

# TOM LOGAN

Industrial and Operations Engineering, University of Michigan, Ann Arbor, USA  
tomlogan@umich.edu    [www.tomlogan.co.nz](http://www.tomlogan.co.nz)    [reckoningrisk.com](http://reckoningrisk.com)

## EDUCATION

<b>University of Michigan</b> , Ann Arbor, USA	
PhD in Industrial and Operations Engineering (expected)	~2019
Advisor: <a href="#">S. Guikema</a>	
<b>Johns Hopkins University</b> , Baltimore, USA	
Master of Science in Geography and Environmental Engineering	2015
<b>University of Canterbury</b> , New Zealand	
Bachelor of Science in Mathematics	2014
Bachelor of Engineering in Natural Resources Engineering with First Class Honours	2013

## SELECTED AWARDS

<a href="#">Rackham Predoctoral Fellowship</a> , University of Michigan	2018
Poster prize: 1st Industrial & Operations Engineering. <a href="#">Michigan Student Symposium for Interdisciplinary Statistical Sciences</a> .	2016
Poster prize: 4 <sup>th</sup> Civil & Environmental Engineering. <a href="#">Michigan Engineering Graduate Symposium</a> .	2016
<a href="#">Fulbright New Zealand</a> Science and Innovation Graduate Award	2013

## PEER-REVIEWED PUBLICATIONS

Bordley, R., Keisler, J., Logan, T. "Managing projects with uncertain deadlines." <i>European Journal of Operations Research</i>	<i>accepted</i>
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." <i>Natural Hazards</i>	<i>under review</i>
Logan, T., Guikema, S., Bricker, J. " <a href="#">Hard-adaptive measures can increase vulnerability to storm surge and tsunami hazards over time</a> ." <i>Nature Sustainability</i>	2018
Logan, T., Williams, T., Nisbet, A., Liberman, K., Zuo, C. T., Guikema, S. D. " <a href="#">Evaluating urban accessibility: Leveraging open-source data and analytics to overcome previous limitations</a> ." <i>Environment and Planning B: Urban Analytics and City Science</i> .	2017
Logan, T., McLeod, S., Guikema, S. " <a href="#">Predictive models in horticulture: A case study with Royal Gala apples</a> ." <i>Scientia Horticulturae</i> , 209, 201-213	2016

## NON-PEER-REVIEWED PUBLICATIONS

Logan, T. M., and Arnott, J. " <a href="#">You've got the power</a> ." <i>Nature</i>	2017
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## UNIVERSITY SERVICE

<b>Industrial and Operations Engineering Department</b> , PhD mentor program co-coordinator	2017 - 2019
<b>Michigan University-wide Sustainability and Environment (MUSE) Workshop</b> , Rackham Interdisciplinary Workshop, University of Michigan, Co-convenor	2017 - 2018
<b>Michigan University-wide Sustainability and Environment (MUSE) Conference</b> , Organising Committee, Logistics	2017 - 2018
<b>Graduate student outdoor club (aka. ARRO)</b> , University of Michigan, Founder and co-president	2017 -
<b>Institute for Operations Research and Management Science</b> , Student Chapter at the University of Michigan, Secretary	2017
<b>Michigan Student Symposium for Interdisciplinary Statistical Sciences</b> , Organising committee	2016 -2017
<b>Epsilon Eta</b> , Professional Environmental Fraternity, University of Michigan, Graduate advisor	2015 -2017

## PROFESSIONAL SERVICE

Reviewer, <i>Journal of Risk Analysis</i>	2016 - present
Reviewer, <i>Journal of Infrastructure Systems</i>	2016 - present

<b>Project mentor</b> , <i>Seattle City for All hackathon</i> , Seattle	2017
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## TEACHING EXPERIENCE

### Lecturer

IOE 460: Decision Analysis, University of Michigan	2017
IOE 460: Decision Analysis (Substitute), University of Michigan	2015
570.210: Computational, Mathematical Modelling (Guest), Johns Hopkins University	2015
ENCN304: Deterministic Mathematical Methods (Guest), University of Canterbury	2014

### Graduate Student Instructor

IOE 316: Intro. to Markov Processes, University of Michigan	2018
IOE 460: Decision Analysis, University of Michigan	2016

### Undergraduate Student Instructor

ENCN304: Deterministic Mathematical Methods (Coordinator), University of Canterbury	2014
ENCN305: Stoch. Modelling and Programming, University of Canterbury	2014
EMTH171: Math Modelling and Computation, University of Canterbury	2013
EMTH210: Engineering Mathematics 2, University of Canterbury	2011-2014

## INDUSTRY EXPERIENCE

<b>One Concern</b> , <i>Resilience Data Scientist</i> Based on my research, I developed the resilience product for use by cities.	2018
<b>First Quartile Consulting</b> , <i>Data Consultant</i> Predictive modelling and data compilation.	2016
<b>Beca Infrastructure Ltd.</b> , <i>Engineering Technician</i> , Christchurch Water team: technical drawing management, winery wastewater regulation, other projects	2012
<b>Fulton Hogan Christchurch Southern Motorway Project Team</b> , <i>Student Engineer</i> Labouring, surveying, quality assurance, and other jobs as required.	2011
<b>Abley Transportation Consultants</b> , <i>Technical Assistant</i> , Christchurch I wrote Python code to process NZ transport survey data and conducted traffic surveys.	2011
<b>Student Bookshelf Ltd.</b> , <i>Director</i> , New Zealand Co-founder of the online textbook store. Jointly responsible for inventory management, accounting, deliveries.	2011 - 2013

## OTHER AWARDS

Honourable mention, <a href="#">Industrial &amp; Operations Engineering Bonder Fellowship</a> , University of Michigan	2017
Conference Travel Grant, Rackham Graduate School, University of Michigan	2017
Professional Development Grant, Rackham Graduate School, University of Michigan	2017
<a href="#">Graduate Student Community Grant Program</a> , College of Engineering, University of Michigan (x3)	2016- 2017
<a href="#">Gordon Croft Fellowship</a> from JHU Environment, Energy, Sustainability, Health Institute	2014
Dean Robert H. Roy Fellowship for graduate study at Johns Hopkins University	2014
<a href="#">John R Templin Trust</a> Postgraduate Scholarship	2013
Allan Wilson Centre Research Scholarship	2013
Environment Canterbury Prize in Natural Resources Engineering	2012
Tonkin and Taylor Prize for Hydrology and Hydraulic Engineering	2012
First Prize in Sophomore Civil & Natural Resource Engineers' Communication Portfolio	2011
University of Canterbury's Mathematics Research Scholarship	2010
University of Canterbury's Emerging Leaders' Scholarship	2010

## OTHER CERTIFICATIONS AND TRAINING

Santa Fe Institute, Complex Systems Summer School	2017
New England Complex Systems Institute, Winter School	2015

## SKILLS

### Programming

Experienced: Python • R

Familiar: Bash • SQL • HTML • Git • Docker • PostgreSQL

### Tools/Applications

MATLAB • Adobe CS • MS Office • ArcGIS

## AFFILIATIONS

Society for Risk Analysis (SRA)	2015 –
Foundations of Risk Analysis Specialty Group	
Engineering and Infrastructure Specialty Group	
Chair, Students and Young Professionals (2018 - )	
Institute for Operations Research and Management Sciences (INFORMS)	2015 –
Secretary, Student Chapter at the University of Michigan (2017)	
American Statistical Association (ASA)	2016 –2017
American Society of Civil Engineers (ASCE)	2015 – 2017
Generation Zero, New Zealand	2014
Transportation Team Leader, Christchurch	
Engineers Without Borders New Zealand (EWBNZ)	2012 – 2017
IT assistant (2012 – 2017)	
Newsletter Editor (2013 – 2015)	
President Canterbury Students' Chapter (2013)	

## CONFERENCE PRESENTATIONS

Logan, T. M., Bricker, J., and Guikema, S. "The role of behavior in undermining the effectiveness of adaptive measures in reducing long-term vulnerability to natural hazards." <i>Intergovernmental Panel on Climate Change (IPCC) Cities Conference</i> , Edmonton, Canada	2018
Logan, T. M., Bricker, J., and Guikema, S. "The role of behavior in undermining the effectiveness of adaptive measures in reducing long-term vulnerability to natural hazards." <i>Society of Risk Analysis Annual Meeting</i> , Arlington, VA	2017
Logan, T. M., Bricker, J., and Guikema, S. "The role of behavior in undermining the effectiveness of adaptive measures in reducing long-term vulnerability to natural hazards." <i>Research Symposium 2017: Urban Environment. Environmental Science and Policy Program</i> . Michigan State University.	2017
Logan, T. M., Bricker, J., and Guikema, S. "The role of behavior in undermining the effectiveness of adaptive measures in reducing long-term vulnerability to natural hazards." <i>INFORMS Annual Conference</i> , Houston.	2017
Williams, T. G., Logan, T. M., Liberman, K., Zuo, C., and Guikema, S. "How accessible are our cities? A cross-sectional analysis of access to green space." <i>INFORMS Annual Conference</i> , Houston.	2017
Logan, T. M. and Guikema, S. D. (2017). "Urban development alongside ¿man-made? disasters." <i>Michigan University-Wide Sustainability and Environment (MUSE) Conference</i> .	2017
Logan, T. M., Williams, T. G.*, Nisbet, A. J., Liberman, K. D., Zuo, C. T., and Guikema, S. D. (2017). "Assessing parcel-resolution multi-modal accessibility to core services." <i>Michigan University-Wide Sustainability and Environment (MUSE) Conference</i> .	2017
Logan, T. M., Guikema, S., O'Meara, K., Zaitchik, B.F., Liberman, K., Zuo, C., and Nichols, R. "Turning up the heat on urban temperature data." <i>Society of Risk Analysis Annual Meeting</i> , San Diego.	2016
Logan, T. M., Bricker, J., and Guikema, S. "Tsunamis, seawalls, and memory: urban development alongside natural hazards." <i>INFORMS Annual Conference</i> , Nashville.	2016
Logan, T. M., McLeod, S., and Guikema, S. "Predictive models in horticulture: A case study with Royal Gala apples." <i>Joint Statistical Meeting</i> , Chicago.	2016

- Logan, T. M., McLeod, S., and Guikema, S. "Predictive models in horticulture: A case study with Royal Gala apples." *INFORMS Annual Conference*, Philadelphia. 2015
- Zaitchik, B.F.\*, O'Meara, K.\*, Guikema, S.D., Scott, A., Bessho, A., and Logan, T.M. "Visualizing and Understanding Socio-Environmental Dynamics in Baltimore." Proc., American Geophysical Union Fall Meeting 2015

\* indicates presenting author, when not first

## POSTER PRESENTATIONS

- Logan, T. M., Bricker, J., and Guikema, S. "The role of behavior in undermining the effectiveness of adaptive measures in reducing long-term vulnerability to natural hazards." *University of Michigan Engineering Graduate Symposium*, Ann Arbor. 2017
- Williams, T. G., Logan, T. M., Liberman, K., Zuo, C., and Guikema, S. "How accessible are our cities? A cross-sectional analysis of access to green space." *University of Michigan Engineering Graduate Symposium*, Ann Arbor. 2017
- Williams, T. G., Logan, T. M., Liberman, K., Zuo, C., and Guikema, S. "How accessible are our cities? A cross-sectional analysis of access to green space." *Research Symposium 2017: Urban Environment. Environmental Science and Policy Program*. Michigan State University. 2017
- Logan, T. M., Bricker, J., and Guikema, S. "Tsunamis, seawalls, and memory: urban development alongside natural hazards." *University of Michigan Engineering Graduate Symposium*, Ann Arbor. 2016
- Logan, T. M., McLeod, S., and Guikema, S. "Predictive models in horticulture: A case study with Royal Gala apples." *Joint Statistical Meeting*, Chicago. 2016
- Logan, T. M., McLeod, S., and Guikema, S. "Predictive models in horticulture: A case study with Royal Gala apples." *Michigan Student Symposium for Interdisciplinary Statistical Sciences*, Ann Arbor. 2015

## WORKING PAPERS

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| Aldarondo, F., Logan, T., Guikema, S. "Travel Time Prediction during Hurricane Evacuation: Jacksonville, Florida and Hurricanes Matthew and Irma." Intended for <i>Risk Analysis</i>                 | Estimated submission<br>October 2018 |
| Bordley, R., Logan, T., Pollock, S. "Reducing the Underestimation Bias in PERT/CPM's Calculation of Schedule Risk." Intended for <i>Operations Research</i>  | October 2018                         |
| Guikema, S.D, Quiring, S.M., Buckstaff, K., Beck, M., McRoberts, B., Nateghi, R., Logan, T.M. "Storm Damage and Restoration Labor Estimation: An All-Weather Model." Intended for <i>IEEE Access</i> | December 2018                        |
| Flage, R., Guikema, S., Logan, T., Johnson, C., Kabir, E., Schell, K. "Conceptualizing and handling uncertainty in predictive data models for risk analysis." Intended for <i>Risk Analysis</i>      | December 2018                        |
| Logan, T.M, Goodspeed, R., Guikema, S. "Perspective: Opportunities for risk analysts in urban planning." Intended for <i>Risk Analysis</i>   | November 2018                        |
| Logan, T.M, Zaitchik, B., Guikema, S. "Drivers of urban land surface temperature: diurnal and nocturnal." Intended for <i>Remote Sensing of Environment</i>  | October 2018                         |
| White, A., Guikema, S., Logan, T.M., "Discriminatory Housing Practices and their Lasting Effects: A Spatial Analysis." Intended for <i>PLOS One</i>  | October 2018                         |
| Williams, T.G., Logan, T. M., Zuo, C., Liberman, K., Guikema, S., "How accessible are our cities? A cross-sectional analysis of access to greenspace." Intended for <i>PLOS One</i>                  | October 2018                         |