108:304-306

91. Dijkema, G., Xu, M., **Derrible, S.**, & Lifset, R., 2015, "Complexity in Industrial Ecology: Models, Analysis, and Actions", *Journal of Industrial Ecology*, 19(2):189-194

92. Ahmad, N. & **Derrible, S.**, 2015 "Evolution of Water Consumption in the USA: A Network Approach", *Journal of Industrial Ecology*, 19(2):321-330

93. Cottrill, C., & **Derrible, S.**, 2015 "[Leveraging Big Data for the Development of Transport Sustainability Indicators](#)", *Journal of Urban Technology*, 22(1):45-64

94. Peiravian, F. & **Derrible, S.**, Ijaz, F., 2014 "[Development and Application of the Pedestrian Environment Index (PEI)](#)", *Journal of Transport Geography*, 39:73-84

95. **Derrible, S.**, 2012 "[Reviewing and Assessing the Toronto Metro System](#)", *Canadian Journal of Civil Engineering*, 39(2):154-162

96. **Derrible, S.**, 2012 "[Network Centrality of Metro Systems](#)", *PLoS ONE*, 7(7):e40575

97. **Derrible, S.** & Kennedy, C., 2011 "[Applications of Graph Theory and Network Science to Transit Network Design](#)", *Transport Reviews: A Transnational Transdisciplinary Journal*, 31(4):495-519

98. **Derrible, S.**, Saneinejad, S., Sugar, L. & Kennedy, C., 2010, "[Macroscopic greenhouse-gases emissions model of urban transportation for municipalities](#)", *Transportation Research Record*, 2191:174-181

99. **Derrible, S.** & Kennedy, C., 2010, "[Evaluating, Comparing, and Improving Metro Networks: an application to the Toronto proposed plans](#)", *Transportation Research Record*, 2146:43-51

100. **Derrible, S.** & Kennedy, C., 2010 "[The Complexity and Robustness of Metro Networks](#)", *Physica A: Statistical Mechanics and its Applications*, 389(17):3678-3691

101. **Derrible, S.** & Kennedy, C., 2010 "[Characterizing Metro Networks: State, Form, and Structure](#)", *Transportation*, 37(2):275-297

102. **Derrible, S.** & Kennedy, C., 2009 "[Network Analysis of Subway Systems in the World using Updated Graph Theory](#)", *Transportation Research Record*, 2112:17-25

Books

1. **Derrible, S.**, 2025, *The Infrastructure Book: How Cities Work and Power Our Lives*, Prometheus Books, in editing, to be published in spring 2025

2. **Derrible, S.**, & Chester, M., (Eds) 2020, [Urban Infrastructure: Reflections for 2100](#), *Independently published*, 211 pages.

3. **Derrible, S.**, 2019, Urban Engineering for Sustainability, *MIT Press*, Cambridge, MA, 656 pages.

4. Ha-Minh, C., Dao, D.V., Benboudjema, F., **Derrible, S.**, Khoa, H.D.V., Tang, A.M., (Eds) 2019, CIGOS 2019 Innovation for Sustainable Infrastructure, *Springe*r, Singapore, 1254 pages.

5. **Derrible, S.**, 2011 Metro Network Designs: Characteristics, Complexity, and impact on Ridership, *Lambert Publishing*, Saarbrücken, Germany, 224 pages.

Book Chapters

6. Palani, H., Acosta-Sequeda, J., Derrible, S., & Karatas, A., 2023 "Predicting Energy Use Intensity of US Hotel Buildings Using CBECS Microdata", in *Proceedings of International Structural Engineering and Construction*, vol.10, pp.1-6

7. Lapamonpinyo, P., Ly, H.-B., & **Derrible, S.**, 2022 "Passenger Train Delay Prediction Using Linear Regression and Ensemble Learning Methods with and Without Ridership and Population Data", in *CIGOS 2021, Emerging Technologies and Applications for Green Infrastructure*, Springer, Singapore, pp.1875-1885

8. Parvaneh, M., Seyrfar, A., Movahedi, A., Ataei, H., Le Nguyen, K., & **Derrible, S.**, 2022 "Using Machine Learning: A Study on Energy Benchmarking Datasets of Selected Cities Across the United States", in *CIGOS 2021, Emerging Technologies and Applications for Green Infrastructure*, Springer, Singapore, pp.197-205.

9. Truong, T. T. M., & **Derrible, S.** (2021). "Assessing the Wider Economic Impacts of Transport Infrastructure Investment with an Illustrative Application to the North-South High-Speed Railway Project in Viet Nam" in *Frontiers in High-Speed Rail Development*, edited by Y. Hayashi, W. Rothengatter, & K. E. Seetha Ram, Asian Development Bank Institute, Tokyo, Japan, pp.181–194.

10. Kapousouz, E., Seyrfar, A., **Derrible, S.**, & Ataei, H., 2021 "A Clustering Analysis of Energy and Water Consumption in U.S. states from 1985 to 2015" in *Data Science Applied to Sustainability Analysis*, edited by J. Dunn and P. Balaprakash, Elsevier Science, pp.81-107

11. **Derrible, S.**, Cheah, L., Arora, M., & Yeow, L.W., 2021 "Urban Metabolism" in *Urban Informatics*, edited by W. Shi, M.F. Goodchild, M. Batty, M-P Kwan, & A. Zhang, Springer, Singapore, pp.85-114

12. **Derrible, S.**, 2020 "Peace Day in Saint Pierre and Miquelon – July 14, 2100" in *Urban Infrastructure: Reflections for 2100,* edited by S. Derrible, & M. Chester, Independently published, pp.73-83

13. Bozeman III, J., Mulrow, J., **Derrible, S.**, & Theirs, T., 2020 "Urban Carbon Management Strategies" in *Advances in Carbon Management Technologies: Volume 2*, edited by Sikdar, S.K., & Princiotta, F., CRC Press, Boca Raton, FL, pp.229-250

14. Badhrudeen, M., Naranjo, N., Movahedi, A., & **Derrible, S.**, 2019 "Machine learning based tool for identifying errors in CAD to GIS converted data", in *CIGOS 2019 Innovation for Sustainable Infrastructure*, Springer, Singapore, pp.1185-1190.

15. Mohareb, E., Bristow, D., & **Derrible, S.**, 2016 "Greenhouse Gas Mitigation in Developed World Cities", in *Handbook of Urbanization and Global Environmental Change*, edited by Seto, K., Solecki, W., & Griffith, C., Routledge, London (UK), pp.377-405.

16. **Derrible, S.**, 2013 "Metros as Biological Systems: Complexity in Small Real-life Networks", in *Advances in Network Complexity*, edited by Dehmer, M., Mowshowitz, A. & Emmert-Streib, F., Wiley-Blackwell, pp.259-285.

17. **Derrible, S.**, Saneinejad, S. & Kennedy, C., 2009 "Chapter 4: Transportation and Land-Use", in *Getting to Carbon Neutral: A Guide for Canadian Municipalities*, edited by Kennedy, C., produced for the Toronto and Region Conservation Authority, Toronto, ON, pp.49-81.

18. Kennedy, C., Bristow, D., **Derrible, S.**, Mohareb, E., Saneinejad, S., Stupka, R., Sugar, L. & Zizzo, R., 2009 "Chapter 7: Comparison of Strategies", in *Getting to Carbon Neutral: A Guide for Canadian Municipalities*, edited by Kennedy, C., produced for the Toronto and Region Conservation Authority, Toronto, ON, pp.123-145

19. Kennedy, C., Bristow, D., **Derrible, S.**, Mohareb, E., Saneinejad, S., Stupka, R., Sugar, L., Zizzo, R., & McIntyre, B., 2010 "Getting to Carbon Neutral: A Review of Best Practices in Infrastructure Strategy", in *Energy efficient cities: Assessment tools and benchmarking practices*, edited by Bose, R.K., World Bank, Washington, DC, pp.165-184.

Conference Proceedings

1. Sutradhar, U., Benavides Lara, M., & **Derrible, S.**, 2024 "Who pays for the additional maintenance costs: per capita roadway length in response to the changing demographics in U.S. cities to 2050?", *TRB 103rd Annual Meeting*, Transportation Research Board, January 7-11, Washington DC, United States

2. Acosta-Sequeda, J., Mohammadi, M., Patipati, S., Mohammadian, A., & **Derrible, S.**, 2024 " Improving Telecommuting Prevalence Estimates Using Sentiment Analysis of Twitter Data", *TRB 103rd Annual Meeting*, Transportation Research Board, January 7-11, Washington DC, United States

3. Lee, D., **Derrible, S.**, Pereira, F., & Rodrigues, F., 2024 "Alleviating Modeling Dilemmas in Choice Behaviors Using Probabilistic Graphical Modeling Framework", *TRB 103rd Annual Meeting*, Transportation Research Board, January 7-11, Washington DC, United States

4. Mohammadi, A., Mafi, S., Choobchian, P., **Derrible, S.**, Soleimani, H., & Sriraj, P.S., 2023 "Studying Property Owners' Decision-Making Process to Trade Land in Run-Down Areas with New, Accessible Apartments", 64th *Transportation Research Forum*, Chicago, Illinois, April 27-28.

5. Lapamonpinyo, P., **Derrible, S.**, & Corman, F., 2023 "Enhancing Operational Resilience of Rail Transport Using Machine Learning", *TRB 102nd Annual Meeting*, Transportation Research Board, January 8-12, Washington DC, United States

6. Mulrow, J., Bozeman III, J., Pai, S., Grubert, E., & **Derrible, S.**, 2023 "All Cars Run on Materials: Comparing Vehicle Energy Systems in a Post-Fossil Fuel World", *TRB 102nd Annual Meeting*, Transportation Research Board, January 8-12, Washington DC, United States

7. Mohammadi, M., Davatgari, A., Asgharpour, S., Shabanpour, R., Mohammadian, A., **Derrible, S.**, Pendyala, R.M., & Salon, D., 2023 "The Interaction Between Recent Evolutions of Working from Home and Online Shopping", *TRB 102nd Annual Meeting*, Transportation Research Board, January 8-12, Washington DC, United States

8. Magassy, T., Batur, I., Mondal, A., Asmussen, K., Pendyala, R.M., Bhat, C., Salon, D., Bhagat-Conway, M., Javadinasr, M., Chauhan, R.S., Mohammadian, A., & **Derrible, S.**, 2023 "Evolution of Mode Use Due to the COVID-19 Pandemic in the United States: Implications for the Future of Transit", *TRB 102nd Annual Meeting*, Transportation Research Board, January 8-12, Washington DC, United States

9. Dirks, A., Batur, I., Mondal, A., Magassy, T., Pendyala, R.M., Haddad, A., Bhat, C., Chen, C., Salon, D., Bhagat-Conway, M., Mohammadi, M., Chauhan, R.S., Mohammadian, A., & **Derrible, S.**, 2023 "Access to Food in a Severe Prolonged Disruption: The Case of Grocery and Meal Shopping During the COVID-19 Pandemic", *TRB 102nd Annual Meeting*, Transportation Research Board, January 8-12, Washington DC, United States

10. Palani, H., Acosta-Sequeda, J., Karatas, A., **Derrible, S.**, 2022 "Understanding the Interrelationship between Energy-Use Behavior and Socio-Demographic Profile", *ITISE 2022 (8th International conference on Time Series and Forecasting)*, June 27-30, Gran Canaria, Spain

11. Jalloul, H., Choi, J., **Derrible, S.**, & Yesiller, N., 2022 "Toward Sustainable Management of Disaster Debris: Three-Phase Post-Disaster Data Collection Planning", *Construction Research Congress 2022*, American Society of Civil Engineers, March 7, Arlington, VA, United States

12. Javadinasr, M., Magassy, T.B., Rahimi, E., Mohammadi, M., Davatgari, A., Mohammadian, A., Chauhan, R.S., Conway, M.W., Pendyala, R.M., Salon, D., **Derrible, S.**, Khoeini, S., 2022

"Observed and Expected Impacts of COVID-19 on Travel Behavior in the United States: A Panel Study Analysis", *TRB 101ˢᵗ Annual Meeting*, Transportation Research Board, January 9-13, Washington DC, United States

13. Lapamonpinyo, P., **Derrible, S.**, & Corman, F., 2021 "Passenger Train Delay Modeling with Weather Information using Machine Learning", *8ᵗʰ INSTR International Symposium on Transportation Network Reliability (INSTR)*, June 16-18, Online

14. Seyrfar, A., Ataei, H., & **Derrible, S.**, 2020, "A Review of Building Energy Benchmarking Policies Across the U.S. Cities", *Energy Proceedings*, Volume 8, Applied Energy Symposium: MIT A+B, August 12-14, Cambridge, MA, United States

15. Parsa, A.B., Chauhan, R.S., Taghipour, H., **Derrible, S.**, & Mohammadian, A., 2020, "Applying Deep Learning to Detect Traffic Accidents in Real Time Using Spatiotemporal Sequential Data", *TRB 99ᵗʰ Annual Meeting*, Transportation Research Board, January 12-16, Washington DC, United States

16. Lee, D., Mulrow, J., Haboucha, C.J., **Derrible, S.**, & Shiftan, Y., 2019, "Attitudes on Autonomous Vehicle Adoption using Interpretable Gradient Boosting Machine", *TRB 98ᵗʰ Annual Meeting*, Transportation Research Board, January 13-17, Washington DC, United States

17. Barua, L., Zou, B., Noruzoliaee, M., & **Derrible, S.**, 2019, "Predicting Airport Runway and Taxiway Pavement Conditions: A Gradient Boosting Machine Approach", *TRB 98ᵗʰ Annual Meeting*, Transportation Research Board, January 13-17, Washington DC, United States

18. Peiravian, F., **Derrible, S.**, & 2019, "Manifestation of Coupled Geometric Complexity in Urban Road Networks", *TRB 98ᵗʰ Annual Meeting*, Transportation Research Board, January 13-17, Washington DC, United States

19. Lee, D., **Derrible, S.**, & Pereira, F., 2018 "Comparison of Four Types of Artificial Neural Networks and Multinomial Logit Model for Travel Mode Choice Modeling", *TRB 97ᵗʰ Annual Meeting*, Transportation Research Board, January 7-11, Washington DC, United States

20. Wisetjindawat, W., **Derrible, S.**, & Kermanshah, A., 2018 "Modeling the Effectiveness of Infrastructure and Travel Demand Management Measures to Improve Traffic Congestion During Typhoons", *TRB 97ᵗʰ Annual Meeting*, Transportation Research Board, January 7-11, Washington DC, United States

21. Balasubramani, B., Belingheri, O., Boria, E., Cruz, I., **Derrible, S.**, & Siciliano, M., 2017 "GUIDES – Geospatial Urban Infrastructure Data Engineering Solutions" (Demo Paper), *Proceedings of the 24th ACM SIGSPATIAL*, International Conference on Advances in Geographic Information Systems, November 7-10, Los Angeles, CA, USA

22. Kermanshah, A., & **Derrible, S.**, 2017 "An Evaluation of Transportation Network Robustness Against Extreme Flooding: A GIS-based Approach", *TRB 96ᵗʰ Annual Meeting*, Transportation Research Board, January 8-12, Washington DC, United States

23. Golshani, N., Shabanpour, R., Mahmoudifard, S., **Derrible, S.**, & Mohammadian, A., 2017 "Comparison of artificial neural networks and statistical copula-based joint models", *TRB 96ᵗʰ Annual Meeting*, Transportation Research Board, January 8-12, Washington DC, United States

24. Shabanpour, R., Golshani, N., **Derrible, S.**, Mohammadian, A., & Miralinaghi, M., 2017 "A cluster-based joint model of travel mode and departure time choices", *TRB 96ᵗʰ Annual Meeting*, Transportation Research Board, January 8-12, Washington DC, United States

25. Peiravian, F., & **Derrible, S.**, 2016 "Exploration of Geometric Complexity in Urban Road Networks", *TRB 95ᵗʰ Annual Meeting*, Transportation Research Board, January 10-14, Washington DC, United States

26. Amini, B., Peiravian, F., Mojarradi, M. & **Derrible, S.**, 2016 "Comparative Traffic Performance Analysis of Urban Transportation Network Structures", *TRB 95ᵗʰ Annual Meeting*, Transportation Research Board, January 10-14, Washington DC, United States

27. Wang, X., Koç, Y., **Derrible, S.**, Ahmad, N. & Kooij, R.E., 2015 "Quantifying the Robustness of Metro Networks", *6ᵗʰ INSTR - The Value of Reliability, Robustness and Resilience*, International Symposium on Transportation Network Reliability, August 2-3, Nara, Japan

28. Kermanshah, A., & **Derrible, S.**, 2015 "A GIS Method For Measuring Road System Resilience to Extreme Events", *6ᵗʰ INSTR - The Value of Reliability, Robustness and Resilience*, International Symposium on Transportation Network Reliability, August 2-3, Nara, Japan

29. Peiravian, F., de Lapparent, M. & **Derrible, S.**, 2015 "Transportation Networks, People, and Buildings: Characterization of Urban System Components", *TRB 94ᵗʰ Annual Meeting*, Transportation Research Board, January 11-15, Washington DC, United States

30. Peiravian F., Kermanshah A., **Derrible, S.**, & Andris, C., 2014, "Spatial Data Analysis of Complex Urban Systems", *2014 IEEE International Conference on Big Data*, October 27-30, Washington DC, United States

31. Kermanshah, A., Karduni, A., Peiravian, F., & **Derrible, S.**, 2014 "Impact Analysis of Extreme Events on Flows in Spatial Networks", *2014 IEEE International Conference on Big Data*, October 27-30, Washington DC, United States

32. Peiravian, F. & **Derrible, S.**, 2014 "Complete Streets Designs: A Comparative Emission Impact Analysis", *TRB 93ʳᵈ Annual Meeting*, Transportation Research Board, January 12-16, Washington DC, United States

33. Cottrill, C. & **Derrible, S.**, 2013 "Leveraging Big Data for the Development of Transport Sustainability Indicators", *World Conference on Transport Research*, July 15-18, Rio de Janeiro, Brazil

34. **Derrible, S.** & Cottrill, C., 2013 "How new Technologies can contribute to measuring Sustainable Mobility", *TRB 92nd Annual Meeting*, Transportation Research Board, January 13-17, Washington DC, United States

35. **Derrible, S.**, 2012 "Using Network Centrality to Determine Key Transfer Stations in Public Transportation Systems", *TRB 91st Annual Meeting*, Transportation Research Board, January 22-26, Washington DC, United States

36. **Derrible, S.**, 2011 "The Toronto Metro: History, Demand, and Performance", *TRB 90th Annual Meeting*, Transportation Research Board, January 23-27, Washington DC, United States

37. **Derrible, S.** & Farooq, B., 2010 "The Four Outcomes of Transit and Land-Use", *CTRF 45th Annual Conference*, Canadian Transportation Research Forum, May 30 – June 02, Toronto, ON, Canada

38. **Derrible, S.** & Kennedy, C., 2010 "Evaluating, Comparing, and Improving Metro Networks: an application to the Toronto plans", *TRB 89th Annual Meeting*, Transportation Research Board, January 10-14, Washington DC, United States

39. **Derrible, S.**, Saneinejad, S., Sugar, L. & Kennedy, C., 2010 "Macroscopic Greenhouse-gases emissions model of urban transportation for municipalities", *TRB 89th Annual Meeting*, Transportation Research Board, January 10-14, Washington DC, United States

40. **Derrible, S.** & Kennedy, C., 2009 "Comparing the GTA Transit Plan to major transit networks in the World using Graph Theory concepts", *TRANSLOG 1st Annual International Conference*, June 17-18, Hamilton, ON, Canada

41. **Derrible, S.** & Kennedy, C., 2009 "A Network Analysis of Subway Systems in the World using Updated Graph Theory", *TRB 88th Annual Meeting*, Transportation Research Board, January 11-15, Washington DC, United States

42. **Derrible, S.**, Kennedy, C., Miller, E. & Roorda, M., 2008 "Light Rail Transit in Toronto: Underground or Above-ground". *Proceedings, Annual Conference - Canadian Society for Civil Engineering* 4:2649-2658

Book Reviews

1. **Derrible, S.**, 2022 "Sustainable Infrastructure for Cities and Societies, by Michael Neuman, New York and Oxford, Routledge, 2022", *Journal of Urban Affairs*, online, DOI: 10.1080/07352166.2023.2167787

2. **Derrible, S.**, 2017 "Marc Barthelemy, The structure and dynamics of cities: Urban data analysis and theoretical modeling", *Environment and Planning B: Urban Analytics and City Science*, 45(3):585-586.

3. **Derrible, S.**, 2016, "Street smart", *Science*, 354(6310):293-293

4. **Derrible, S.**, 2015, "Inside the mind of an engineer", *Science*, 349(6247):484-484

5. **Derrible, S.**, 2015 "Smart Transport Networks: Market Structure, Sustainability and Decision Making, T. Vanoutrive, A. Verhetsel (Eds.)", *Journal of Transport Geography*, 44(0):91

6. **Derrible, S.**, 2015, "Seeing the forest for the trees", *Science*, 347(6229):1426-1426

7. **Derrible, S.**, 2015 "The New Science of Cities, Michael Batty", *Journal of Industrial Ecology*, 19(2):333-334

8. Good, M., & **Derrible, S.**, 2013 "Book Review: Triumph of the City, Edward Glaeser", *Journal of Transport and Land Use*, 6(3):87-89

Conference Abstracts, Workshops, & Technical Reports

1. Li, Y., Mo, W., **Derrible, S.**, & Lu, Z., 2023 "Spatial Optimization and Interpretation of Citywide Sustainable Promotion of Building-based Decentralized Water Technologies", ASCE EWRI Congress, May 21-24, Henderson, NV, United States

2. Haas, N.A., Zigulich, M., & **Derrible, S.**, 2022, "Overdesigned & Underperforming: Assessing the Performance of Green Stormwater Infrastructure Using Soil Moisture Probes", American Geophysical Union (AGU) Fall Meeting 2022, December 11-15, Chicago, IL, United States

3. Sutradhar, U., Haas, N.A., Zigulich, M., & **Derrible, S.**, 2022, "Investigating the Impacts of Depopulation and Climate Change on Water Infrastructure: A Study of Northeastern Illinois", American Geophysical Union (AGU) Fall Meeting 2022, December 11-15, Chicago, IL, United States

4. **Derrible, S.**, 2022 "Environmental Justice as a process twin: A major challenge and the new frontier", Workshop on Smart Cities Digital Twin, 2nd Annual International Conference on Digital Twins and Parallel Intelligence, October 26-28, Boston, MA, United States

5. Li, Y., Mo, W., **Derrible, S.**, & Lu, Z., 2022 "Spatial optimization and interpretation of citywide sustainable promotion of building-based decentralized water", 2022 International Conference on Resource Sustainability (icRS 2022), August 1-4, online

6. **Derrible, S.**, 2021 "Revisiting Urban Water Distribution in the Twenty-First Century", Actionable Science for Urban Sustainability (AScUS) 2021, June 1-4, online

7. Mohammadian, A., & **Derrible, S.**, 2021 "How Have Attitudes and Perceptions Affected People's Work and Travel Behaviors in a COVID Era?", The Future of Travel in a Post-COVID-19 Pandemic World Workshop, TRB 100th Annual Meeting, Transportation Research Board, January 5-29, Washington DC, United States (online)

8. Chauhan, R., & **Derrible, S.**, 2020 "Travel Mode Choice During and After the Pandemic", Webcast on Initial Results from the COVIDFUTURE Longitudinal Survey Study, Arizona State University, November 19, Tempe, AZ, United States (online)

9. Haas, N, & **Derrible, S.**, 2020 "Set it and Forget It: Why the Slow Cooker Approach to Engineering Design and Maintenance is Incompatible with Climate Change and Resiliency", Actionable Science for Urban Sustainability (AScUS) 2020, June 3-5, Segovia, Spain (online)

10. Movahedi, A, & **Derrible, S.**, 2020 "Identifying spatial patterns and profiles of electricity consumption in Chicago to develop tailored and actionable energy reduction policies", Actionable Science for Urban Sustainability (AScUS) 2020, June 3-5, Segovia, Spain (online)

11. **Derrible, S.**, 2019, "Digital Twinning Mobility", NSF SUS–Smart City Digital Twin Workshop, Georgia Institute of Technology, September 16, Atlanta, GA, United States

12. **Derrible, S.**, 2019, "Past, Present, and Future Engineering Issues of Canal Systems Through Three Case Studies", Proceedings of the Planning and developing embankment of Saigon River and an urban river-canal network and solutions to basically embank the Saigon River and the urban river-canal network by year 2025, September 10, Ho Chi Minh City, Vietnam

13. **Derrible, S.**, Yesiller, N., & Choi, J., 2019 "Workshop on Post-Disaster Materials and Environmental Management", National Science Foundation, Alexandria, VA, United States

14. Movahedi, A, Lee, D, Badhrudeen, M, & **Derrible, S.**, 2019 "Building Energy Modeling: Investigating Patterns of Electricity, Gas, and Water Consumption in Large-Scale Buildings using Machine Learning", 10th International Conference in Industrial Ecology, International Society for Industrial Ecology, July 7-11, Beijing, China

15. Mulrow, J., Bozeman III, J., Pai, S., & **Derrible, S.**, 2019 "All Cars Run on Renewables: Tracing Solar and Manufactured Energy Flow through the Fuel Cycle", 10th International Conference in Industrial Ecology, International Society for Industrial Ecology, July 7-11, Beijing, China

16. **Derrible, S.**, Contributor to Research Column of Informs' Decision Analysis Today May 2018, 37(1):22-24

17. Nazari F., Mohammadian A., & Derrible S., 2018 "Interactions between Energy/Water consumption and travel decisions in activity-based framework" 15th International Conference on Travel Behavior Research (IATBR), July 18, Santa Barbra, CA, United States

18. Deanes, J., Machaj, K., Mulrow, J., & **Derrible, S.**, 2017 "Know Your Carbon Footprint: Calculator Comparison and Preference Survey", Joint 9th International Conference in Industrial Ecology – 25th International Symposium on Sustainable Systems and Technology, International Society for Industrial Ecology, June 25-29, Chicago, IL, United States

19. Ahmad, N., & **Derrible, S.**, 2017 "Application of Information Theory to Detect Changes in The Evolution of Fossil and Non-Fossil Fuel Consumption in The United States", Joint 9th International Conference in Industrial Ecology – 25th International Symposium on Sustainable Systems and Technology, International Society for Industrial Ecology, June 25-29, Chicago, IL, United States

20. Cairo, P., Klawitter, D., Lee, D., & **Derrible, S.**, 2017 "Decision Tree Analysis of Residential Water Use in the United States", Joint 9th International Conference in Industrial Ecology – 25th International Symposium on Sustainable Systems and Technology, International Society for Industrial Ecology, June 25-29, Chicago, IL, United States

21. Lee, D., & **Derrible, S.**, 2017 "Comparison of Mode Choice Behavior using Four Types of Artificial Neural Networks", Transport Chicago 2017, June 9, Chicago, IL, United States

22. Mulrow, J., **Derrible, S.**, Ashton, W., & Chopra, S., 2016 "Determining the Requirements for Building-Scale Industrial Symbiosis", ISSST 2016, International Symposium on Sustainable Systems and Technology, May 16-18, Phoenix, AZ, United States

23. Ahmad, N., & **Derrible, S.**, 2016 "A Network-Based Approach to Track Social, Economic, and Environmental Trends in World Countries", ISSST 2016, International Symposium on Sustainable Systems and Technology, May 16-18, Phoenix, AZ, United States

24. Ahmad, N., & **Derrible, S.**, 2015 "Analyzing Multivariate Time Series Data using a Network-Based Approach", Network Frontier Workshop 2015, December 6-7, Evanston, IL, United States

25. Kermanshah, A, Ahmad, N., Berkelhammer, M., & **Derrible, S.**, 2015 "Resilience in Complex Systems: A GIS Analysis of Extreme Events Impact on Infrastructure Networks", 8th International Conference in Industrial Ecology, International Society for Industrial Ecology, July 7-10, Surrey, United Kingdom

26. Reeder, M., & **Derrible, S.**, 2015 "Estimating Electricity Waste in Commercial Buildings Due to Over-Cooling in the US", 8th International Conference in Industrial Ecology, International Society for Industrial Ecology, July 7-10, Surrey, United Kingdom

27. **Derrible, S.**, Ahmad, N., & Theis, T., 2015 "Capturing the Sustainability of Urban Systems using Fisher Information: Application to Public Transport", 8th International Conference in Industrial Ecology, International Society for Industrial Ecology, July 7-10, Surrey, United Kingdom

28. Ahmad, N., **Derrible, S.**, & Kermanshah, A., 2015 "Towards Sustainable Development: A Network Approach", 8th International Conference in Industrial Ecology, International Society for Industrial Ecology, July 7-10, Surrey, United Kingdom

29. Kermanshah, A., & **Derrible, S.**, 2015 "Using Climate Models to Assess the Resilience of Roads to Extreme Events", ISSST 2015, International Symposium on Sustainable Systems and Technology, May 18-20, Dearborn, MI, United States

30. **Derrible, S.**, Ahmad, N., & Theis, T., 2015 "Using Fisher Information to Measure the Sustainability of Urban Systems", ISSST 2015, International Symposium on Sustainable Systems and Technology, May 18-20, Dearborn, MI, United States

31. Reeder, M., & **Derrible, S.**, 2015 "Estimating Electricity Waste in Commercial Buildings due to Over-Cooling in the United States", UIC Student Research Forum, April 2, Chicago, IL, United States

32. Peiravian, F., & **Derrible, S.**, Peiravian, F., 2014 "Empowering Students with Knowledge and Knowhow on Sustainability", AASHE Annual Conference, Association for the Advancement of Sustainability in Higher Education (AASHE), October 26-29, Portland, OR, United States

33. Ahmad, N., & **Derrible, S.**, 2014 "Evolution of Water Consumption in the USA: A Network Approach", Illinois Water 2014, October 14-15, Urbana, IL, United States

34. Kermanshah, A., Peiravian, F., Ahmad, N., & **Derrible, S.**, 2014 "Investigating Transportation Network Resilience to Extreme Events", NetSci 2014 International School and Conference on Network Science, June 2-6, Berkeley, CA, United States

35. Ahmad, N., Kermanshah, A., Peiravian, F., & **Derrible, S.**, 2014 "Network Science: A Potential Tool for Analyzing Water Consumption in the USA", NetSci 2014 International School and Conference on Network Science, June 2-6, Berkeley, CA, United States

36. Peiravian, F., Ahmad, N., Kermanshah, A. & **Derrible, S.**, 2014 "Questioning Box-Counting Method as a Tool for Fractal Characterization of Physical Networks", NetSci 2014 International School and Conference on Network Science, June 2-6, Berkeley, CA, United States

37. Peiravian, F., & **Derrible, S.**, 2013 "Adopting a Fractal Approach to study the Complexity of Urban Systems", 7th International Conference in Industrial Ecology, International Society for Industrial Ecology, June 25-28, Ulsan, South Korea

38. **Derrible, S.** & Mohareb, E., 2013 "Can Jane Jacobs' principles be applied in the developing world for successful and green urban economies", 7th International Conference in Industrial Ecology, International Society for Industrial Ecology, June 25-28, Ulsan, South Korea

39. Peiravian, F., & **Derrible, S.**, 2013 "Spatial analysis of urban systems: A fractal approach", Spatial Statistics 2013, June 4-7, Columbus, OH, United States

40. **Derrible, S.**, Diao, M., Zegras, C., Ferreira, J., Ben-Akiva,M., & Xiang, Y., 2012 "Real Estate Modeling in Singapore", Future Urban Mobility Symposium 2012, National University of Singapore, January 11-12, Singapore

41. **Derrible, S.**, 2010 "Greenhouse-Gas Emissions of Commercial Vehicles in Municipalities: adding Freight Transportation to MUNTAG", report to the Toronto and Region Conservation Authority, Toronto, ON, Canada

42. Kennedy, C., Bristow, D., **Derrible, S.**, Mohareb, E., Rulff, D., Saneinejad, S., Stupka, R., Sugar, L., Zizzo, R. & McIntyre., B., 2010 "Getting to carbon neutral: a guide for cities". International Conference on Urbanization and Global Environmental Change, Urbanization and Global Environmental Change (UGEC) - an IHDP Core Project, October 15-17, Tempe, AZ, United States

43. Sugar L., Kennedy C., Bristow D., **Derrible S.**, Mohareb E., Saneinejad S., Stupka R., Sugar L., Zizzo R., & McIntyre B., 2010 "Getting to Carbon Neutral and Improving Climate Change Resilience in Cities". First World Congress on Cities and Adaptation to Climate Change, May 28-30, Bonn, Germany

44. **Derrible, S.** & Kennedy, C., 2009 "How Complex are Subway Networks", 5th International Conference in Industrial Ecology, International Society for Industrial Ecology, June 21-24, Lisbon, Portugal

45. **Derrible, S.** & Kennedy, C., 2009 "How does network size affect the energy use of subway systems", 5th International Conference in Industrial Ecology, International Society for Industrial Ecology, June 21-24, Lisbon, Portugal

46. **Derrible, S.** & Kennedy, C., 2009 "Energy Use of Subway Networks in the Sustainability era", CORS-INFORMS 2009 International Meeting, Canadian Operational Research Society, June 14-17, Toronto, Ontario, Canada

Keynotes, Invited Talks, & Others

1. **Derrible, S.**, 2023 "Urban Water and Wastewater Infrastructure: Prospects and Challenges", 2023 Nebraska Water Conference, Nebraska Water Center, October 4, Omaha, NE

2. **Derrible, S.**, 2023 "Defining the New Normal in Infrastructure Design: Where Sustainability and Resilience meet Multi-Functionality and Equity", OSU Translational Data Analytics Institute Spring Seminar Series, The Ohio State University, April 21, Columbus, OH, United States

3. **Derrible, S.**, 2023 "The Future of Infrastructure: Sustainable, Resilient, Multi-Functional, and Equitable", iSEE Congress 2023, University of Illinois at Urbana-Champaign, April 13, Urbana, IL, United States

4. **Derrible, S.**, 2023 "Seeing infrastructure as smart, interrelated, and multi-functional systems", EEE Technical Seminar Series, University of Reading, January 24, Reading, United Kingdom (online)

5. **Derrible, S.**, 2022 "Infrastructure like you have never seen it before: interrelated and multi-functional", CAEE Seminar Series, Drexel University, October 18, Philadelphia, PA, United States (online)

6. **Derrible, S.**, 2022 "Deciphering the relationships that unite urban infrastructure: transport, water, electricity, gas", LICIT-ECO7: Transport and Traffic Engineering Laboratory Seminar Series, University Gustave Eiffel, June 10, Lyon, France

7. **Derrible, S.**, 2022 "Interrelationships in Urban Infrastructure: Transport, Water, Electricity, and Gas", Environmental and Water Resources Engineering Seminar Series, University of Nebraska–Lincoln, March 11, Lincoln, NE, United States (online)

8. **Derrible, S.**, 2021 "The Future of Transportation in Illinois: Depopulation, Impacts of COVID-19, and Integration with other Infrastructure Systems", Fall Planning Conference, Illinois Department of Transportation, November 2, Chicago, IL, United States (online)

9. **Derrible, S.**, 2021 "The Future of Urban Infrastructure: Water, Wastewater, Transport, Electricity, Gas, Solid Waste, and Telecommunications", Weston Roundtable Series, University of Wisconsin–Madison, October 7, Madison, WI, United States

10. **Derrible, S.**, 2021 "A Primer to Sustainable Urban Infrastructure", Urban Infrastructure Hackathon, University of Rochester, March 20, Rochester, NY, United States (online)

11. **Derrible, S.**, 2021 "How Cities Work: A Behind-the-Scenes Look at Cities of Today and Tomorrow", UIC Alumni Exchange, University of Illinois Chicago, February 24, Chicago, IL, United States (online)

12. **Derrible, S.**, 2020 "Seeing Cities through the Lens of Urban Engineering", Centre for Advanced Spatial Analysis (CASA) Seminar Series, University College London, November 25, London, United Kingdom (online; video recording)

13. **Derrible, S.**, 2020 "Changes in activity-mobility patterns of US residents in response to COVID-10", AEESP Converging COVID-19, Environment, Health, & Equity Conference, University of South Florida, November 20, Tampa, FL, United States (online)

14. **Derrible, S.**, 2020 "The difference between 'good' and 'bad' smart urban infrastructure", Braun Symposium: Working across the UI System to Achieve Sustainability, University of Illinois Chicago, October 30, Chicago, IL, United States (online)

15. **Derrible, S.**, 2020, "The Rise of Urban Engineering for Smart, Sustainable, Resilient Urban Infrastructure", Smart Public Transport Lab Webinar, TU Delft, May 6, Delft, Netherlands (online)

16. **Derrible, S.**, 2020, "Infrastructures Urbaines : Intelligence et Interdépendances", Séminaire CoDiUM, Institut de Recherche en Sciences et Techniques de la Ville, April 9, Nantes, France (online)

17. **Derrible, S.**, 2020, "Defining a New Paradigm for the Design and Construction of Civil Infrastructure Systems", Construction Research Seminar Series, Virginia Polytechnic Institute and State University, February 27, Blacksburg, VA, United States

18. **Derrible, S.**, 2019, "Using Machine Learning to Study Infrastructure Interdependencies and Urban Engineering Systems", Energy and Environment Research Seminar, City University of Hong Kong, November 8, Hong Kong

19. **Derrible, S.**, 2019, "Applications of Machine Learning to Inform Policy-Making for Urban Sustainability", Asian and Policy Studies Seminar, Education University of Hong Kong, November 8, Hong Kong

20. **Derrible, S.**, 2019, "Advances in Urban Engineering: Machine Learning, Infrastructure Interdependencies, Design Processes", Engineering Systems & Design Seminar Research Seminar, Singapore University of Technology and Design, September 25, Singapore

21. **Derrible, S.**, 2019 "Digital Twinning Mobility", NSF SUS–Smart City Digital Twin Workshop, Georgia Institute of Technology, September 16, Atlanta, GA, United States

22. **Derrible, S.**, 2019, "Past, Present, and Future Engineering Issues of Canal Systems Through Three Case Studies", Planning and developing embankment of Saigon River and an urban river-canal network and solutions to basically embank the Saigon River and the urban river-canal network by year 2025, September 10, Ho Chi Minh City, Vietnam (keynote)

23. **Derrible, S.**, 2019, "Power of Machine Learning and AI for Planning Cities", Academic Seminar, CoderSchool, August 22, Ho Chi Minh City, Vietnam

24. **Derrible, S.**, 2019, "Engineering Issues of Canal Systems", Ideas and Solutions for Developing Canalside Spaces in Ho Chi Minh City, University of Architecture, August 22, Ho Chi Minh City, Vietnam

25. **Derrible, S.**, 2019, "Machine Learning for Civil Engineers", Science Presentation on Civil Engineering, University of Transport Technology, July 24, Hanoi, Vietnam

26. **Derrible, S.**, 2019, "Smart Data Management and Operations of Urban Infrastructure using Geographic Information Systems", International Conference on Smart Cities, July 18, Seoul, Korea (Keynote)

27. **Derrible, S.**, 2019, "Engineering Smart and Integrated Cities", Department of Civil Engineering Annual Seminar and Retreat, University of Transport Technology, July 3, Halong Bay, Vietnam

28. **Derrible, S.**, 2019, "Designing Smart Cities Intelligently in a Technology-Addicted Era", Issues of Urban Reinvention Panel Discussion, Illinois Institute of Technology, June 5, Chicago, IL, United States

29. **Derrible, S.**, 2019, "Defining Urban Engineering to Help Design Sustainable and Resilient Cities", Civil, Environmental, and Sustainable Engineering Seminar Series, Arizona State University, April 8, Tempe, AZ, United States

30. **Derrible, S.**, 2018, "Shaping Future Cities to be Smart, Sustainable, and Resilient", 3rd International Graduate Student Symposium of the PhD Program at IIT College of Architecture, Illinois Institute of Technology, November 17, Chicago, IL, United States (keynote)

31. **Derrible, S.**, 2018, "Urban Data Mining to Understand Urban Metabolism", iSEE Congress 2018, University of Illinois at Urbana-Champaign, October 4, Urbana, IL, United States

32. **Derrible, S.**, 2018, "Leveraging Machine Learning to Integrate and Decentralize Urban Infrastructure", Sustainable and Resilient Infrastructure Seminar Series, University of Illinois at Urbana-Champaign, October 3, Urbana, IL, United States

33. **Derrible, S.**, 2018, "Using Network Frequency Analysis to Detect Trends and Cluster World Countries to Track Sustainable Development", International Society for Industrial Ecology (ISIE) Gordon Research Conference (GRC), May 23, Les Diablerets, Switzerland

34. **Derrible, S.**, 2018, "What is machine learning and how can we use it to better understand urban consumption patterns?", Golisano Institute for Sustainability Seminar Series, Rochester Institute of Technology, April 18, Rochester, NY, United States

35. **Derrible, S.**, 2018, "The Power of Planning Cities", TEDx Walter Payton College Prep, April 12, Chicago, IL, United States

36. **Derrible, S.**, 2017, "Using Machine Learning to Capture Non-Linear Properties in Residential Consumption: A Case for Water, Transport, and Electricity", Ecological Systems Design Seminar Series, ETH Zurich, December 19, Zurich, Switzerland

37. **Derrible, S.**, 2017, "Using Data Science to Capture New Insights into Energy and Resource Consumption", Environmental Engineering Seminar Series, University of Wisconsin–Madison, December 4, Madison, WI, United States

38. **Derrible, S.**, 2017, "Leveraging Data Science to Learn New Things about Old Systems", Industrial Engineering Seminar Series, Purdue University, November 29, West Lafayette, IN, United States

39. **Derrible, S.**, 2017, "Integrating Urban Infrastructure Systems for the Design of Smart, Sustainable, and Resilient Cities", Civil Engineering Seminar Series, University of Pittsburgh, October 20, Pittsburgh, PA, United States

40. **Derrible, S.**, 2017, "Système d'agriculture urbaine et de symbiose industrielle Plant Chicago", Séminaire de clôture du projet P-G&City, CIRAD Lavalette, September 29, Montpellier, France

41. **Derrible, S.**, 2017, "Leveraging Data Science to Uncover Patterns in Energy and Resource Consumption", Engineering Systems & Design Seminar Series, Singapore University of Technology and Design, May 19, Singapore

42. **Derrible, S.**, 2017, "The Role of Data Science for the Design of Sustainable and Resilient Urban Infrastructure", Future of Urban Mobility Seminar, Singapore-MIT Alliance for Research and Technology, May 18, Singapore

43. **Derrible, S.**, 2017, "The Role of Computer Science in Redesigning Civil Infrastructure Systems", Computer Science Seminar Series, University of Illinois Chicago, March 6, Chicago, IL, United States

44. **Derrible, S.**, 2017, "Redefining Urban Infrastructure Planning and Design: Moving towards Integration", Workshop on Urban Mobility in the Era of Smart and Connected Communities, February 10, Chicago, IL, United States

45. **Derrible, S.**, 2016, "Leveraging Big Data and Data Mining to Rethink Traditional Sustainability Metrics", International Congress on Sustainability Science & Engineering (ICOSSE), October 25, Suzhou, Jiangsu, China (keynote)

46. **Derrible, S.**, 2016, "Machine Learning for non-Computer Scientists", United States Gypsum Tek Talk, October 5, Libertyville, IL, United States

47. **Derrible, S.**, 2016, "Critically Interdependent by Design: Re-Thinking Infrastructure Planning", Modern Solutions Power Systems Conference (MSPSC), June 9, Chicago, IL, United States

48. **Derrible, S.**, 2016, "Linking Urban Infrastructure Systems: Future Smart Cities", Workshop on Computational Challenges in Cooperative Intelligent Urban Transport, Schloss Dagstuhl, March 2, Wadern, Germany

49. **Derrible, S.**, 2016 "Re-Engineering Cities: The Role of Complexity Science", Wednesdays @ NICO Seminar, Northwestern Institute on Complex Systems, Northwestern University, Evanston, IL, United States

50. **Derrible, S.**, 2015 "Complexity in Future Cities: The Rise of Networked Infrastructure", Future Cities Workshop, University of Seoul, November 20, Seoul, South Korea

51. **Derrible, S.**, 2015 "Complexity as a Lever of Creativity for Sustainable Infrastructure Design", Research Design in Urban Science Course, University of Washington, October 20, Seattle, WA, United States

52. **Derrible, S.**, 2015 "Resilience is not a Tree: Can Christopher Alexander help us design more resilient systems?", 22nd ISSST, International Symposium on Sustainable Systems and Technology, May 19, Dearborn, MI, United States

53. **Derrible, S.**, 2015, "Using Complexity Theory to Gain New Information and Help Design More Sustainable and Resilient Urban Systems", Lectures in Civil and Environmental Engineering, Northwestern University, March 13, Evanston, IL, United States

54. **Derrible, S.**, 2014, "Difference between "Sustainability" and "Resilience"?", Symposium on Sustainable Engineering, University of Illinois Chicago, December 2, Chicago, IL, United States

55. **Derrible, S.**, 2014 "Water and Sustainability", Urban Systems and Networks Satelite, NetSci 2014 International School and Conference on Network Science, June 2, Berkeley, California

56. **Derrible, S.**, 2014 "Water, Networks, Complexity, and Cities: Extracting New Information from Old Systems", CME Environmental Seminar, University of Illinois Chicago, April 17, Chicago, IL, United States

57. Zenil, H. & **Derrible, S.**, 2014 "World Metro Networks", Wolfram Demonstrations Project, http://demonstrations.wolfram.com/WorldMetroNetworks/, Accessed January 29, 2014

58. **Derrible, S.**, 2014 "Harvesting Complexity to Build Smarter Cities", Northwestern University Transportation Center Seminar, Northwestern University, January 9, Evanston, IL, United States

59. **Derrible, S.**, 2013 "Fractals, power laws, and networks: how complexity can help better plan cities", Department of Urban Planning and Policy's Friday Forums, University of Illinois Chicago, November 15, Chicago, IL, United States

60. **Derrible, S.**, 2013 "What metros have to teach us, from complexity to centrality", Networking Transportation Networkers, Coventry University, September 26, Coventry, United Kingdom

61. **Derrible, S.**, 2013 "Urban Planning, Resilience and Sustainability from the perspective of Complex Systems", Metropolitan Planning Council, July 15, Chicago, IL, United States

62. **Derrible, S.**, 2013 "Resilience Planning: Concepts and Applications to Urban Issues", Metropolitan Planning Council, May 15, Chicago, IL, United States

63. **Derrible, S.**, 2013 "Redesigning Urban Infrastructure Networks for a Smarter Future", Smart Cities Seminar, University of California Berkeley, February 1, Berkeley, CA, United States

64. **Derrible, S.**, 2012 "Rethinking Transit Planning: Lessons from Complex Networks", CTS IGERT Seminar Series, University of Illinois Chicago, October 10, Chicago, IL, United States

65. **Derrible, S.**, 2012 "Redesigning Urban Systems: A Network Approach", Urban Engineering Seminar, Imperial College London, March 30, London, United Kingdom

66. **Derrible, S.**, 2012 "Adopting a Complex Network Approach to Better Understand and Design Urban Infrastructure", Sustainable Infrastructure Systems Seminar, University of Illinois Chicago, March 16, Chicago, IL, United States

67. **Derrible, S.**, 2012 "Transit systems: new perspectives and novel methods, a network topological approach", MIT Transit Research Group Meeting, Massachusetts Institute of Technology, February 10, Boston, MA., United States

68. **Derrible, S.**, 2012 "Overview of the Singaporean Transit System", Rail Transit Systems Committee Meeting, TRB 91st Annual Meeting, Transportation Research Board, January 23, Washington DC, United States

69. **Derrible, S.**, 2011 "Transit Network Designs: Thoughts for the Future of Urban Mobility", Future of Urban Mobility Seminar, Singapore-MIT Alliance for Research and Technology, September 6, Singapore

70. **Derrible, S.**, 2011 "Research Activities on Infrastructure Networks: Past, Present, and Future", Infrastructure Systems Seminar, Georgia Institute of Technology, April 18, Atlanta, GA, United States

71. **Derrible, S.**, 2011 "Urban Infrastructure Networks: Past Research and Future Avenues", Construction Engineering and Management Seminar, Columbia University, March 24, New York City, NY, United States

72. **Derrible, S.**, 2010 "Mobility Cultures in Paris and Toronto", Mobility Cultures in Megacities Kick-off Workshop, Institute for Mobility Research, November 17-19, Munich, Germany

73. **Derrible, S.**, 2010 "Properties and Effects of Metro Network Design", Sustainable Infrastructure Group Research Discussion Day, University of Toronto, May 27, Toronto, Ontario, Canada

74. **Derrible, S.**, Saneinejad, S., Sugar, L. & Kennedy, C., 2010 "Calculating transportation GHG emissions for municipalities", Transportation Systems (ITS) Lab Seminar Series, University of Toronto, March 5, Toronto, Ontario, Canada

75. **Derrible, S.**, 2009 "Unraveling the mysteries of the complexity of metro networks", Transportation Systems (ITS) Lab Seminar Series, University of Toronto, November 6, Toronto, Ontario, Canada

76. **Derrible, S.**, 2009 "Public Transit Network Characteristics and Design: Results and Lessons Learnt", First Annual Joint ITE section Student Presentation Competition Job Fair, Canadian Institute of Transportation Engineers Toronto, Hamilton, Southwest Ontario, University of Waterloo, March 4, Waterloo, Ontario, Canada

77. **Derrible, S.**, 2009 "Using Graph Theory to Analyse Subway Networks: What can we learn?", Transportation Systems (ITS) Lab Seminar Series, University of Toronto, February 27, Toronto, Ontario, Canada

Press

1. Fox Baltimore, 2024, "As residents leave, Baltimore named among top 15 shrinking U.S. cities" by Amy Simpson (January 30)

2. UIC News, 2024, "Depopulation's impact on infrastructure" by David Staudacher (January 24)

3. ScienceAlert, 2024, "Thousands of US Cities Could Verge on Becoming Ghost Towns by 2100, Study Finds" by Clare Watson (January 16)

4. Scientific American, 2024, "Thousands of U.S. Cities Could Become Virtual Ghost Towns by 2100" by Rachel Nuwer (January 11)

5. CME News, 2023, "Sybil Derrible vows to make the world better" by David Staudacher (July 6)

6. UIC News, 2023, "Sybil Derrible awarded Walter L. Huber Civil Engineering Research Prize" by David Staudacher (April 7)

7. The Conversation, 2021, "Time for the UK to say goodbye to drive-throughs: for the sake of our environment, our health – and our culture" by Eugene Mohareb and Sybil Derrible (February 14)

8. The Conversation, 2021, "Smashed cars, burnt trees, soggy insulation: Post-disaster cleanup is expensive, time-consuming and wasteful" by Sybil Derrible, Nazli Yesiller, and Juyeong Choi (December 11), updated and republished from 2019 article

9. The Conversation, 2021, "Tornades aux États-Unis : le casse-tête du nettoyage post-catastrophe" by Sybil Derrible, Nazli Yesiller, and Juyeong Choi (December 13), translated from December 11, 2021 article

10. The Center Square, 2021, "Pandemic transportation habits could linger in Illinois, across nation" by Scot Bertram (June 5)

11. The Conversation, 2019, "Millions of burnt trees and rusted cars: Post-disaster cleanup is expensive, time-consuming and wasteful" by Sybil Derrible, Nazli Yesiller, and Juyeong Choi (December 10)

12. CME News, 2019, "Professor Sybil Derrible leads workshop on post disaster cleanup" by David Staudacher (July 24)

13. UIC News, 2019 "Making city infrastructure more resilient" by Sharon Parmet (January 10)

14. CME Alumni Newsletter - Spring 2018, 2018, "Professor Derrible Featured at TEDx Talk" by David Staudacher (July 24)

15. UIC News, 2017, "Campus Conversation tackles complexity of climate change" by Hoda Fakhari (November 9)

16. De Volkskrant, 2017, "Er hoeft maar dít te gebeuren en het hele metronet ligt stil", by Francien Bossema (June 28)

17. CME Alumni Newsletter - Spring 2016, 2016, "Derrible Researching the Development of Sustainable Communities" by David Staudacher (April 25)

18. SPM 1ère, 2016, "Journal: Edition du Matin" by Patrick Caillet (April 21)

19. UIC News, 2016, "Engineering faculty members receive NSF CAREER Awards" by Bill Burton (March 29)

20. UIC News, 2015, "Re-thinking design to build sustainable cities" by Gary Wisby (June 16)

21. SPM 1ère, 2013 "Ça vous regarde est à Chicago" by Claire Arrossaména (November 28)

22. GlobalEd 2, 2013 Podcast on "Infrastructure, Sustainability, and Water Management" by Jeremy Riel (October 17)

23. Metropolitan Planning Council, 2013 "Tough Stuff: Resilient Infrastructure in a Changing World" by MPC (May 15). Find video here

24. Institute for Environmental Science and Policy, 2012 Fall 2012 Newsletter by IESP

25. txchnologist, 2011 "The Lonely Podcar: Who Will Take a Chance on Personal Transit?" by Christopher Mims

26. planningpool, 2010 "CTRF 2010: Linking land use and transit" by Christine Allum

04 Editorial & Reviewing Activities

Editor

- Resilience Findings (Findings Press) – Editorial Advisory Board (2023 – Pres.)
- Scientific Reports (Nature) – Editorial Board Member (2022 – Pres.)
- ASCE Open: Multidisciplinary Journal of Civil Engineering – Open Access Advisory Council Member (2022 – Pres.)
- Urban Findings (Findings Press) – Editorial Advisory Board (2021 – 2023)
- Cleaner Production Letters (Elsevier) – Associate Editor (2020 – Pres.)
- Journal of Infrastructure Systems (ASCE) – Associate Editor (2018 – Pres.)
- Transportmetrica B: Transport Dynamics (Taylor and Francis) – Guest Editor on Special Issue (2022): "Reliability and Resilience of Emerging Mobility Systems"
- Journal of Industrial Ecology (Wiley) – Guest Editor on Special Issue (2018): "Industrial Ecology for Climate Change Adaptation and Resilience"
- Complex Systems – Editorial Board Member (2017 – Pres.)
- Journal of Urban Planning and Development (ASCE) – Editorial Board Member (2015 – 2023)
- Sustainable and Resilient Infrastructure (Taylor and Francis) – Editorial Board Member (2015 – 2019)
- Journal of Infrastructure Systems (ASCE) – Guest Editor on Special Issue (2016): "Infrastructure Resilience to Climate Change"
- Journal of Industrial Ecology (Wiley) – Guest Editor on Special Issue (2015): "Advances in Complex Adaptive Systems and Industrial Ecology"

Proposal & Project Reviewer

- American Association for the Advancement of Science (AAAS) (1)
- Engineering and Physical Sciences Research Council (EPSRC) (UK) (1)
- Discovery Partners Institute (1)
- ETH Zurich Research Commission (2)
- German Israeli Foundation for Scientific Research and Development (1)

- Illinois Water Resources Center (1)

- Israeli Ministry of Innovation, Science and Technology (1)

- Israel Science Foundation (1)

- Metropolitan Mayors Caucus (1)

- Mid-Atlantic Transportation Sustainability University Transportation Center (1)

- National Cooperative Highway Research Program (NCHRP) (1)

- Natural Sciences and Engineering Research Council of Canada (NSERC-CRSNG) Discovery Grant (1)

- Netherlands Organisation for Scientific Research (1)

- Oak Ridge Associated Universities (4)

- Transit Cooperative Research Program (TCRP) (1)

- Sloan Foundation (1)

- UCLA Institute of Transportation Studies (1)

- University of Illinois Chicago (1)

- U.S. National Science Foundation (12)

- Vienna Science and Technology Fund (1)

International Reports

- Resource Requirements of Future Urbanization (2017) by the International Resource Panel (IRP) – part of the United Nations Environment Program (UNEP)

Book & Book Proposal Reviewer

- Columbia University Press (1)

- CRC Press (2)

- MIT Press (3)

- Pearson (1)

- Routledge (1)

- Wiley (2)

Journal Reviewer

- ACM CHI Conference on Human Factors in Computing Systems (1)

- ASCE Construction Research Congress (1)

- ASCE Journal of Infrastructure Systems (10)

- ASCE Journal of Transportation Engineering (2)

- ASCE Journal of Urban Planning and Development (19)

- Buildings (1)

- Canadian Transportation Research Forum (1)

- Cleaner Production Letters (3)

- Climatic Change (2)

- Complex Systems (1)

- Energy and Buildings (2)

- Environment and Planning B: Urban Analytics and City Science (6)

- Environmental Research: Infrastructure and Sustainability (2)

- Environmental Sciences (1)

- International Conference on Smart Cities (4)

- International Conference series on Geotechnics, Civil Engineering and Structures (CIGOS) (39)

- International Journal of Sustainable Transportation (3)

- International Journal of Urban Sciences (2)

- International Society for Industrial Ecology Biennale Conference (33)

- International Symposium on Transportation Network Reliability (5)

- Journal of Hydrology (1)

- Journal of Industrial Ecology (12)

- Journal of Planning Education and Research (2)

- Journal of Structural Integrity and Maintenance (2)

- Journal of the Royal Society Interface (2)

- Journal of Transport and Land-Use (3)

- Journal of Transport Geography (9)

- Journal of Urban Technology (2)

- Nature Sustainability (4)

- Nature Urban Sustainability (2)

- Networks and Spatial Economics (3)

- Physica A: Journal of Statistical Mechanics and its Applications (8)

- PLoS ONE (2)

- Reliability Engineering and System Safety (4)

- Renewable & Sustainable Energy Reviews (2)

- Resilience Findings (1)

- Resources, Conservation & Recycling (2)

- Risk Analysis (1)

- Royal Society Open Science (1)

- Scientific Data (2)

- Springer Handbook Chapter (1)

- SpringerPlus (1)

- Structure and Infrastructure Engineering (1)

- Sustainable and Resilient Infrastructure (2)

- The Professional Geographer (1)

- Transactions on Internet Technology (1)

- Transport Findings (4)

- Transport Policy (6)

- Transport Reviews (2)

- Transportation (4)

- Transportation Letters (2)

- Transportation Research Board Annual Meeting (91)

- Transportation Research Part A: Policy and Practice (1)

- Transportation Research Part C: Emerging Technologies (2)

- Transportation Research Part D: Transport and Environment (4)

- Transportation Research Part E: Logistics and Transportation Review (1)

- Transportation Science (1)

- Transportmetrica B (1)

- Urban Findings (1)

- Urban Studies (2)

05 Research Projects

Current Projects

Electricity Consumption and Human Mobility   March 2023 – Pres.

Objective: Analyze Chicago electricity consumption patterns at the residential and non-residential levels to investigate their interrelationship with human mobility patterns.

Electric Vehicle (EV) Adoption Impact in Chicago   Jun. 2023 – Pres.

Objective: Develop an integrated framework to leverage Argonne National Laboratory's Polaris modeling tool in understanding the impacts of EV adoption and charging infrastructure in Chicago.

Analysis of Urban Intersections Using Computer Vision and Machine Learning

Aug. 2022 – Pres.

Objective: Leverage novel deep learning image processing tools to cluster road intersections and predict whether they are safe or unsafe using satellite images.

Impact of stormwater management practices on detention network performance

Aug 2021 – Pres.

Objective: Evaluate stormwater detention network performance based on detention design assumptions in various storm events.

Depopulation in Illinois: Understanding and Forecasting Impacts on Transportation

May 2019 – Pres.

Objective: Analyze current depopulation trends in places around the state of Illinois, forecast the potential impacts, and identify transportation solutions.

Past Projects

University of Illinois Chicago (UIC)

Social Media Data Mining for Transport Commute Decisions   Aug. 2022- Jul. 2023

Objective: Retrieve, filter, and analyze social media posts to gather US-based conversations regarding transportation behavior and implement Natural Language Processing techniques to draw real-time estimates on commuting decisions.

A Twitter Data Downloading Framework for Geographical Analysis and Sustainability Research   May 2022 – Jun. 2023

Objective: Develop a high-level tool to download geographically referenced Twitter data from user-defined parameters and compute basic preliminary text and statistical analyses.

Investigating Attitudinal and Behavioral Changes in US Households Before, During, and After the COVID-19 Pandemic   May 2020 – Aug. 2022

Objective: Develop, deploy, and analyze a household travel survey to capture attitudinal and behavioral changes in US households with the COVID-19 pandemic. All data collected is anonymized and shared in open access.

Train Delay Prediction Modeling   Aug. 2018 – Jul. 2022
Objective: Build database of Amtrak train arrival times and other variables (e.g., weather) and use Machine Learning (ML) to model train delay prediction.

Investigate Interdependencies and Interrelationships in Urban Infrastructure
                                                                         Aug. 2016 – Jul. 2022
Objective: Identify and study the presence of interdependencies in how infrastructure operates and interrelationships in how people use infrastructure services.

Converting Infrastructure Maps from CAD to GIS   Aug. 2017 – Dec. 2021
Objective: Develop protocols and machine learning models to accurately convert infrastructure maps from CAD to GIS format.

Green StormWater Infrastructure Modeling (G-SWIM)   Aug. 2016 – Aug. 2020
Objective: Scaled analysis of green stormwater infrastructure from site monitoring investigations to regional impact modeling.

The Affluence-Technology Connection   Aug. 2016 – Dec. 2019
Objective: Explore the Affluence-Technology connection (from the IPAT equation) through the development of new metrics that reveal how technological attributes and consumption affluence influence and relate to each other.

Machine-based Statistical Learning of Urban Metabolism   Aug. 2015 – Dec. 2019
Objective: Design high-performance machine-based statistical learning models that can be applied in the context of urban metabolism.

Stormwater Runoff of Argyle Street: Pre and Post Green Infrastructure
                                                                         Aug. 2017 – Aug. 2019
Objective: Model pre and post stormwater runoff management scenario of existing green infrastructure in Argyle Street in Chicago using EPA SWMM.

Sentiment Analysis of Tweets Related to Civil Infrastructure across US Cities
                                                                         Aug. 2018 – Aug. 2019
Objective: Collect tweets with specific keywords related to civil infrastructure for a list of cities across the US and analyze their sentiment using Natural Language Processing (NLP) and QGIS

Value Engineering Cities   Jan. 2017 – Jul. 2018
Objective: Develop an assessment method to evaluate the value of cities based on their infrastructure.

Modeling the Impact of Climate Change on Stormwater Infrastructure: Application to Elmhurst, IL   Dec. 2017 – Mar. 2018

Objective: Simulate the impact of Climate change on existing stormwater infrastructure by using the climate model output and XPSWMM.

Tracking Resource Consumption Trends using Network Theory   Aug. 2014 – Aug. 2018
Objective: Create, develop and apply a new fundamental network theoretical methodology to track trends in resource consumption in the world.

Measuring the Resilience of Urban Transportation Networks to Extreme Events
                                                                Aug. 2013 – May 2017
Objective: Simulate and measure the impact of extreme events on urban transportation systems by using climate model outputs and concepts of network science.

Urban Infrastructure is not a Tree: Integrating and Decentralizing Urban Infrastructure Networks   Aug. 2015 – May 2016
Objective: Adapt Christopher Alexander's A City is not a Tree concept to urban infrastructure and determine how urban infrastructure networks can be better integrated and decentralized for smarter cities.

GIS to Network Tool Development   Jan. 2015 – Aug. 2016
Objective: Develop an ArcGIS, python, and QGIS tool to convert any GIS polyline feature into a network format.

Facility-Scale Industrial Symbiosis   Jan. 2015 – May 2016
Objective: Define a novel approach to co-locating small production businesses within a single facility, based on established industrial symbiosis and circular economy principles.

Estimating The Cost of Over-Cooling Commercial Buildings in the United States
                                                                Aug. 2014 – Aug. 2015
Objective: Compare building electricity use data with simulated data (using DOE's eQuest) to estimate the energy and monetary cost of over–cooling commercial buildings.

Water Consumption Networks in the United States   Aug. 2013 – Jul. 2014
Objective: Use a network science methodology to study how water consumption has evolved in the United States.

Geometric Complexity of Urban Road Networks   Aug. 2012 – Dec. 2014
Objective: Develop novel methodologies to study and characterize the complex geometry of urban road networks, which can in turn lead to a better understanding of their encompassing urban systems.

Singapore-MIT Alliance for Research and Technology (SMART)

SimMobility: Long-Term and Performance Assessment   Aug. 2011 – Jul. 2012

Objective: Develop state-of-the-art integrated transportation and land-use platform, using advanced discrete choice behavioral models. Enable more meaningful evaluation of alternative sustainability mobility systems for the future of urban mobility.

University of Toronto

Greenhouse-Gas Urban Freight Transportation Model   Nov. – Dec. 2010
Objective: Develop estimation guidelines to evaluate the municipal greenhouse-gas emissions related to the transportation of freight. Work to be included in the Carbon Neutral City Planner software.

Waterfront Toronto Climate Positive Tool Development   Aug. – Oct. 2010
Objective: Assist in the development of the Climate Positive (CP) Tool, in particular, the development of a Toronto-specific model to compute transportation-related inputs to the tool that are sensitive to Waterfront Toronto neighborhood design (dwelling typology, street layout, etc.). Review of the CP Tool and strategic analysis of application for lower don lands.

Getting to Carbon Neutral: A Guide to Canadian Municipalities   Sep. 2008 – Jan. 2010
Objective: Synthesize current knowledge of sustainable urban design, and present it in a way that can help Canadian municipalities to become carbon neutral. The definition of carbon neutrality in this document implies direct / indirect municipal emissions minus sequestered carbon and offsets sum to zero.

Urban and Regional Macro-Economics   Sep. 2006 – Sep. 2008
Objective: Develop macro-economic measures to compare worldwide cities, investigating the role of savings, capital formation and imports/exports.

06 Grants, Scholarships, Fellowships, & Awards

Grants

University of Illinois Chicago

International partnerships for accelerating climate-ready, sustainable, and clean urban transportation 2022
Sponsor: National Science Foundation (NSF) – $1,499,886
Role: Senior Personnel

PRESUR: Planning a Resilient and Equitable State Using Real-time data 2022
Sponsor: Discovery Partners Institute (DPI) – $125,000
Role: Lead PI

RAPID/Collaborative Research: Investigating Attitudinal and Behavioral Changes in US Households Before, During, and After the COVID-19 Pandemic 2020
Sponsor: National Science Foundation (NSF) – $110,351
Role: Lead PI

INTERN: Integrating Real-time Water Data, Automation, and Machine Learning into Water Management Operations and Planning 2020
Sponsor: National Science Foundation (NSF) – $38,444
Role: Lead PI

EAGER: SUstainable Material Management Extreme Events Reconnaissance (SUMMEER) Organization 2020
Sponsor: National Science Foundation (NSF) – $299,999
Role: Co-PI

Smart City Digital Twin Convergence Conference 2019
Sponsor: National Science Foundation (NSF) – $49,213
Role: Co-PI

Understanding and Forecasting the Impacts of Depopulation in Illinois 2019
Sponsor: Illinois Department of Transportation (IDOT) – $276,572
Role: Sole PI

Workshop on Post-Disaster Materials and Environmental Management 2019
Sponsor: National Science Foundation (NSF) – $49,946
Role: Lead PI

Intelligent Welding: Real Time Monitoring, Diagnosis, Decision and Control using Multi-sensor and Machine Learning 2016
Sponsor: UI Labs – $501,554
Role: Co-PI

CyberPhysical Systems: Synergy: Collaborative Research: Mapping and Querying Underground Infrastructure Systems 2016
Sponsor: National Science Foundation (NSF) – $420,000
Role: Co-PI

CAREER: Understanding the Fundamental Principles Driving Household Energy and Resource Consumption for Smart, Sustainable, and Resilient Communities 2016
Sponsor: National Science Foundation (NSF) – $500,000
Role: Sole PI

Transportation Systems Modeling for Detroit 2015
Sponsor: Argonne National Laboratory (ANL) – $40,907
Role: Sole PI

CyberSEES: Type 2: Feasibility of a Data Integration Framework for Urban Metabolism
2013
Sponsor: National Science Foundation (NSF) – $616,000
Role: Co-PI

Developing a new GIS tool to calculate the Topological and Fractal Dimensions of Cities
2013
Sponsor: UIC College of Engineering Annual Fund – $9,935
Role: Sole PI

Assessing Sustainable Freight Policies Using Microsimulation Approach 2012
Sponsor: National Center for Freight & Infrastructure Research (CFIRE) – $78,998

University of Toronto

Greenhouse-Gas Emissions of Commercial Vehicles in Municipalities: adding Freight Transportation to MUNTAG 2010
Sponsor: Toronto and Region Conservation Authority
Role: Co-PI

Climate Positive Tool Development 2010
Sponsor: Clinton Climate Initiative and Waterfront Toronto
Role: Co-PI

Getting to Carbon Neutral 2008
Sponsor: Toronto and Region Conservation Authority
Role: Co-PI

Fellowships, Scholarships, & Awards

International Society for Industrial Ecology (ISIE) Gordon Research Conference (GRC)
2024
Source: International Society for Industrial Ecology (ISIE)
Invited Speaker

Recognized in top 2% researcher in field for career and single-year impact in 2022   2023
Source: Elsevier – see data here

The Grainger Foundation Frontiers of Engineering Symposium   2023
Source: National Academy of Engineering (NAE)
Invited participant (nominated and selected)

Walter L. Huber Civil Engineering Research Prize   2023
Source: American Society of Civil Engineers (ASCE)

Certificate of Recognition for Outstanding Support as Vice-Chair of AMR10 Committee on Critical Transportation Infrastructure Protection Committee   2023
Source: Transportation Research Board (TRB)

Recognized in top 2% researcher in field for career and single-year impact in 2021   2022
Source: Elsevier – see data here

COE Advising Award   2021
Source: University of Illinois Chicago
Based on advising evaluations

Recognized in top 2% researcher in field for career and single-year impact in 2020   2021
Source: Elsevier – see data here

Finalist in Textbooks – 2020 PROSE Award for Urban Engineering for Sustainability   2020
Source: Association of American Publishers (AAP)

Textbook Urban Engineering for Sustainability recognized as one of "12 Must-Read Earth Day Books" in 2020   2020
Source: MIT Press – see article here

Recognized in top 2% researcher in field for career and single-year impact in 2019   2020
Source: Elsevier – see data here

COE Teaching Award   2019
Source: University of Illinois Chicago
Based on teaching evaluations

International Society for Industrial Ecology (ISIE) Gordon Research Conference (GRC)
2018

Source: International Society for Industrial Ecology (ISIE)
Invited Speaker

COE Research Award   2017
Source: University of Illinois Chicago
Based on merit

COE Teaching Award   2017
Source: University of Illinois Chicago
Based on teaching evaluations

NSF CAREER Award   2016
Source: National Science Foundation

COE Advising Award   2016
Source: University of Illinois Chicago
Based on advising evaluations

COE Teaching Award   2014
Source: University of Illinois Chicago
Based on teaching evaluations

COE Advising Award   2014
Source: University of Illinois Chicago
Based on advising evaluations

Natural Sciences and Engineering Research Council of Canada (NSERC-CRSNG)   2011
Post-Doctoral Fellowship
Funding for two years – national competition

CN Railway Scholarship   2009
Canadian Transportation Research Forum
Six scholarships per year – national competition

MMM Group Ltd. Scholarship   2009
Transportation Association of Canada
Eighteen scholarships per year – national competition

ISIE Conference Student Scholarship   2009
International Society for Industrial Ecology
For the 2009 ISIE conference in Lisbon, Portugal

ITE Student Presentation Competition   2009
ITE chapters of Toronto, Hamilton and Southwest Ontario
Silver award

Open Fellowship   2006–2010
University of Toronto
Renewed annually based on maintaining a GPA of at least A

Design, Make and Test Best Project-of-the-Year Award   2005
Imperial College London
This is a one-year long project mandatory to all third-year students

Open Scholarship   2001–2010
Conseil Territorial of St Pierre and Miquelon
Renewed annually based on success and recommendation

07 Advising

Post-Doctoral Advising

Movahedi, Ali   Jul. 2022 – Sep. 2022
University of Illinois Chicago, Civil Engineering
Topic: Infrastructure Interrelationships

Badhrudeen, Mohamed   Jan. 2022 – Jun. 2022
University of Illinois Chicago, Civil Engineering
Topic: Urban Intelligence

Lee, Dongwoo   Jun. 2019 – Jul. 2019
University of Illinois Chicago, Civil Engineering
Topic: Probability Graph Models in Transportation

Kermanshah, Amirhassan   Aug. 2017 – Jul. 2018
University of Illinois Chicago, Civil Engineering
Topic: Assessment Road System Vulnerability to Climate Change

Peiravian, Farid   Aug. 2015 – Jul. 2016
University of Illinois Chicago, Civil Engineering
Topic: Urban Road Network Complexity

Doctoral Advising

Salvador, Isaac   Aug. 2023 – Pres.
University of Illinois Chicago, Civil Engineering
Topic: Large Language Models in Urban Engineering

Akbari, Fatemeh   Aug. 2023 – Pres.
University of Illinois Chicago, Civil Engineering
Topic: Environmental Justice and Air Quality

Acosta-Sequeda, Juan   Aug. 2021 – Pres.
University of Illinois Chicago, Civil Engineering
Topic: Natural Language Processing in Urban Engineering

Porché, Shonté   Aug. 2021 – Pres.
University of Illinois Chicago, Civil Engineering
Co-Advised by Prof. H. Ataei
Topic: Sustainable and Equitable Construction Engineering

Zigulich, Michael   Aug. 2021 – Pres.
University of Illinois Chicago, Civil Engineering

Co-Advised by Prof. A. Abokifa
Topic: Stormwater Management Modeling using Machine Learning

Sutradhar, Uttara   Aug. 2020 – Pres.
University of Illinois Chicago, Civil Engineering
Topic: Assessing the Impact of Depopulation on Mobility in Illinois

Chauhan, Rishabh   Aug. 2019 – Jul. 2023
University of Illinois Chicago, Civil Engineering
Topic: Causal Discovery in Urban Engineering

Lapamonpinyo, Pipatphon   Aug. 2017 – Jul. 2022
University of Illinois Chicago, Civil Engineering
Topic: Passenger Train Delay Prediction using Machine Learning

Movahedi, Ali   Aug. 2017 – Jul. 2022
University of Illinois Chicago, Civil Engineering
Topic: Interrelationships in Urban Infrastructure Use: Transport, Electricity, Water and Gas

Badhrudeen, Mohamed   Aug. 2017 – Dec. 2021
University of Illinois Chicago, Civil Engineering
Topic: Urban Intelligence: Tools and Models for Smart Cities

Mulrow, John   May 2016 – Dec. 2019
University of Illinois Chicago, Civil Engineering
Topic: The Affluence-Technology Connection: Metrics, Analysis, and Implications for Sustainable Technology

Lee, Dongwoo   Aug. 2015 – May 2019
University of Illinois Chicago, Civil Engineering
Topic: Machine-based Statistical Learning of Urban Metabolism

Ahmad, Sk Nasir   Aug. 2014 – Aug. 2018
University of Illinois Chicago, Civil Engineering
Topic: Tracking Energy and Resource Consumption for Sustainable Development

Kermanshah, Amirhassan   Aug. 2013 – May 2017
University of Illinois Chicago, Civil Engineering
Topic: A Geographic Analysis of the Resilience of Urban Infrastructure Networks to Extreme Events

Peiravian, Farid   Sep. 2012 – Dec. 2014
University of Illinois Chicago, Civil Engineering
Topic: Geometric Complexity of Urban Road Networks

Master Advising

Puengpapat, Peerawat   Aug. 2022 – Dec. 2023
University of Illinois Chicago, Civil Engineering
Topic: Hydrologic Performance of Green Infrastructure across Climate Regions

Salvador, Isaac   Aug. 2021 – Jul. 2023
University of Illinois Chicago, Civil Engineering
Topic: Analysis of Urban Intersections using Computer Vision and Machine Learning

Tiwari, Ranjita   Aug. 2016 – Aug. 2018
University of Illinois Chicago, Civil Engineering
Topic: Measuring and Modeling the Performance of Green Infrastructure

Maciver, Scot   Aug. 2016 – Jul. 2018
University of Illinois Chicago, Civil Engineering
Topic: Value Engineering Cities

Delpazir, Dena   Jan. 2017 – mar 2018
University of Illinois Chicago, Civil Engineering
Topic: Modeling Large-Scale Urban Stormwater Runoff

Eva Chancé   Apr. 2016 – Sep. 2016
AgroSup Dijon (France), French National Agriculture Institute (INRA)
Topic: Industrial Symbiosis of Plant Chicago

Mulrow, John   Aug. 2014 – May 2016
University of Illinois Chicago, Civil Engineering
Topic: Facility-Scale Industrial Symbiosis Integrating Small-Scale Production and the Circular Economy

Ahmad, Sk Nasir   Aug. 2013 – Aug. 2014
University of Illinois Chicago, Civil Engineering
Topic: Evolution of Water Consumption in the USA: A Network Approach

Bulusu, SrimaniTejaswini   Sep. 2012 – May 2013
University of Illinois Chicago, Civil Engineering
Topic: Carbon Footprint

Xiang, Yunke   Oct. 2011 – Jul. 2012
Massachusetts Institute of Technology, Department of Urban Studies and Planning
Topic: Real Estate Modeling in Singapore

Undergraduate Advising

Patipati, Sarthak   Jul. 2022 – Pres.
University of Illinois Chicago, Computer Science
Sponsor: Chancellor's Undergraduate Research Award (CURA)
Topic: Sentiment Analysis of Social Media Post

Otero, Marco   Aug. 2022 – May 2023
University of Illinois Chicago, Electrical Engineering
Sponsor: Chancellor's Undergraduate Research Award (CURA)
Topic: Designing Sustainable Products

Acaylar, Gieanelli   May 2021 – Dec. 2021
University of Illinois Chicago, Civil Engineering
Sponsor: NSF Research Experience for Undergraduates (REU)
Topic: COVID19 Survey and Analysis

Doak, Laurel   May 2021 – Aug. 2021
University of Illinois Chicago, Computer Science
Sponsor: NSF Research Experience for Undergraduates (REU)
Topic: Visualization of COVID10 Data

Naranjo, Nalin   Jan. 2019 – Aug. 2020
University of Illinois Chicago, Civil Engineering
Topic: GIS and Underground Infrastructure

Quadros, Royce   May 2019 – Aug. 2019
University of Illinois Chicago, Civil Engineering
Topic: Green Infrastructure Maintenance

Miguest, Jacob   Jul. 2018 – May 2019
University of Illinois Chicago, Civil Engineering
Sponsor: NSF Research Experience for Undergraduates (REU)
Topic: 3D Modeling and Printing

Fonteix, Guillemette   mar 2018 – Aug. 2018
University of Illinois Chicago, Civil Engineering
Sponsor: Ecole Nationale des Sciences Géographiques (ENSG) – French National School of
Geographic Sciences (France)
Topic: Geospatial Mapping Protocol and Survey of Underground Infrastructure

Ali, Sania   Aug. 2017 – May 2019
University of Illinois Chicago, Civil Engineering
Sponsor: Chancellor's Undergraduate Research Award (CURA)
Topic: Food Carbon Footprint Smartphone App

Dana, Yousef   Aug. 2017 – Aug. 2018
University of Illinois Chicago, Civil Engineering

Topic: Virtual Reality in Civil Engineering

Chenu, Bastien   mar 2017 – Aug. 2017
University of Illinois Chicago, Civil Engineering
Sponsor: Ecole Nationale des Sciences Géographiques (ENSG) – French National School of Geographic Sciences (France)
Topic: Geospatial Mapping of Underground Infrastructure

Munoz, Jonathan   Jun. 2017 – Aug. 2017
University of Illinois Chicago, Computer Science
Sponsor: UIC College of Engineering Guaranteed Paid Internship Program (GPIP)
Topic: Building an Online Food Carbon Footprint Calculator

Machaj, Katherine   Aug. 2016 – May 2017
University of Illinois Chicago, Civil Engineering
Sponsor: NSF Research Experience for Undergraduates (REU)
Topic: Surveying Preferences for Carbon Footprint Smartphone App

Deans, Joshua   Aug. 2016 – May 2017
University of Illinois Chicago, Civil Engineering
Sponsor: NSF Research Experience for Undergraduates (REU)
Topic: Assessment of Carbon Footprint Calculators

Sitko, Katarzyna   Aug. 2016 – May 2017
University of Illinois Chicago, Civil Engineering
Sponsor: Chancellor's Undergraduate Research Award (CURA)
Topic: 3D Printing in Civil Engineering

Hill, Ian   Aug. 2016 – Dec. 2016
University of Illinois Chicago, Civil Engineering
Sponsor: Chancellor's Undergraduate Research Award (CURA)
Topic: Data Analysis of Building Energy Use

Shaw, Jovaun   Aug. 2016 – Dec. 2016
University of Illinois Chicago, Civil Engineering
Topic: GIS Mapping of Civil Engineering Systems

Norberto, Julia   May 2016 – Jul. 2016
University of Illinois Chicago, Civil Engineering
Sponsor: Brazilian Scientific Mobility Program, Exchange Research Fellow
Topic: Facility-Scale Urban Metabolism

Santos, Patricia   May 2016 – Aug. 2016
University of Illinois Chicago, Civil Engineering
Sponsor: Brazilian Scientific Mobility Program, Exchange Research Fellow
Topic: Climate and Building Energy Use

Marinho, Rodrigo   May 2016 – Aug. 2016
University of Illinois Chicago, Civil Engineering
Sponsor: Brazilian Scientific Mobility Program, Exchange Research Fellow
Topic: Python and QGIS Tool Development

Alves, Felipe   May 2016 – Aug. 2016
University of Illinois Chicago, Civil Engineering
Sponsor: Brazilian Scientific Mobility Program, Exchange Research Fellow
Topic: Network Properties of Urban Roads

Klawitter, David   Jan. 2016 – Aug. 2016
University of Illinois Chicago, Civil Engineering
Topic: Climate and Water Consumption

Cairo, Peter   Jan. 2016 – Aug. 2016
University of Illinois Chicago, Civil Engineering
Topic: US Water Consumption

Imsha, Saulius   Jan. 2016 – Oct. 2016
University of Illinois Chicago, Civil Engineering
Topic: Building Energy Use

Kessler, Daniel   Jan. 2015 – May 2016
University of Illinois Chicago, Civil Engineering
Topic: Bipartite Representation of Infrastructure Networks

de Souza, Paloma Morais   Aug. 2015 – May 2016
University of Illinois Chicago, Civil Engineering
Sponsor: Brazilian Scientific Mobility Program, Exchange Research Fellow
Topic: UIC Infrastructure Systems as Networks

White, Kimberly   Aug. 2015 – Dec. 2015
University of Illinois Chicago, Civil Engineering
Topic: Engineering Structures as Complex Structures

Reeder, Matthew   Aug. 2014 – Aug. 2015
University of Illinois Chicago, Civil Engineering
Sponsor: Chancellor's Undergraduate Research Award (CURA)
Topic: Commercial Building Electricity Use

Sombrio, Eduardo Schaefer   May 2015 – Aug. 2015
University of Illinois Chicago, Civil Engineering
Sponsor: Brazilian Scientific Mobility Program, Exchange Research Fellow
Topic: Network Properties of Road Systems

Godinho Jr., Flavio Irã   May 2015 – Aug. 2015
University of Illinois Chicago, Civil Engineering
Sponsor: Brazilian Scientific Mobility Program, Exchange Research Fellow
Topic: UIC Infrastructure Systems as Networks

Agondanou, Nouhessedo   Aug. 2014 – May 2015
University of Illinois Chicago, Civil Engineering
Topic: Modeling Building Energy Use

Nainggolan, Laura   Aug. 2014 – Dec. 2014
University of Illinois Chicago, Civil Engineering
Topic: Modeling the Impacts of Extreme Events

Nedumgottil, Anthony   Jun. 2014 – Aug. 2014
University of Illinois Chicago, Civil Engineering
Topic: Building an Online Network Calculator

Pereira, Felipe   May 2014 – Aug. 2014
University of Illinois Chicago, Civil Engineering
Sponsor: Brazilian Scientific Mobility Program, Exchange Research Fellow
Topic: Genetic Optimization of Metro Design

Andrew, Gary (Joe)   Jan. 2014 – May 2014
University of Illinois Chicago, Civil Engineering
Sponsor: Chancellor's Undergraduate Research Award (CURA)
Topic: Structures as Complex Systems

Jacobs, Paul   Aug. 2013 – May 2014
University of Illinois Chicago, Civil Engineering
Sponsor: Chancellor's Undergraduate Research Award (CURA)
Topic: Urban Water Systems

Agamy, Marian   Aug. 2013 – Dec. 2013
University of Illinois Chicago, Civil Engineering
Sponsor: Chancellor's Undergraduate Research Award (CURA)
Topic: Sustainable Bridges

Roux, Sabine   Apr. – Aug. 2010
University of Toronto, Civil Engineering
Sponsor: Exchange student from Ecole Nationale des Travaux Publics de l'Etat (ENTPE)
Topic: Transportation Infrastructure in the Urban Metabolism

08 Teaching Experience

University of Illinois Chicago

CME594 Applied Data Science   Spring 2024
Graduate course

CME112 Evolution of Infrastructure & Society   Fall 2023
Undergraduate course – 42 students

CME440 Cities & Sustainable Infrastructure   Spring 2023
Graduate and Senior course – 21 students
See The Image of Chicago poster (2.1 Mb) & Design Project Book Compilation (81.2 Mb)

CME594 Applied Data Science   Fall 2022
Graduate course – 31 students

CME594 Introduction to Data Science   Fall 202
Graduate course – 24 students

CME440 Cities & Sustainable Infrastructure   Spring 2021
Graduate and Senior course – 34 students
See Design Project Book Compilation (47.4 Mb)

CME112 Evolution of Infrastructure & Society   Spring 2021
Undergraduate course – 73 students

CME594 Introduction to Data Science   Fall 2020
Graduate course – 23 students

CME112 Evolution of Infrastructure & Society   Fall 2020
Undergraduate course – 63 students

CME594 Introduction to Data Science   Spring 2019
Graduate course – 38 students

CME440 Cities & Sustainable Infrastructure   Fall 2018
Graduate and Senior course – 38 students
See The Image of Chicago poster (3.9 Mb) & Design Project Book Compilation (32.2 Mb)

CME594 Introduction to Data Science   Spring 2018
Graduate course – 33 students

CME440 Cities & Sustainable Infrastructure   Fall 2017
Graduate and Senior course – 43 students
See The Image of Chicago poster (5.5 Mb) & Design Project Book Compilation (21.4 Mb)

CME594 Introduction to Data Science   Spring 2017
Graduate course – 15 students

CME440 Cities & Sustainable Infrastructure   Fall 2016
Graduate and Senior course – 51 students
See The Image of Chicago poster (4 Mb) & Design Project Book Compilation (28.3 Mb)

CME594 Introduction to Data Science   Spring 2016
Graduate course – 13 students

CME 311 Water Resources Engineering   Fall 2015
Junior course – 34 students

CME 494 Cities & Sustainable Infrastructure   Spring 2015
Graduate and Senior course – 35 students
See The Image of Chicago poster (48.3 Mb) & Design Project Book Compilation (32.1 Mb)

CME 311 Water Resources Engineering   Fall 2014
Junior course – 48 students

CME594 Cities and Complexity   Spring 2014
Graduate course – 6 students
See Visualization Poster (5.6Mb)

CME 311 Water Resources Engineering   Fall 2013
Junior course – 46 students

CME 494 Cities & Sustainable Infrastructure   Spring 2013
Graduate and Senior course – 19 students
See Design Project Book Compilation (11.7 Mb)

CME 311 Water Resources Engineering   Fall 2012
Junior course – 47 students

University of Toronto

CIV 577 Infrastructure for Sustainable Cities   Spring 2010
Graduate and Senior course (Teaching Assistant) – 47 students

CIV 1310 Infrastructure Economics   Fall 2009
Graduate course (Teaching Assistant) – 70 students

EDV 250 Hydrology and Hydraulics   Spring 2009
Sophomore course (Teaching Assistant) – 127 students

CIV 368 Engineering Economics and Decision-Making   Fall 2008
Junior course (Teaching Assistant) – 114 students

CIV 235 Civil Engineering Graphics PO1   Spring 2008
Sophomore course (Teaching Assistant) – 108 students

CIV 1310 Infrastructure Economics   Fall 2007
Graduate course (Teaching Assistant) – 51 students

CIV 425 Design of sustainable neighbourhoods   Fall 2006 & Spring 2007
Senior course (Teaching Assistant) – 40 students

09 Academic & Professional Services

Professional Services

Aj Vana Be   Dec. 2023
Bouchon Lead, Lyon, France

VinFuture Prize   Nov. 2023 – Pres.
Official Nominator

Seventh Edition of the United Nations Environmental Program (UNEP)'s Global Environmental Outlook (GEO-7)   May 2023 – Pres.
Lead Author

George Brown College (GBC) B.Eng. degree in Urban Engineering   Feb 2023 – Pres.
Program Advisory Committee Member

Critical Transportation Infrastructure Protection Committee (AMR10)   Apr. 2023 – Pres.
Transportation Research Board (TRB)
Chair

Bioéconomie pour les territoires urbains (BETTER)   Apr. 2022 – Pres.
Institut National de Recherche pour l'Agriculture, l'alimentation et l'Environnement (INRAE)
Scientific Advisory Board Member

International Conference series on Geotechnics, Civil Engineering and Structures (CIGOS) 2021
                                                                       Oct. 2021
Scientific Committee Member, Ha Long Bay, Vietnam

Actionable Science for Urban Sustainability (AScUS) 2021   Jun. 2021
Organizing Committee Member, Online

Bridging Transportation Researchers (BTR)   Aug. 2020
Session Chair, Online

Actionable Science for Urban Sustainability (AScUS) 2020   Jun. 2020
Organizing Committee Member & Discussion Session Organizer, Online

International Conference series on Geotechnics, Civil Engineering and Structures (CIGOS) 2019
                                                                       Oct. 2019
Scientific Committee Member & Session Chair, Hanoi, Vietnam

International Society for Industrial Ecology (ISIE) 2019   Jul. 2019
Session Organizer and Chair & Scientific Committee Member, Beijing, China

C.A.C.S.S. Cactus Show   Apr. 2019
Cactus Competition Judge, Desert Botanical Garden, Phoenix, AZ

Buildings, Cities, and Performance — 3rd International Graduate Student Symposium of the PhD Program at IIT College of Architecture   Nov. 2018
Scientific Committee Member, Chicago, IL

Transportation Network Modeling Committee (ABD30)   Jun. 2018 – Jun. 2021
Transportation Research Board (TRB)
Committee Member

International Symposium on Sustainable Systems and Technology (ISSST) 2018   Jun. 2018
Resilient Infrastructure Technical Committee Member, Buffalo, NY

1st International Conference on New Horizons in Green Civil Engineering (NHICE-01) Apr. 2018
Scientific Committee Member, Victoria, BC

Sustainable Urban Systems (SUS) Section   Nov. 2017 – Dec. 2020
International Society for Industrial Ecology (ISIE)
Chair

Critical Transportation Infrastructure Protection Committee (AMR10) Nov. 2017 – Mar 2023
Transportation Research Board (TRB)
Vice-Chair

Dream Big: Engineering our World   Oct. 2017
Speaker

Envisioning Future Cities   Sep. 2017
Workshop Organizer, Brooklyn, NY

Girls Who Code (GWC)   Jul. 2017
Speaker

International Society for Industrial Ecology (ISIE) 2017   Jun. 2017
Session Chair & Workshop Organizer (Data Mining in Industrial Ecology), Chicago, IL

International Symposium on Sustainable Systems and Technology (ISSST) 2017   Jun. 2017
Workshop Organizer (Organizing Research for Infrastructure Resilience), Chicago, IL

Critical Transportation Infrastructure Protection Committee (ABR10) Apr. 2017 – Nov. 2017
Transportation Research Board (TRB)
Committee Member

Girls Who Code (GWC)   Jul. 2016
Speaker

International Symposium on Sustainable Systems and Technology (ISSST) 2016   May 2016
Session Chair & Poster Competition Judge, Phoenix, AZ

Sustainable Urban Systems (SUS) Section   May 2016 – Oct. 2017
International Society for Industrial Ecology
Co-Chair

International Society for Industrial Ecology   Dec. 2015 – Dec. 2018
Council Member

Sustainable Urban Systems (SUS) Section   Feb. 2015 – Apr. 2016
International Society for Industrial Ecology
Board Member

International Symposium on Sustainable Systems and Technology (ISSST) 2015   May 2015
Poster Competition Judge, Dearborn, MI

International Society for Industrial Ecology (ISIE) 2013   Jun. 2013
Poster Competition Judge, University of Ulsan, South Korea

Illinois (Chicago) Future Cities Competition (Grade 6-8 students)   Jan. 2013
Judge Panel Member

Rail Transit Systems Committee (AP065)   Apr. 2010 – Apr. 2022
Transportation Research Board (TRB)
Committee Member

Academic Services

University of Illinois Chicago

CME Undergraduate Curriculum Committee   Sep. 2022 – Pres.
Member

CME Advisory Committee   Aug. 2021 – Aug. 2023
Member (elected)

CME Graduate Committee   Sep. 2021 – Aug. 2022
Member

CME Undergraduate Recruitment Committee   Sep. 2020 – Pres.

Member

UIC Senate Research Committee   Sep. 2020 – Aug. 2023
Member

UIC Senate   Sep. 2020 – Aug. 2023
Member

CME Undergraduate Curriculum Committee   Sep. 2020 – Aug. 2021
Member

CME Undergraduate Recruitment Committee   Sep. 2017 – Jul. 2019
Chair

CME Undergraduate Curriculum Committee   Sep. 2017 – Aug. 2019
Member

CME Advisory Committee   Sep. 2016 – Aug. 2020
Member (elected)

UIC Graduate College Awards Committee   Sep. 2015 – Aug. 2017
Member

CME Graduate Committee   Sep. 2015 – Aug. 2017
Member

CME Computer Committee   Sep. 2015 – Aug. 2017
Member

CME Website Committee   Apr. 2015 – Aug. 2016
Member

UIC Honors College   Sep. 2014 – Pres.
Faculty Fellow

UIC Summer Institute on Sustainability and Energy project competition   Aug. 2014
Mentor

CME Undergraduate Recruitment Committee   Sep. 2013 – Aug. 2017
Member

CME Departmental Seminar Committee   Sep. 2013 – Aug. 2015
Member

CME Undergraduate Curriculum Committee   Sep. 2013 – Aug. 2015
Member

IESP Graduate Fellowship   Sep. 2013
Selection Committee Member

UIC Summer Institute on Sustainability and Energy project competition   Aug. 2013
Mentor

Wilfred F. and Ruth Davison Langelier Scholarship   Dec. 2012 – Aug. 2017
Selection Committee Member

CME Graduate Selection Committee   Sep. 2012 – Aug. 2013
Member

IESP Graduate Fellowship   Sep. 2012
Selection Committee Member

UIC Summer Institute on Sustainability and Energy project competition   Aug. 2012
Judging Panel Member

University of Toronto

Academic Board   Jul. 2009 – Jun. 2010
Graduate Student Member

Academic Appeals Committee   Jul. 2009 – Jun. 2010
Graduate Student Representative

Committee on Academic Policy and Programs   Jul. 2009 – Jun. 2010
Graduate Student Representative

University Tribunal   Jul. 2008 – Jun. 2010
Student Member

Civil Engineering Departmental Council   Jul. 2008 – Jun. 2009
Graduate Student Representative

Civil Engineering Academic Appeals Committee   Jul. 2008 – Jun. 2009
Graduate Student Member

Faculty of Engineering Council   Jul. 2007 – Jun. 2008
Graduate Student Representative

10 Professional Memberships & Hobbies

Professional Memberships

Member, American Society of Civil Engineers (ASCE)	2012 – Pres.
Member, International Society for Industrial Ecology (ISIE)	2009 – Pres.
Member, TRB Critical Transportation Infrastructure Protection (AMR10)	2017 – Pres.
Member, TRB Transportation Network Modeling Committee (ABD30)	2018 – 2021
Member, TRB Rail Transit Systems Committee (AP065)	2010 – 2022
Friend, TRB Rail Transit Systems Committee (AP065)	2009 – 2010
Friend, TRB Transportation Network Modeling (ADB30)	2014 – 2018
Member, Institute of Transportation Engineering (ITE)	2009 – 2014
Friend, TRB Intercity Passenger Rail Committee (AR010)	2009 – 2013
Friend, TRB Transportation and Economic Development Committee (ADD10)	2009 – 2013
Member, Canadian Transportation Research Forum (CTRF)	2009 – 2012
Member, Canadian Society of Civil Engineers (CSCE)	2007 - 2012

Hobbies

Swimming

Free Diving (AIDA 2* certified)

Scuba Diving (PADI Open Water certified)

Skydiving (CAT A SOLO)

Antiopées (i.e., wander around cities as defined by Raymond Queneau)

Writing fiction

Reading

Traveling