TOM LOGAN

Industrial and Operations Engineering, University of Michigan, Ann Arbor, USA
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EDUCATION

University of Michigan, Ann Arbor, USA
> PhD in Industrial and Operations Engineering (expected)   In progress
> *Advisor*: S. Guikema

Johns Hopkins University, Baltimore, USA
> Master of Science in Geography and Environmental Engineering   2015

University of Canterbury, New Zealand
> Bachelor of Science in Mathematics   2014
> Bachelor of Engineering in Natural Resources Engineering with First Class Honours   2013

RESEARCH INTERESTS

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

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

JOURNAL PUBLICATIONS

> 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*   *under review*

> Aldarondo, F., Logan, T., Guikema, S. "Assessing Influencing Factors for Evacuation Behavior Under Repeated Hurricanes Using Travel Time Data." *Risk Analysis*   *under review*

> 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*   *under review*

> White, A., Guikema, S., Logan, T.M., "Persistent Patterns of Discriminatory Housing Policy and Inequity: A Spatial Analysis." *PLOS One*   *under review*

> Bordley, R., Keisler, J., Logan, T. "Managing projects with uncertain deadlines." *European Journal of Operations Research*   2018

> Logan, T., Guikema, S., Bricker, J. "Hard-adaptive measures can increase vulnerability to storm surge and tsunami hazards over time." *Nature Sustainability*   2018

> Logan, T., Williams, T., Nisbet, A., Liberman, K., Zuo, C. T., Guikema, S. D. "Evaluating urban accessibility: Leveraging open-source data and analytics to overcome previous limitations." *Environment and Planning B: Urban Analytics and City Science.*   2017

> Logan, T., McLeod, S., Guikema, S. "Predictive models in horticulture: A case study with Royal Gala apples." *Scientia Horticulturae*, 209, 201-213   2016

NON-PEER-REVIEWED PUBLICATIONS

> Logan, T. M., and Arnott, J. "You've got the power." *Nature*   2017

INDUSTRY EXPERIENCE

One Concern, *Resilience Data Scientist,* Palo Alto, CA, USA   2018
> Based on my research, I developed the resilience product for use by cities.

First Quartile Consulting, *Data Consultant*, USA   2016
> Predictive modelling and data compilation.

Beca Infrastructure Ltd., *Engineering Technician*, Christchurch, NZ   2012
> Water team: technical drawing management, winery wastewater regulation, other projects

Fulton Hogan Christchurch Southern Motorway Project Team, *Student Engineer*, NZ   2011
> Labouring, surveying, quality assurance, and other jobs as required.

Abley Transportation Consultants, *Technical Assistant*, Christchurch, NZ   2011
> I wrote Python code to process NZ transport survey data and conducted traffic surveys.

Student Bookshelf Ltd., *Director*, NZ   2011 - 2013
> Co-founder of the online textbook store. Jointly responsible for inventory management, accounting, deliveries.

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

HONOURS AND AWARDS

Distinguished Leadership Award, College of Engineering, University of Michigan	2019
J X Kasperson Student Paper Award, American Association of Geographers annual meeting	2019
Rackham Predoctoral Fellowship, University of Michigan	2018
Honourable mention, Industrial & Operations Engineering Bonder Fellowship, University of Michigan	2017
Conference Travel Grant, Rackham Graduate School, University of Michigan	2017
Professional Development Grant, Rackham Graduate School, University of Michigan	2017
Poster prize: 1st Industrial & Operations Engineering. Michigan Student Symposium for Interdisciplinary Statistical Sciences.	2016
Poster prize: 4th Civil & Environmental Engineering. Michigan Engineering Graduate Symposium.	2016
Gordon Croft Fellowship from JHU Environment, Energy, Sustainability, Health Institute	2014
Dean Robert H. Roy Fellowship for graduate study at Johns Hopkins University	2014
Fulbright New Zealand Science and Innovation Graduate Award	2013
John R Templin Trust 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

UNIVERSITY SERVICE

Industrial and Operations Engineering Department, *PhD mentor program co-coordinator*	2017 -
Michigan University-wide Sustainability and Environment (MUSE) Workshop, Rackham Interdisciplinary Workshop, University of Michigan, *Co-convenor*	2017 –
Michigan University-wide Sustainability and Environment (MUSE) Conference, *Organising Committee, Logistics & Webmaster*	2017 -

Graduate student outdoor club (aka. ARRO), University of Michigan, *Founder and co-president*   2017 -

Institute for Operations Research and Management Science, Student Chapter at the University of Michigan, *Secretary*   2017

Michigan Student Symposium for Interdisciplinary Statistical Sciences, *Organising committee*   2016 -2017

Epsilon Eta, Professional Environmental Fraternity, University of Michigan, *Graduate advisor*   2015 -2017

PROFESSIONAL SERVICE

Reviewer, *Journal of Risk Analysis*   2016 - present

Reviewer, *Journal of Infrastructure Systems*   2016 - present

Project mentor, *Seattle City for All hackathon*, Seattle   2017

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 – 2019
Secretary, Student Chapter at the University of Michigan (2017)

American Association of Geographers (AAG)   2018 –

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. "Neglecting Behavioral Feedbacks in Quantitative Risk Assessment Can Lead to Maladaptation to Natural Hazards." *American Association of Geographers Annual Meeting*, Washington, DC   2019

Logan, T.M, Larsen, L., Guikema, S. "Co-benefits of urban density on public health in the 500 largest US cities." *Michigan University-Wide Sustainability and Environment (MUSE) Conference.*   2019

Logan, T. M., Bricker, J., and Guikema, S. "Neglecting Behavioral Feedbacks in Quantitative Risk Assessment Can Lead to Maladaptation to Natural Hazards." *Society of Risk Analysis Annual Meeting*, New Orleans, LA   2018

Logan, T.M, Larsen, L., Guikema, S. "Co-benefits of urban density on public health in the 500 largest US cities." *Sustainable Development Conference*, Ann Arbor, Michigan   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." *Intergovernmental Panel on Climate Change (IPCC) Cities Conference*, Edmonton, Canada   2018

Logan, T. M. and Guikema, S. D. "Engineered climate adaptations can increase vulnerability to natural hazards." *Michigan University-Wide Sustainability and Environment (MUSE) Conference.*   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." *Society of Risk Analysis Annual Meeting*, 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." *Research Symposium 2017: Urban Environment. Environmental Science and Policy Program.* 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." *INFORMS Annual Conference*, 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." *INFORMS Annual Conference*, Houston.   2017

Logan, T. M. and Guikema, S. D. "Urban development alongside ¿man-made? disasters." *Michigan University-Wide Sustainability and Environment (MUSE) Conference.*   2017

Logan, T. M., Williams, T. G.*, Nisbet, A. J., Liberman, K. D., Zuo, C. T., and Guikema, S. D.. "Assessing parcel-resolution multi-modal accessibility to core services." *Michigan University-Wide Sustainability and Environment (MUSE) Conference.*   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." *Society of Risk Analysis Annual Meeting*, San Diego.   2016

Logan, T. M., Bricker, J., and Guikema, S. "Tsunamis, seawalls, and memory: urban development alongside natural hazards." *INFORMS Annual Conference*, Nashville.   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." *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. and Guikema, S. "Measuring urban resilience using access to essential services: Case study with Hurricane Florence." *Michigan University-Wide Sustainability and Environment (MUSE) Conference.*   2019

Logan, T. M. and Guikema, S. "Measuring urban resilience using access to essential services: Case study with Hurricane Florence." *Society of Risk Analysis Annual Meeting*, New Orleans, LA   2018

Logan, T. M. and Guikema, S. "Measuring urban resilience using access to essential services: Case study with Hurricane Florence." *University of Michigan Engineering Graduate Symposium*, Ann Arbor.   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." *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