# Tom Logan

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Academic: https://tomlogan.co.nz
Consulting: https://urutau.co.nz
Blog: https://urutau.co.nz/research

## EDUCATION

Ph.D.    Industrial and Operations Engineering, University of Michigan, Ann Arbor, 2019

M.S.     Geography and Environmental Engineering, Johns Hopkins University, 2015

B.S.     Mathematics, University of Canterbury, 2014

B.E.     Natural Resources Engineering with First Class Honours, University of Canterbury, 2013

## ACADEMIC APPOINTMENTS

2019–    University of Canterbury
         Lecturer, Department of Civil and Natural Resources Engineering

## RESEARCH AREAS

Risk science, statistical modeling, agent-based and complex-system modeling, data analytics, resilience assessment

Climate change adaptation, urban planning, civil systems engineering, coupled natural-human systems

## PUBLICATIONS

### Articles in Peer-Reviewed Journals

2021    Logan, T. M., Anderson, M. J., Williams, T. G., & Conrow, L. "Measuring inequalities in urban systems: An approach for evaluating the distribution of amenities and burdens." *Computers, Environment and Urban Systems*, doi:10.1016/j.compenvurbsys.2020.101590

2020    Peer, R. A. M., & Logan, T. M. "Reintroducing the Civil Systems Engineer: The Master Integrator." *Journal of Infrastructure Systems*, doi.org/10.1061/(ASCE)IS.1943-555X.0000579

2020    Logan, T. M., & Guikema, S. D. "Reframing Resilience: Equitable Access to Essential Services." *Risk Analysis*, doi:10.1111/risa.13492

2020    Williams, T. G., Logan, T. M., Zuo, C. T., Liberman, K. D., & Guikema, S. D. "Parks and safety: a comparative study of green space access and its inequities in five US cities." *Landscape and Urban Planning.* doi:10.1016/j.rse.2020.111861

2020    Logan, T. M., Zaitchik, B., Guikema, S., & Nisbet, A. "Night and day: The influence and relative importance of urban characteristics on remotely sensed land surface temperature." *Remote Sensing of Environment*, 247, 111861. doi:10.1016/j.rse.2020.111861

2020      Marasco, D., Murray-Tuite, P., Guikema, S., & Logan, T. "Time to leave: an analysis of travel times during the approach and landfall of Hurricane Irma." *Natural Hazards.* doi:10.1007/s11069-020-04093-7

2019      Logan, T. M., Williams, T. G., Nisbet, A. J., Liberman, K. D., Zuo, C. T., & Guikema, S. D. "Evaluating urban accessibility: leveraging open-source data and analytics to overcome existing limitations." *Environment and Planning B: Urban Analytics and City Science*, 46(5), 897–913. doi:10.1177/2399808317736528

2019      Bordley, R. F., Keisler, J. M., & Logan, T. M. "Managing projects with uncertain deadlines." *European Journal of Operational Research*, 274(1), 291–302. doi:10.1016/j.ejor.2018.09.036

2018      Logan, T. M., Guikema, S. D., & Bricker, J. D. "Hard-adaptive measures can increase vulnerability to storm surge and tsunami hazards over time." *Nature Sustainability*, 1(9), 526–530. doi:10.1038/s41893-018-0137-6

2016      Logan, T. M., McLeod, S., & Guikema, S. "Predictive models in horticulture: A case study with Royal Gala apples." *Scientia Horticulturae*, 209, 201–213. doi:10.1016/j.scienta.2016.06.033

**Other publications**

2020      Logan, T. ""Shovel-ready" projects ignore important aspects of community resilience." *The Conversation.* http://theconversation.com/shovel-ready-projects-ignore-important-aspects-of-community-resilience-139850

2017      Logan, T. M., and Arnott, J. "You've got the power." *Nature* 551, 531. doi: 10.1038/d41586-017-07261-1


## GRANTS AND AWARDS

**Awards and Honors**

2020      Editor's Choice Award for the paper *Reintroducing the Civil Systems Engineer*, Journal of Infrastructure Systems

2020      Presidential Service Award, International Society of Risk Analysis

2020      ProQuest Distinguished Dissertation Award Honorable Mention, University of Michigan

2019      Best Reviewer Award, International Society of Risk Analysis

2019      Distinguished Leadership Award, College of Engineering, University of Michigan

2019      J X Kasperson Student Paper Award, American Association of Geographers Annual Meeting

2017      Bonder Fellowship Honourable Mention, Industrial & Operations Engineering, University of Michigan

2016      Poster prize, Michigan Student Symposium for Interdisciplinary Statistical Sciences

2016      Poster prize, Michigan Engineering Graduate Symposium

2012      Environment Canterbury Prize in Natural Resources Engineering

2012      Tonkin & Taylor Prize for Hydrology and Hydraulic Engineering

2011      First Prize in Sophomore Civil & Natural Resource Engineers' Communication Portfolio

| 2010 | Emerging Leaders' Scholarship, University of Canterbury |
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## Grants and Fellowships

| 2020 | University of Canterbury, Transdisciplinary Research Cluster Grant (The Cluster for Community and Urban Resilience) |
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| 2020 | Urban Resilience Development Grant, Resilience to Nature's Challenges |
| 2020 | Te Hiranga Rū QuakeCoRE Proposal Development Grant |
| 2018 | Rackham Predoctoral Fellowship, University of Michigan |
| 2017 | University of Michigan Travel Grant |
| 2017 | University of Michigan Professional Development Grant |
| 2017 | University of Michigan Professional Development Grant |
| 2014 | Gordon Croft Fellowship, Environment, Energy, Sustainability, Health Institute, Johns Hopkins University |
| 2014 | Dean Robert H. Roy Fellowship, Johns Hopkins University |
| 2013 | Fulbright New Zealand Science and Innovation Graduate Award |
| 2013 | John R Templin Trust Postgraduate Scholarship |
| 2013 | Allan Wilson Centre Research Scholarship |
| 2010 | Mathematics Research Scholarship, University of Canterbury |

# TEACHING

## University of Canterbury

| ENCI630 | Predictive Analytics for Civil and Environmental Engineering |
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| ENCN375 | Sustainable Engineering for a Changing Climate |

## University of Michigan, Ann Arbor

| IOE460 | Decision Analysis |
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# SERVICE

## University

| 2020– | *Co-Director, Cluster for Community and Urban Resilience* |
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| 2020– | *Deputy, Department Marketing and Communications Committee* |

## Editorial Board

*Journal of Infrastructure Systems*

**Journal Peer Review**

*Journal of Risk Analysis*

*Journal of Infrastructure Systems*

*Cities*

*Environment and Planning B: Urban Analytics and City Science*

## PROFESSIONAL AFFILIATIONS

Society for Risk Analysis

Society for Risk Analysis, Australia New Zealand

## PROFESSIONAL EXPERIENCE

| | |
|---|---|
| 2018 | One Concern, Resilience Data Scientist<br>Palo Alto, California |
| 2016 | First Quartile Consulting, Data Consultant<br>USA |
| 2012 | Beca Infrastructure Ltd., Engineering Technician<br>Christchurch, New Zealand |
| 2011 | Fulton Hogan, Student Engineer<br>Christchurch, New Zealand |
| 2011 | Abley Transport, Technical Assistant<br>Christchurch, New Zealand |
| 2011–13 | Student Bookshelf, Director<br>Christchurch, New Zealand |

## TECHNICAL SKILLS

**Programming**

Python, R, Bash, SQL, PostGreSQL, PostGIS, HTML, Git, Docker, LaTeX

**Tools/Applications**

MATLAB, Adobe CS, ArcGIS

Updated January 2021