Tony E. Wong

Assistant Professor

(he/him/his)

School of Mathematics and Statistics
Rochester Institute of Technology
84 Lomb Memorial Drive
Rochester, NY 14623

Gosnell Hall 2232
585-475-7486
tony.wong@rit.edu
Google Scholar: https://goo.gl/Hu21nB
Website: https://tonyewong.github.io/

Research Interests

Model calibration, uncertainty, sensitivity
Earth system modeling
Climate data science
Climate change impacts
Computational education
Educational data science

Positions

Assistant Professor
School of Mathematics and Statistics, Rochester Institute of Technology
August 2019 - Present, Rochester, NY

Assistant Teaching Professor
Department of Computer Science, University of Colorado Boulder
August 2017 - July 2019, Boulder, CO

Postdoctoral Scholar
Earth & Environmental Systems Institute, Pennsylvania State University
June 2016 - July 2017, University Park, PA

Graduate Research Assistant
Cooperative Institute for Research in Environmental Sciences, University of Colorado Boulder
January 2011 - May 2016, Boulder, CO

SIParCS Graduate Student Intern
National Center for Atmospheric Research/National Oceanic and Atmospheric Administration
June 2011 - July 2011, Boulder, CO

Education

PhD, Applied Mathematics / University of Colorado Boulder
August 2010 - May 2016, Boulder, CO
The Impact of Stable Water Isotopic Information on Parameter Calibration in a Land Surface Model
Advisors: W. Kleiber (CU-Boulder) and D. Noone (Oregon State)

MS, Applied Mathematics / University of Colorado Boulder
August 2010 - May 2012, Boulder, CO

BA, Mathematics (honors), Astrophysics / Ohio Wesleyan University
August 2006 - May 2010, Delaware, OH

Publications
(peer reviewed)

(my students in **bold**)

In preparation:

Wong, T.E., **M. Peeks**, and M. Cox (n.d.), An analysis of the class size effect in undergraduate mathematics and computer science courses.

Estevez Loza, C. and T.E. Wong (n.d.), Managing Coastal Risks by Integrating Sea-Level Uncertainty and Robust Decision-Making into a Coastal Adaptation Model.

Feke, Kelly, C. Estevez Loza, and T.E. Wong (n.d.), Climate Model Structural Uncertainty Dominates Coastal Adaptation Costs.

Dinkins, Dwight and T.E. Wong (n.d.), Second-Order Permutation Variable Importances: Quantifying and Attributing Uncertainty in Future Coastal Hazards.

Bundy, Cameron and T.E. Wong (n.d.), Analyzing Learning Assistant Influence on STEM Student Success using Logistic and Hierarchical Regression.

In review:

Meghan Childs, Tony Wong (n.d.), Enhancing a University Community COVID-19 Model with Bayesian Model-Data Fusion. (in review)

Christian Cammarota, Michael Foster, Mike Verostek, **Kayleigh Patterson, Mikayla McIntyre, Kimberly Dorsey, Andrea Camacho-Betancourt**, Tony E Wong, Benjamin Zwickl (n.d.), Social computational literacy in practice: a framework describing STEM researchers' communication. (in review)

Michael Foster, Christian Cammarota, **Matthew Dunham**, Benjamin Zwickl, Tony E Wong (n.d.), A Framework for Assessing Computational Literacy in Undergraduate Mathematics. (in revision)

T.E. Wong, **S. Dake**, **K. Feke**, C. Darnell, V. Srikrishnan (n.d.), Coastal Adaptation Costs at Different Global Warming Thresholds. (in revision) Preprint

C. Darnell , L. Rennels , F.C. Errickson , T.E. Wong, V. Srikrishnan (n.d.), Rapid decarbonization reduces but does not eliminate extreme sea level rise. (in revision) Preprint

Published:

33) Foster, M., **M. Dunham**, C. Cammarota, M. Verostek, B. Zwickl, and T.E. Wong (2024), Toward an Assessment of Students' (Social) Computational Literacy. In: Clarke-Midura, J., Kollar, I., Gu, X., & D'Angelo, C. (Eds.), Proceedings of the 17th International Conference on Computer-Supported Collaborative Learning - CSCL 2024. International Society of the Learning Sciences.

32) **Tedeschi, M.N.**, **T.M. Hose**, E.K. Mehlman, S. Franklin, T.E. Wong (2023), Improving Models for Student Retention and Graduation using Markov Chains. PLoS ONE, DOI: 10.1371/journal.pone.0287775.

31) **Childs, M.R.** and T.E. Wong (2023), Assessing Parameter Sensitivity in a University Campus COVID-19 Model with Vaccinations. Infectious Disease Modelling, DOI: 10.1016/j.idm.2023.04.002

30) Wong T.E., C. Ledna, L. Rennels, **H. Sheets**, F. Errickson, D. Diaz, and D. Anthoff (2022), Sea Level and Socioeconomic Uncertainty Drives High-End Coastal Adaptation Costs, Earth's Future, DOI: 10.1029/2022EF003061

29) Rennert, K., F. Errickson, B. C. Prest, L. Rennels, R. G. Newell, W. Pizer, C. Kingdon, J. Wingenroth, R. Cooke, B. Parthum, D. Smith, K. Cromar, D. Diaz, F. C. Moore, U. K. Müller, R. J. Plevin, A. E. Raftery, H. Ševčíková, **H. Sheets**, J. H. Stock, T. Tan, M. Watson, T. E. Wong & D. Anthoff (2022), Comprehensive Evidence Implies a Higher Social Cost of CO2, Nature, DOI: 10.1038/s41586-022-05224-9

28) Wong, T. E., Rennels, L., Errickson, F., Srikrishnan, V., Bakker, A., Keller, K., & Anthoff, D. (2022), MimiBRICK.jl: A Julia package for the BRICK model for sea-level change in the Mimi integrated modeling framework, Journal of Open Source Software, 7 (76), 4556, DOI: 10.21105/joss.04556

27) Srikrishnan, V., Lafferty, D. C., Wong, T. E., Lamontagne, J. R., Quinn, J. D., Sharma, S., Molla, N. J., Herman, J. D., Sriver, R. L., Morris, J., and Lee, B. (2022), Uncertainty Analysis in Multi-Sector Systems: Considerations for Risk Analysis, Projection, and Planning for Complex Systems, Earth's Future, DOI: 10.1029/2021EF002644

26) **Hough, A.** and T.E. Wong (2022), Evolution of Parametric Drivers of High-End Sea-Level Hazards, Advances in Statistical Climatology, Meteorology and Oceanography, DOI: 10.5194/ascmo-8-117-2022

25) T.E. Wong, **H. Sheets**, **T. Torline** and **M. Zhang** (2022), Evidence for increasing frequency of extreme coastal sea levels, Frontiers in Climate, DOI: 10.3389/fclim.2022.796479

24) Wong T.E., G.M. Thurston, N. Barlow, N.D. Cahill, L. Carichino, K. Maki, D. Ross, and J. Schneider (2021), Evaluating the Sensitivity of SARS-CoV-2 Infection Rates on College Campuses to Wastewater Surveillance, Infectious Disease Modelling, DOI: 10.1016/j.idm.2021.09.003

23) Wong, T.E., Y. Cui, D. Royer, and K. Keller (2021), A tighter constraint on Earth-system sensitivity from long-term temperature and carbon-cycle observations, Nature Communications, DOI: 10.1038/s41467-021-23543-9

22) Vega-Westhoff, B., R. Sriver, C. Hartin, T. Wong, and K. Keller (2020), The Role of climate sensitivity in extreme sea-level rise projections, Geophysical Research Letters, DOI: 10.1029/2019GL085792

21) Wong, T.E. (2019), Lasting coastal hazards from past greenhouse gas emissions, Proceedings of the National Academy of Sciences, DOI: 10.1073/pnas.1917051116

20) Brady, E., Stevenson, S., Bailey, D., Liu, Z., Noone, D., Nusbaumer, J., Otto-Bliesner, B., Tabor, C., Tomas, R., Wong, T., Zhang, J., Zhu, J. (2019), The connected isotopic water cycle in the Community Earth System Model version 1, Journal of Advances in Modeling Earth Systems, DOI: 10.1029/2019MS001663

19) Vega-Westhoff, B., R.L. Sriver, C.A. Hartin, T.E. Wong, and K. Keller (2019), Impacts of observational sea-level change constraints on estimates of climate sensitivity, Earth's Future, DOI: 10.1029/2018EF001082

18) Wong, T.E. (2018), An Integration and Assessment of Covariates of Nonstationary Storm Surge Statistical Behavior by Bayesian Model Averaging, Advances in Statistical Climatology, Meteorology and Oceanography, DOI: 10.5194/ascmo-4-53-2018

17) Wong, T.E., **A. Klufas**, V. Srikrishnan, and K. Keller (2018), Neglecting Model Structural Uncertainty Underestimates Upper Tails of Flood Hazard, Environmental Research Letters, DOI: 10.1088/1748-9326/aacb3d

16) Tabor, C., B. Otto-Bliesner, E. Brady, J. Nusbaumer, J. Zhu, M. Erb, T.E. Wong, Z. Liu, and D. Noone (2018), Interpreting precession driven δ18O variability in the

South Asian monsoon region, Journal of Geophysical Research: Atmospheres, DOI: 10.1029/2018JD028424

15) **Fuller, R.**, T.E. Wong, and K. Keller (2017), Probabilistic inversion of expert assessments to inform projections about Antarctic Ice Sheet responses, PLoS ONE, DOI: 10.1371/journal.pone.0190115

14) Zhu, J., L. Zhengyu, E. Brady, B.L. Otto-Bliesner, S.A. Marcott, J. Zhang, X. Wang, J. Nusbaumer, T.E. Wong, A. Jahn, and D. Noone (2017), Investigating the direct meltwater effect in terrestrial oxygen-isotope paleoclimate records using an isotope-enabled Earth system model, Geophysical Research Letters, DOI: 10.1002/2017GL076253

13) Wong, T.E. and K. Keller (2017), Deep Uncertainty Surrounding Coastal Flood Risk Projections: A Case Study for New Orleans, Earth's Future, DOI: 10.1002/2017EF000607

12) Wong, T.E., A.M.R. Bakker, and K. Keller (2017), Impacts of Antarctic Fast Dynamics on Sea-Level Projections and Coastal Flood Defense, Climatic Change, DOI: 10.1007/s10584-017-2039-4

11) Wong, T.E., A.M.R. Bakker, K.L. Ruckert, P.J. Applegate, K. Keller (2017). BRICK v0.2, a simple, accessible and transparent model framework for climate and regional sea-level projections, Geoscientific Model Development, DOI: 10.5194/gmd-10-2741-2017

10) Zhu, J., L. Zhengyu, E. Brady, B.L. Otto-Bliesner, J. Zhang, D. Noone, R. Tomas, J. Nusbaumer, T.E. Wong, A. Jahn, and C. Tabor (2017), Reduced ENSO Variability at the LGM Revealed by an Isotope-enabled Earth System Model, Geophysical Research Letters, DOI: 10.1002/2017GL073406

9) Wong, T.E., W. Kleiber, D.C. Noone (2017), The Impact of Error Accounting in a Bayesian Approach to Calibrating Modeled Turbulent Fluxes in an Open-Canopy Forest, Journal of Hydrometeorology, DOI: 10.1175/JHM-D-17-0030.1

8) Bakker, A.M.R, T.E. Wong, K.L. Ruckert, and K. Keller (2017), Sea-level projections representing deeply uncertain ice-sheet contributions, Scientific Reports, DOI: 10.1038/s41598-017-04134-5

7) Wong, T.E., V. Srikrishnan, D. Hadka, and K. Keller (2017). A Multi-Objective Decision-Making Approach to the Journal Submission Problem, PLoS ONE, DOI: 10.1371/journal.pone.0178874

6) Nusbaumer, J., T.E. Wong, C. Bardeen, D.C. Noone (2017). Evaluating hydrological processes in the Community Atmosphere Model Version 5 (CAM5) using stable isotope ratios of water, Journal of Advances in Modeling Earth Systems, DOI: 10.1002/2016MS000839

5) Wong, T.E., J. Nusbaumer, D.C. Noone (2017). Evaluation of modeled land-atmosphere exchanges with a comprehensive water isotope fractionation scheme in the NCAR Community Land Model, Journal of Advances in Modeling Earth Systems, DOI: 10.1002/2016MS000842

4) Teschner, B., N.M. Smith, Z.O. John, T. Borillo-Hutter, T.E. Wong (2017). How efficient are they really? A minimally invasive testing method of small-scale gold miners' gravity separation systems in the Guianas, Minerals Engineering, DOI: 10.1016/j.mineng.2017.01.005

3) Ruckert, K.L., G. Shaffer, D. Pollard, Y. Guan, T.E. Wong, C.E. Forest, K. Keller (2017). Assessing the impact of retreat mechanisms in a simple Antarctic ice sheet model using Bayesian calibration, PLoS ONE, DOI:10.1371/journal.pone.0170052

2) Berkelhammer, M., D. Noone, T.E. Wong, S. Burns, J. Knowles, A. Kaushik, P. Blanken, M. Williams, (2016). Convergent approaches to determine an ecosystem's transpiration fraction, Global Biogeochemical Cycles, DOI:10.1002/2016GB005392

1) Wong, T.E. (advisors: D.C. Noone and W. Kleiber) (2016). The Impact of Stable Water Isotopic Information on Parameter Calibration in a Land Surface Model. PhD Thesis, University of Colorado, Boulder, Colorado, USA, DOI:10.13140/RG.2.2.30181.40162

Book/Tutorial Chapters
(not peer reviewed)

Tony E. Wong, Kelsey L. Ruckert, and Klaus Keller, 2018, Sensitivity Analysis for a Simple Sea-Level Change Model. In: Risk Analysis in the Earth Sciences: A Lab Manual with Exercises in R (Applegate, P. J., and Keller, K., eds.). https://leanpub.com/raes (version in progress here: http://www.personal.psu.edu/vxs914/RAES/raes_v3p0.pdf)

Kelsey L. Ruckert, Tony E. Wong, Yawen Guan, and Murali Haran, 2018, Applying Markov chain Monte Carlo to sea-level data. In: Risk Analysis in the Earth Sciences: A Lab Manual with Exercises in R (Applegate, P. J., and Keller, K., eds.). https://leanpub.com/raes (version in progress here: http://www.personal.psu.edu/vxs914/RAES/raes_v3p0.pdf)

Kelsey L. Ruckert, Tony E. Wong, Yawen Guan, Murali Haran and Patrick J. Applegate, 2018, A Calibration Problem and Markov chain Monte Carlo. In: Risk Analysis in the Earth Sciences: A Lab Manual with Exercises in R (Applegate, P. J., and Keller, K., eds.). https://leanpub.com/raes (version in progress here: http://www.personal.psu.edu/vxs914/RAES/raes_v3p0.pdf)

Kelsey L. Ruckert, Tony E. Wong, Benjamin Seiyon Lee, Yawen Guan, and Murali Haran, 2018, Bayesian Inference and Markov chain Monte Carlo Basics. In: Risk Analysis in the Earth Sciences: A Lab Manual with Exercises in R (Applegate, P. J., and Keller, K., eds.). https://leanpub.com/raes (version in progress here: http://www.personal.psu.edu/vxs914/RAES/raes_v3p0.pdf)

White Papers and Other Writing
(not peer reviewed)

Wong, T. (29 March 2021), If everyone on Earth sat in the ocean at once, how much would sea level rise? The Conversation "Curious Kids" article with over 450k reads, translated into Japanese and Arabic. Available from: https://theconversation.com/if-everyone-on-earth-sat-in-the-ocean-at-once-how-much-would-sea-level-rise-156626

Wong, T. and B. Zaharatos (2018), The Road to T1 and the Critical Role of Teaching Faculty, white paper submitted to University of Colorado Boulder Academic Futures Committee. Available from: https://www.colorado.edu/academicfutures/response-papers

T. Mortlock, P. Somerville, T. Wong, and A. Bakker (2018), Thwaites and Pine Island Glaciers of Antarctica and the Prospect of Rapid Sea Level Rise, Risk Frontiers Briefing Note 367.

Mentoring

Postdoc:

2) Christian Cammarota (secondary mentor), STEM Education, RIT, 2023 - present

1) Mike Foster (primary mentor), STEM Education, RIT, 2023 - present

PhD:

4) Trevor Lax / PhD, Mathematical Modeling, RIT, 2024 - present
3) Cameron Bundy / PhD, Mathematical Modeling, RIT, 2023 - present
2) Carolina Estevez Loza / PhD, Mathematical Modeling, RIT, 2023 - present
1) Meghan Childs / PhD, Mathematical Modeling, RIT, 2021 - present

Master's:

6) Dwight Dinkins / MS, Applied and Computational Mathematics, RIT, 2023 - 2024
5) Prasanna Ponfilio Rodrigues / MS, Applied Statistics, RIT, 2022 - 2024
4) Alana Hough / MS, Data Science; BS, Applied Mathematics, RIT, 2020 - 2022
3) Jaser Iniguez / MS, Applied Statistics, RIT, 2021
2) Ken Shultes / MS, Applied and Computational Mathematics, RIT, 2020 - 2021
1) Robert Fuller / MS, Geosciences, PSU, 2016 - 2017

Undergraduate:

28) Jen Sundstrum / DBER REU, Engineering Education, Olin College, 2024
27) Alissa Mitelman / DBER REU, Math Education, Kean University, 2024
26) Becca Bogstad / DBER REU, Computer Science, Vassar College, 2024
25) Kelly Feke / BS, Computational Mathematics, RIT, 2022 - 2024
24) Selorm Dake / BS, Computational Mathematics, RIT, 2022 - 2023
23) Kimberly Dorsey / DBER REU, Computational Mathematics, Rice University, 2023
22) Andrea Comacho-Betancourt / DBER REU, Industrial Eng., Univ. of Florida, 2023
21) Kate Ward / DBER REU, Biomedical Engineering, University of Tennessee, 2023
20) Rachel Suchman / DBER REU, Statistics, Virginia Tech, 2023
19) Mikayla MacIntyre / BS, Applied Statistics, RIT, 2022 - 2023
18) Kayleigh Patterson / BS, Physics, RIT, 2022
17) Allison Dennis / DBER REU, Mathematics, Texas A&M University, 2022
16) Hannah Sheets / BS, Applied Statistics, RIT, 2020 - 2022
15) Jenny Bogart / BS, Applied Mathematics, RIT, 2022
14) Matthew Dunham / DBER REU, Statistics, UC Monterey Bay, 2021
13) Mason Tedeschi / DBER REU, Neurodiversity Studies, New College Florida, 2021
12) Tiana Hose / BS, Applied Mathematics, RIT, 2021 - 2022
11) Grayson Olin / BS, Applied Mathematics, RIT, 2021
10) Matthew Peeks / BS, Applied Mathematics, RIT, 2021
9) Patrick Ribas / (co-op) BS, Computer Science, RIT, 2020
8) Devansh / BS, Computer Science, RIT, 2020
7) Travis Torline / BS, Computer Science, CU Boulder, 2019
6) Kyle Rosenberg / BS, Computer Science, CU Boulder, 2019
5) Jon Oulton / BS, Computer Science, CU Boulder, 2019
4) H. Nihar Nandan / BS, Computer Science, CU Boulder, 2018 - 2019
3) Mingxuan Zhang / BS, Applied Mathematics, CU Boulder, 2018 - 2019
2) John Letey / BS, Computer Science, CU Boulder, 2018

1) Alexandra Klufas / (Climate Science REU) BS, Mathematics, Wellesley College, 2017

Student Committees

PhD Committee Member

Jason LaRuez (RIT)
Trevor (RIT, advisor)
Carolina Estevez Loza (RIT, advisor)
Meghan Childs (RIT, advisor)
Jenna MacDanold (RIT)

MS/Second-year Project Committee Member

Jenna MacDanold (RIT)
Victoria McGraw (RIT)
Trevor Lax (RIT)
Kameron Kinast (RIT)
Rayla Phuc (RIT)

Undergraduate Thesis Committee Member

Kris Edelman (Philosophy, RIT)
Mehmet B. Karaoglu (Computer Science, CU Boulder)

Teaching

Primary Instructor (RIT)

Risk Analysis with Applications in the Earth Sciences (MATH 589/689)
Probability & Statistics (MATH 251)
Stochastic Processes (MATH 505/605)
Climate Change: Science, Technology & Policy (ENVS 531/631; team-taught)
Calculus 1 (MATH 181)

Primary Instructor (CU Boulder)

CS1: Starting Computing (CSCI 1300)
Discrete Structures (CSCI 2824)
Discrete Structures Workgroup (CSCI 2830)
Intro. to Data Science with Prob/Stats (CSCI 3022)
Intro. to Artificial Intelligence (CSCI 3202)
Calculus 2 for Engineers (APPM 1360)
Calculus 3 for Engineers (APPM 2350)
Differential Equations with Linear Algebra (APPM 2360)
Calculus 1 for Engineers Workgroup (GEEN 1350)
Calculus 2 for Engineers Workgroup (GEEN 1360)
Seminar in Teaching Excellence (APPM 7500)

Primary Instructor (Penn State)

The Earth System (EARTH 002)

Teaching Assistant (CU Boulder)

Calculus 1 for Engineers (APPM 1350)
Calculus 1 for Engineers (APPM 1350)
Calculus 2 for Engineers (APPM 1360)
Differential Equations with Linear Algebra (APPM 2360)

Laboratory Assistant (Ohio Wesleyan University)

The Astronomical Universe (ASTR 111)

Grants and Funding
(PI/co-PI only)

The Science and Mathematics Education Research Collaborative Postdoctoral Program / co-PI, NSF DGE #2222337
$1,248,524, Oct 2022 - Sep 2025

LEAPS-MPS: Computational Modeling to Characterize and Attribute Uncertainty in Future Coastal Risk / PI, NSF DMS #2213432
$179,999, Sep 2022 - Aug 2024

Examining disciplinary variation in computational literacy: faculty perspectives on tools, practices, knowledge, and beliefs / PI, RIT internal
$29,842, Dec 2021 - Dec 2022

Characterizing uncertainty in future coastal hazards and damages from sea-level rise / PI, RIT internal
$5,000, Jul 2020 - Jun 2021

Evaluating drivers of uncertainty in deep-time paleoclimate constraints on the CO2-temperature relationship / PI, RIT internal
$14,000, Dec 2019 - Dec 2020

Comparison of Methods for Estimating Future Flood Risk in New Orleans, Louisiana / PI, CU Boulder internal
$2,000, May 2019 - July 2019

Invited Talks

Wong, T.E., Characterizing the Impacts of Deep Uncertainty in Coastal Flood Risk, Rhetoric Society of America Summer Institute, University Park, PA, 22-25 May 2023.

Wong, T.E., Characterizing the Impacts of Deep Uncertainty in Coastal Flood Risk, American Statistical Association ENVR 2022 Workshop, Provo, UT, 6-8 October 2022.

Wong, T.E., G. Thurston, N. Barlow, N. Cahill, L. Carichino, K. Maki, D. Ross, and J. Schneider, Evaluating the Sensitivity of SARS-CoV-2 Infection Rates on College Campuses to Wastewater Surveillance, Ithaca College Mathematics Department Colloquium, Ithaca, NY, 22 Feb 2021.

Wong, T.E. and K. Keller, Managing Risk in a Changing Climate, Muller Award Lecture presented at Ohio Wesleyan University, Delaware, Ohio, 13 Apr 2017.

Wong, T.E., A.M.R. Bakker, K. Keller, The Impacts of Fast Antarctic Dynamics on Sea-Level Rise and its Implications on Coastal Defense, presented at Resources for the Future, Washington, D.C., 14 Nov 2016.

Wong, T.E., W. Kleiber, D.C. Noone, Optimization of Modeled Land-Atmosphere Exchanges of Water and Energy by Bayesian Parameter Estimation, presented at U.S. Geological Survey, Denver, Colorado, 8 Jul 2014.

Selected Presentations

(my students in **bold**)

R. Suchman, S. Franklin, & T.E. Wong, The Influence of Shared Course Enrollments on Student Performance, poster presented at 2024 Joint Statistical Meetings, Portland,

OR, 3-8 Aug 2024.

C. Bundy & T.E. Wong, Analyzing the Impact of the Learning Assistant Program on Student Success in Introductory Physics Courses, presented at 2024 UP-STAT Upstate New York ASA Chapters Joint Conference, Rochester, NY, 12-13 April 2024.

C. Estevez Loza & T.E. Wong, Improving Coastal Adaptation Decision-Making Using a Robust Decision Criterion, presented at 2024 UP-STAT Upstate New York ASA Chapters Joint Conference, Rochester, NY, 12-13 April 2024.

Kelly Feke, T.E. Wong, Understanding the Impact of Structural Uncertainty in Sea Level Rise Models on Adaptation Costs and Strategies, presented at 2024 UP-STAT Upstate New York ASA Chapters Joint Conference, Rochester, NY, 12-13 April 2024. ***(won 2nd place in Applications category)***

C. Estevez Loza & T.E. Wong, Managing Coastal Risks by Integrating Uncertainty in Future Sea-Level Rise into a Coastal Adaptation Model, presented at 2023 Fall Meeting, American Geophysical Union, San Francisco, CA, 11-15 Dec 2023.

T.E. Wong & **K. Feke**, Evaluating the Impacts of Sea-Level Model Structural Uncertainty on Coastal Adaptation, presented at 2023 Fall Meeting, American Geophysical Union, San Francisco, CA, 11-15 Dec 2023.

M.R. Childs & T.E. Wong, Improving a University COVID-19 Model via Bayesian Model Calibration, presented at 2023 Women in Statistics and Data Science Conference, Bellevue, WA, 25-27 October 2023.

Kelly Feke, T.E. Wong, Evaluating the Impacts of Structural Uncertainty in Sea Level Rise Models on Coastal Adaptation, presented at 2023 UP-STAT Upstate New York ASA Chapters Joint Conference, Rochester, NY, 21-22 April 2023.

Prasanna Ponfilio Rodrigues, Carolina Estevez Loza, T.E. Wong, Assessing Sensitivity of Coastal Adaptation Costs to Sea Level Rise Across Different Future Scenarios with Random Forests, presented at 2023 UP-STAT Upstate New York ASA Chapters Joint Conference, Rochester, NY, 21-22 April 2023. ***(won 2nd place in Applications category)***

Selorm Dake, Kelly Feke, T.E. Wong, Impacts of Warming Thresholds on Uncertainty in Future Coastal Adaptation Costs, presented at 2023 UP-STAT Upstate New York ASA Chapters Joint Conference, Rochester, NY, 21-22 April 2023.

M.R. Childs & T.E. Wong, Mathematical Model for COVID-19 on College Campuses using Model-Data Fusion and Vaccinations, presented at 2023 Joint Mathematics Meeting, Boston, MA, 4-7 Jan 2023.

T.E. Wong, L. Rennels, F.C. Errickson, V. Srikrishnan, D. Anthoff, K. Keller, Sensitivity of Coastal Adaptation Costs and Decisions to Sea Level and Socioeconomic Uncertainties, presented at 2022 Fall Meeting, American Geophysical Union, Chicago, IL, 12-16 Dec 2022.

T. Hose, **M. Tedeschi**, E.K. Mehlman, S. Franklin, T.E. Wong, Measuring the downstream impact of Learning Assistants with Markov chains, presented at 2022 UP-STAT Upstate New York ASA Chapters Joint Conference, Buffalo, NY, 2-4 May 2022.

Dunham, M., & Wong, T. The Functionality of Student Interviews and Artifacts in Assessing Computational Literacy. Presented at the American Statistical Association Rochester Chapter Meeting, Rochester, NY, Feb 2022.

T.E. Wong, C. Ledna, L. Rennels, **H. Sheets**, F.C. Errickson, D. Anthoff, Propagating uncertainty in future sea levels increases anticipated coastal adaptation costs, presented at 2021 Fall Meeting, American Geophysical Union, New Orleans, LA, 13-17 Dec 2021.

A. Hough, T.E. Wong, Analysis of the Evolution of Parametric Drivers of High-End Sea-Level Hazards, presented at 2021 UP-STAT Upstate New York ASA Chapters Joint Conference, Buffalo, NY, 23-24 April 2021. ***(won 1st place in Applications category)***

H. Sheets, T.E. Wong, The Price of Procrastinating Coastal Adaptation to Sea-Level Rise, presented at 2021 UP-STAT Upstate New York ASA Chapters Joint Conference, Buffalo, NY, 23-24 April 2021.

Wong, T.E., G. Thurston, N. Barlow, N. Cahill, L. Carichino, K. Maki, D. Ross, and J. Schneider, Sensitivity of SARS-CoV-2 Infection Rates on College Campuses to Wastewater Surveillance, Rochester Science Cafe, Rochester, NY, 23 Feb 2021.

T.E. Wong, Y. Cui, D.L. Royer, K. Keller, A tighter constraint on Earth-system sensitivity from long-term temperature and carbon-cycle observations, presented at 2020 Fall Meeting, American Geophysical Union, online (Covid-19), 1-17 Dec 2020.

T.E. Wong, V. Srikrishnan, B.A. Vega-Westhoff, Probabilistic projections for timing of global sea-level thresholds, presented at 2019 Fall Meeting, American Geophysical Union, San Francisco, CA, 9-13 Dec 2019.

Wong, T.E. and **M. Zhang**, An Integration and Assessment of Nonstationary Storm Surge Statistical Behavior, presented at US CLIVAR Workshop on Sea Level Hotspots from Florida to Maine: Drivers, Impacts, and Adaptation Workshop, Norfolk, VA, 23-25 Apr 2019.

Vega-Westhoff, B., Sriver, R. L., Hartin, C., Wong, T., and Keller, K., A Hector application: Sea-level constraints tighten climate sensitivity and temperature projections, Hector, sea-level rise and probability, presented at 2018 GCAM Community Modeling Workshop, College Park, MD, October 2018.

Sriver, R. L., Vega-Westhoff, B., Hartin, C., Wong, T., and Keller, K., Pinning the Tails on HECTOR: Recent Model Developments and Bayesian Calibration using Global Sea-level Rise Information, Poster presented at DOE Modeling PI meeting, Washington DC, November 2018.

V. Srikrishnan, T.E. Wong, G.G. Garner, K. Keller. Combining Remote and Local Observations In A Direct Policy Search for Coastal Flood Defense Under Deep Uncertainty, presented at Society for Decision Making Under Deep Uncertainty 2017 Workshop, Oxford, UK, 14-15 Nov 2017.

Wong, T.E. and K. Keller, Probabilistic Projections of Coastal Flood Risk: A Case Study for New Orleans, presented at 2017 Regional Sea Level Changes and Coastal Impacts Conference, WCRP/IOC, New York, NY, 10-14 Jul 2017.

Wong, T.E. and K. Keller, What are robust coastal risk management strategies? presented at 2016 Fall Meeting, American Geophysical Union, San Francisco, CA, 12-16 Dec 2016.

Wong, T.E., W. Kleiber, D.C. Noone, Optimization of Modeled Land-Atmosphere Exchanges by Bayesian Parameter Calibration, presented at 2015 Society for

Industrial and Applied Mathematics Front Range Student Conference, Denver, CO, 28 Feb 2015.

Wong, T.E., Stable water isotopes in CLM, presented at Land Model Working Group Meeting, National Center for Atmospheric Research, Boulder, CO, 24-26 Feb 2014.

Wong, T.E., M. Berkelhammer, D.C. Noone, Constraining rooting profile and the partitioning of evapotranspiration by optimization and sensitivity analysis in an isotopically-enabled land surface model, presented at 2012 Fall Meeting, AGU, San Francisco, CA, 3-7 Dec 2012.

Honors and Awards

IOP Outstanding Reviewer Award, 2021

CIRES Graduate Fellowship, 2014

Robert L. Wilson Mathematics Prize (Ohio Wesleyan U.), 2010

Rogers D. Rusk Prize in Astrophysics (Ohio Wesleyan U.), 2010

BA awarded summa cum laude (cumulative GPA ≥ 3.97) (Ohio Wesleyan U.), 2010

Professional Service

2024-present, RIT Learning Assistant Program Director

2024-present, Environmental Research Letters Advisory Panel

2024-present, RIT Provost's Outstanding Graduate Student Teaching Award Committee (chair)

2023-present, RIT School of Mathematics and Statistics Programming Qualifying Exam Committee

2022-present, RIT Learning Assistant Committee, Mathematics and Statistics Liaison

2022-present, RIT School of Mathematics and Statistics Action Team to study graduation rate gaps

2020-present, DOE Multi-Sector Dynamics Uncertainty Quantification and Scenario Discovery Working Group, core member

2020-present, Treasurer, American Statistical Association Rochester Chapter

2021-2023, RIT Faculty Affairs Committee

2019-2022, Rochester Museum & Science Center Water Worlds science advisory committee

2019-2021, Undergraduate Curriculum Committee (RIT School of Mathematics and Statistics)

2018-2019, CU Boulder Instructor-Track Faculty Affairs Committee

2017-2019, Undergraduate Curriculum Committee (CU Boulder, Dept. of Computer Science)

2016, Vice President, CU Boulder Graduate Student Chapter, Society for Industrial and Applied Mathematics

2014-2015, Organizing Committee Member, SIAM Front Range Student Conference

2013-2016, Judge, Prospect Ridge Academy, Corden Pharma Colorado Regional, Boulder Country Day School Science Fairs

2013-2016, NCAR Land Model Working Group

2013-2015, President, CU Boulder Graduate Student Chapter, Society for Industrial and Applied Mathematics

2011-2012, Lead Graduate Teaching Assistant, Department of Applied Mathematics, CU Boulder

2009-2010, President, OWU Student Chapter of Society of Physics Students

2009-2010, Student Board Chair, OWU Depts of Mathematics, Physics and Astronomy

2009, Assistant Conference Coordinator, Fall 2009 Meeting, Ohio Section, American Physical Society

Reviewer

New York City Panel on Climate Change 2018 Report
NSF CAREER program, ad hoc reviewer
NSF P4CLIMATE program, ad hoc reviewer
NAS Gulf Research Program Early-Career Research Fellowship program, reviewer

Referee

Advances in Statistical Climatology, Meteorology and Oceanography
Climatic Change
Complexity
Computing in Science and Engineering
Earth's Future
Earth System Dynamics
Environmental Data Science
Environmental Modeling and Software
Environmental Research Letters
Environmental Research: Infrastructure and Sustainability
Environmental and Resource Economics
Environmetrics
Geophysical Research Letters
Journal of Climate
Journal of Geophysical Research - Biogeosciences
Journal of Hydrometeorology
Journal of Marine Science and Engineering
Journal of Open Source Software
Natural Hazards
Nature
PLOS Climate
Proceedings of the National Academy of Sciences
Water