

Ning Lin
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Education:

Ph.D. ,	Civil and Environmental Engineering, Princeton University	2010
M.S. ,	Civil and Environmental Engineering, Texas Tech University	2005
B.S. ,	Civil Engineering, Huazhong University of Science and Technology, China	2002

Professional Positions:

2018-present	Associate Professor, Dept. of Civil & Environmental Engineering, Princeton University Associated Faculty, C-PREE, Princeton School for Public and International Affairs Associated Faculty, Andlinger Center for Energy and Environment, Princeton University Associated Faculty, High Meadows Environmental Institute, Princeton University	
2012-2018	Assistant Professor, Dept. of Civil & Environmental Engineering, Princeton University	
2010-2012	NOAA Climate and Global Change (C&GC) Postdoctoral Fellow, Dept. of Earth, Atmospheric & Planetary Sciences, MIT	

Honors and Awards:

Walter L. Huber Civil Engineering Research Prize, American Society of Civil Engineers (ASCE)	2021
2020 Researcher of the Year Award, ASCE Central Jersey Branch	2020
Global Environmental Change Early Career Award, American Geophysical Union (AGU)	2020
Natural Hazards Early Career Award, American Geophysical Union (AGU)	2020
Faculty Early Career Development (CAREER) Award, National Science Foundation (NSF)	2016
Howard B. Wentz, Jr. Junior Faculty Award, Princeton University	2016
United States Frontiers of Engineering (FOE; Invited Speaker), National Academy of Engineering	2015
Science of Risk Prize, Lloyd's	2014
Best Paper Award, Society for Risk Analysis	2013
Natural Hazards Focus Group Award, American Geophysical Union (AGU)	2010
Climate and Global Change (C&GC) Postdoctoral Fellowship, NOAA	2010
Robert Hoffman *58 Scholar, Princeton University	2010
Harold W. Dodds Honorary Fellowship, Princeton University	2009
Founding Scholar, Princeton Energy and Climate Scholars Group	2008
Science, Technology and Environmental Policy (STEP) Fellowship, Princeton University	2007

Research:

- Research Interests: Hurricane Hazards (Wind, Storm Surge, Rainfall), Risk Analysis, Coastal Resilience, Climate Change Adaptation, Wind Engineering, Stochastic Modeling
- Publications: 75 peer-reviewed papers, including 8 published in high-impact interdisciplinary journals such as *Science*, *PNAS*, *Nature Climate Change*, *Nature Sustainability*, and *Nature Communications*, and others published in a broad range of journals in science and engineering (*J. Atmos. Sci.*, *J. Climate*, *J. Geophys. Res.-Ocean*, *J. Geophys. Res.-Atmos.*, *Monthly Weather Review*, *Weather and Forecasting*, *Natural Hazards*, *ASCE Journal of Structural Engineering*, *ASCE Natural Hazards Review*, *Probabilistic Engineering Mechanics*, *Journal of Wind Engineering and Industrial Aerodynamics*, *Wind and Structures*, *Frontiers in Built Environment*, *J Waterway Port Coast Ocean Eng*, *Reliability Engineering & System Safety*, *J. of Hydrology*, *J. of Hydrometeorology*, *Water Resources Research*, *Environmental Science & Technology*, *Stochastic Environmental Research and Risk Assessment*, *Risk Analysis*);

4 book chapters, and numerous conference papers (20+) and abstracts (70+)

- Google Scholar Citation: 3663, h-index: 32, i10-index: 55
 - 55+ invited talks at universities and conferences
 - PI or Co-PI for a number of projects supported by NSF, DOE, NOAA, the Rockefeller Foundation, and the MacArthur Foundation; total external research funding received > \$4 million
- Lead PI on NSF project “Hazard SEES: An Integrated Approach to Risk Assessment and Management in Responding to Landfalling Hurricanes in a Changing Climate.” (9/1/15-8/31/20)

Teaching and Advising:

- Courses at Princeton University: CEE566 Wind Engineering (Fall); CEE516 Coastal Flood Hazards and Mitigation (Fall), CEE460 Risk Analysis (Spring); CEE478 Senior Thesis (with all CEE faculty; Spring and Fall)
- 7 PhD students (4 in Environmental and 3 in Civil; 3 graduated), 2 Master’s students (1 in Environmental and 1 in Civil; 2 graduated), 6 Postdocs (5 completed), and 2 early-career visiting scholars (completed); 5 of the group members became assistant professors and 1 became associate professor after leaving Princeton
- Faculty Advisor of the CEE undergraduate Program of Structural Engineering (2014-present)
- Freshmen advising for the School of Engineering and Applied Sciences (2013-present)
- CEE Undergraduate Departmental Representative 2018 Fall

Journal Papers (student or postdoc in Lin’s group when the research was conducted):

1. Feng, K. and **N. Lin** (2021). Reconstructing and analyzing the traffic flow during evacuation in Hurricane Irma (2017). *Transportation Research Part D: Transport and Environment*. doi: 10.1016/j.trd.2021.102788
2. Kousky, C. H. Kunreuther, S. Xian, and **N. Lin** (2021). Adapting our flood risk policies to changing conditions. *Risk Analysis*. doi:10.1111/risa.13692
3. Gori, A., **N. Lin**, and D. Xi (2020). Tropical cyclone compound flood hazard assessment: from investigating drivers to quantifying extreme water levels. *Earth’s Future*.
4. Marsooli, R. and **N. Lin** (2020). Impacts of climate change on hurricane flood hazards in Jamaica Bay, New York. *Climatic Change*. doi: 10.1007/s10584-020-02932-x
5. Xi, D., **N. Lin**, J. Smith (2020). Evaluation of a physics-based tropical cyclone rainfall model for risk assessment. *J. of Hydrometeorology*. doi: 10.1175/JHM-D-20-0035.1
6. Yin, J., S. Jonkman, **N. Lin**, D. Yu, J. Aerts, R. Wilby, M. Pan, E. Wood, J. Bricker, Q. Ke, Z. Zeng, Q. Zhao, J. Ge, and J. Wang (2020). Flood risks in sinking delta cities: time for a re-evaluation? *Earth’s Future*. doi: 10.1029/2020EF001614
7. Feng, K. **N. Lin**, S. Xian, M.V. Chester (2020). Can we evacuate from hurricanes with electric vehicles? *Transportation Research Part D: Transport and Environment*. doi: 10.1016/j.trd.2020.102458
8. Yu, D. J. Yin, R. Wilby, S. Lane, J. Aerts, **N. Lin**, M. Liu, H. Yuan, J. Chen, C. Prudhomme, M. Guan, A. Baruch, W. Johnson, X. Tang, L. Yu, S. Xu (2020). Disruption of emergency response to vulnerable populations during floods. *Nature Sustainability*. doi: 10.1038/s41893-020-0516-7
9. Gori, A., **N. Lin**, J. Smith (2020). Assessing compound flooding from landfalling tropical cyclones on the North Carolina coast. *Water Resources Research*. doi: 10.1029/2019WR026788
10. Jing, R. and **N. Lin** (2020). An environment-dependent probabilistic tropical cyclone model. *Journal of Advances in Modeling Earth Systems*. doi: 10.1029/2019MS001975
11. Xu, H., **N. Lin**, M. Huang, and W. Lou (2020). Design tropical cyclone wind speed considering climate change. *ASCE J. of Structural Engineering*, doi: 10.1061/(ASCE)ST.1943-541X.0002585.

12. Sajjad, M., J.C.L. Chan, **N. Lin** (2020). Incorporating natural habitats into coastal risk assessment frameworks. *Environmental Science & Policy*. doi: 10.1016/j.envsci.2020.01.004
13. Sajjad, M., **N. Lin**, J.C.L. Chan (2020). Spatial heterogeneities of current and future hurricane flood risk along the U.S. Atlantic and Gulf coasts. *Science of The Total Environment*. doi: 10.1016/j.scitotenv.2020.136704
14. Jing, R. and **N. Lin** (2019). Tropical cyclone intensity evolution modeled as a dependent hidden Markov process. *J. of Climate*, doi: 10.1175/JCLI-D-19-0027.1
15. Marsooli, R., **N. Lin**, K. Emanuel, and K. Feng (2019). Climate change exacerbates hurricane flood hazards along US Atlantic and Gulf Coasts in spatially varying patterns. *Nature Communications*. doi: 10.1038/s41467-019-11755-z
16. **Lin, N.** (2019). Tropical cyclones and heatwaves. *Nat. Clim. Change*. doi: 10.1038/s41558-019-0537-2
17. **Lin, N.**, R. Marsooli, and B. Colle (2019). Storm surge return levels induced by the mid-to-late-twenty-first-century extratropical cyclones in the Northeastern United States. *Climatic Change*, doi: 10.1007/s10584-019-02431-8
18. Shao, W, K. Feng, and **N. Lin** (2019). Predicting support for flood mitigation based on flood insurance purchase behavior. *Environmental Research Letters*, doi: 10.1088/1748-9326/ab195a
19. Mayo, T. and **N. Lin** (2019). The Effect of the Surface Wind Field Representation in the Operational Storm Surge Model of the National Hurricane Center. *Atmosphere*, 10(4), p.193. doi: 10.3390/atmos10040193
20. Orton, P., **N. Lin**, V. Gornitz, B. Colle, J. Booth, K. Feng, M. Buchanan, M. Oppenheimer, L. Patrick (2019). New York City Panel on Climate Change 2019 Report Chapter 4: Coastal Flooding. *Annals of the New York Academy of Sciences*, doi: 10.1111/nyas.14011
21. Gornitz, V., M. Oppenheimer, R. Kopp, P. Orton, M. Buchanan, **N. Lin**, R. Horton (2019). New York City Panel on Climate Change 2019 Report Chapter 3: Sea Level Rise. *Annals of the New York Academy of Sciences*, doi: 10.1111/nyas.14006
22. Muis, S., **N. Lin**, M. Verlaan, H. C. Winsemius, P. J. Ward, J. C. J. H. Aerts (2019). Spatiotemporal patterns of extreme sea levels along the western North-Atlantic coasts. *Scientific Reports*. doi: 10.1038/s41598-019-40157-w
23. Yin, J., Q. Zhao, D. Yu, **N. Lin**, J. Kubanek, G. Ma, M. Liu, A. Pepe (2019). Long-term flood-hazard modeling for coastal areas using InSAR measurements and a hydrodynamic model: The case study of Lingang New City, Shanghai. *J. of Hydrology*. doi: 10.1016/j.jhydrol.2019.02.015
24. Schenkel, B., **N. Lin**, D. Chavas, G. Vecchi, M. Oppenheimer (2018), and A. Brammer. Lifetime evolution of tropical cyclone outer size. *J. Climate*. doi: 10.1175/JCLI-D-17-0630.1
25. Xian, S., K. Feng, **N. Lin**, R. Marsooli, D. Chavas, J. Chen, and A. Hatzikyriakou (2018). Rapid assessment of damaged homes in the Florida Keys after Hurricane Irma (2017). *Nat. Hazards Earth Syst. Sci.*, 18, 2041-2045. doi: 10.5194/nhess-18-2041-2018
26. Marsooli, R. and **N. Lin** (2018). Numerical modeling of historical storm tides and waves and their interactions along the U.S. East and Gulf Coasts. *J. Geophys. Res-Ocean*, doi: 10.1029/2017JC013434
27. Lu, P., **N. Lin**, K. Emanuel, D. Chavas, and J. Smith (2018). Assessing hurricane rainfall mechanisms using a physics-based model: Hurricanes Isabel (2003) and Irene (2011). *J. Atmos. Sci.*, doi: 10.1175/JAS-D-17-0264.1
28. Huang, M, Q. Li, H. Xu, W. Lou, and **N. Lin** (2018). Non-stationary statistical modeling of extreme wind speed series with exposure correction. *Wind and Structures*, doi: 10.12989/was.2018.26.3.129
29. Hatzikyriakou, A. and **N. Lin** (2018). Assessing the vulnerability of structures and residential communities to storm surge: an analysis of flood impact during Hurricane Sandy. *Frontiers in Built Environment*, doi: 10.3389/fbuil.2018.00004

30. Xian, S., J. Yin, N. Lin, and M. Oppenheimer (2018). Influence of risk factors and past events on flood resilience in coastal megacities: comparative analysis of NYC and Shanghai. *Science of the Total Environment*, doi:10.1016/j.scitotenv.2017.07.229
31. Yin, J., D. Yu, N. Lin, and R. Wilby (2017). Evaluating the cascading impacts of sea level rise and coastal flooding on emergency response spatial accessibility in Lower Manhattan, New York City. *Journal of Hydrology*, doi: 10.1016/j.jhydrol.2017.10.067
32. Garnera, A.J., M.E. Mann, K.A. Emanuel, R.E. Kopp, **N. Lin**, R.B. Alley, B.P. Horton, R.M. DeConto, J.P. Donnelly, and D. Pollard (2017). Climate change impact on New York City's coastal flood hazard: Increasing flood heights from the preindustrial to 2300 CE. *Proceedings of the National Academy of Sciences*, doi: 10.1073/pnas.1703568114
33. Schenkel, B., N. Lin, D. Chavas, M. Oppenheimer, and A. Brammer (2017) Evaluating outer tropical cyclone size in reanalysis datasets using QuikSCAT data. *J. Climate*, doi: 10.1175/JCLI-D-17-0122.1
34. Hatzikyriakou, A. and N. Lin (2017). Simulating storm surge waves for structural vulnerability estimation and flood hazard mapping. *Natural Hazards*, doi: 10.1007/s11069-017-3001-5
35. Tomiczek, T., A. Kennedy, Y. Zhang, M. Owensby, M. E. Hope, **N. Lin**, and A. Flores (2017). Hurricane damage classification methodology and fragility functions derived from Hurricane Sandy's effects in coastal New Jersey. *J Waterway Port Coast Ocean Eng*, doi: 10.1061/(ASCE)WW.1943-5460.0000409
36. Shao, W., S. Xian, N. Lin, and M. Small (2017). A sequential model to link contextual risk, perception and public support for flood adaptation policy. *Water Research*, doi: 10.1016/j.watres.2017.05.072
37. **Lin, N., R. Jing**, Y. Wang, E. Yonekura, J. Fan, and L. Xue (2017). A statistical investigation of the dependence of tropical cyclone intensity change on the surrounding environment. *Monthly Weather Review*, doi: 10.1175/MWR-D-16-0368.1
38. Xian, S., N. Lin, and H. Kunreuther (2017). Optimal house elevation for reducing flood-related losses. *Journal of Hydrology*, doi: 10.1016/j.jhydrol.2017.02.057
39. **Lin, N.** and E. Shullman (2017). Dealing with hurricane surge flooding in a changing environment: Part I. Risk assessment considering storm climatology change, sea level rise, and coastal development. *Stochastic Environmental Research and Risk Assessment*, doi:10.1007/s00477-016-1377-5
40. Lu, P., J.A. Smith and N. Lin (2017). Spatial characterization of flood magnitudes over the drainage network of the Delaware River basin. *Journal of Hydrometeorology*, doi: 10.1175/JHM-D-16-0071.1
41. Yin, J., N. Lin, and D. Yu (2016). Coupled modeling of storm surge and coastal inundation: A case study in New York City during Hurricane Sandy. *Water Resources Research*, doi: 10.1002/2016WR019102.
42. Shao, W., S. Xian, N. Lin, H. Kunreuther, N. Jackson, K. Goidel (2016). Understanding the effects of past flood events and perceived and estimated flood risks on individuals' voluntary flood insurance purchase behavior. *Water Research*, doi: 10.1016/j.watres.2016.11.021.
43. Hatzikyriakou, A. and N. Lin (2016). Impact of performance interdependencies on structural vulnerability: a systems perspective of storm surge risk to coastal residential communities. *Reliability Engineering & System Safety*, doi: 10.1016/j.res.2016.10.011.
44. **Lin, N., R.E. Kopp, B.P. Horton, and J.P. Donnelly** (2016). Hurricane Sandy's flood frequency increasing from year 1800 to 2100. *Proceedings of the National Academy of Sciences*, doi: 10.1073/pnas.1604386113.
45. Shao, W., S. Xian, B.D. Keim, K. Goidel, and **N. Lin** (2016). Understanding perceptions of changing hurricane strength along the US Gulf coast. *Int. J. Climatol.* doi:10.1002/joc.4805
46. Chavas, D. and N. Lin (2016). A model for the complete radial structure of the tropical cyclone wind field. Part II: wind field variability. *J. Atmos. Sci.* doi: 10.1175/JAS-D-15-0185.1
47. Chavas, D., N. Lin, W. Dong, and Y. Lin (2016). Observed tropical cyclone size revisited. *J. Climate*, doi: 10.1175/JCLI-D-15-0731.1

48. **Lin, N.** and K. Emanuel (2016). Grey swan tropical cyclones. *Nature Climate Change*, doi:10.1038/nclimate2777.
49. Hatzikyriakou, A., **N. Lin**, J. Gong, S. Xian, X. Hu, and A. Kennedy (2015). Component-based vulnerability analysis for residential structures subjected to storm surge impact from Hurricane Sandy. *Nat. Hazards Rev.*, 10.1061/(ASCE)NH.1527-6996.0000205, 05015005.
50. Reed, A.J., M.E. Mann, K. A. Emanuel, **N. Lin**, B.P. Horton, A.C. Kemp, and J.P. Donnelly (2015). Increased threat of tropical cyclones and coastal flooding to New York City during the anthropogenic era. *Proceedings of the National Academy of Sciences*, doi: 10.1073/pnas.1513127112.
51. Xian, S., **N. Lin**, and A. Hatzikyriakou (2015). Storm surge damage to residential areas: a quantitative analysis for Hurricane Sandy in comparison with FEMA flood map. *Nat. Hazards*, doi:10.1007/s11069-015-1937-x.
52. Chavas, D., **N. Lin**, and K. Emanuel (2015). A model for the complete radial structure of the tropical cyclone wind field. Part I: Comparison with observed structure. *J. Atmos. Sci.* doi:10.1175/JAS-D-15-0014.1
53. Orton, P., Vinogradov, S., Georgas, N., Blumberg, A., **Lin, N.**, Gornitz, V., Little, C., Jacob, K. and Horton, R. (2015). New York City Panel on Climate Change 2015 Report Chapter 4: Dynamic Coastal Flood Modeling. *Annals of the New York Academy of Sciences*, 1336: 56–66. doi: 10.1111/nyas.12589
54. Lickley, M.J., **N. Lin** and H.D. Jacoby (2014). Analysis of coastal protection under rising flood risk, *Climate Risk Management*, doi: <http://dx.doi.org/10.1016/j.crm.2015.01.001>
55. **Lin, N.**, P. Lane, K. A. Emanuel, R. M. Sullivan and J. P. Donnelly (2014). Heightened hurricane surge risk in northwest Florida revealed from climatological-hydrodynamic modeling and paleorecord reconstruction, *J. Geophys. Res.-Atmos.*, 119, doi:10.1002/2014JD021584 (Highlighted in Research Spotlight of *EOS*, *Transactions American Geophysical Union*).
56. Aerts, J., W. J. W. Botzen, K. Emanuel, **N. Lin**, H. de Moel and E. Michel-Kerjan (2014). Evaluating flood resilience strategies for coastal mega-cities. *Science*, May 2014. doi:10.1126/science.1248222 (Lloyd's Science of Risk Prize).
57. Yeo, D., **N. Lin** and E. Simiu (2014). Estimation of hurricane wind speed probabilities: Application to New York City and other coastal locations. *ASCE Journal of Structural Engineering*, doi:10.1061/(ASCE)ST.1943-541X.0000892.
58. Aerts, J., **N. Lin**, H. Moel, K. A. Emanuel and W. Botzen (2013). Low probability flood-risk modeling for New York City. *Risk Analysis*, doi: 10.1111/risa.12008 (Best Paper Award).
59. Vanmarcke, E., **N. Lin** and S.C. Yau (2013). Quantitative risk analysis of damage to structures during wind storms: Some multi-scale and system-reliability effects. *Structure and Infrastructure Engineering - Maintenance, Management and Life-Cycle Design & Performance*, doi: 10.1080/15732479.2013.791325.
60. Huang, M. F., W. Lou, C. M. Chan, **N. Lin** and X. Pan (2013). Peak distributions and peak factors of wind-induced pressure processes on tall buildings. *J. Eng. Mech.*, 10.1061/(ASCE)EM.1943-7889.0000616.
61. **Lin, N.**, K.A. Emanuel, M. Oppenheimer and E. Vanmarcke (2012). Physically based assessment of hurricane surge threat under climate change. *Nature Climate Change*, doi: 10.1038/NCLIMATE1389 (Online-attention score ranking the 1st among the 113 tracked articles of a similar age in *Nature Climate Change*).
62. **Lin, N.** and D. Chavas (2012). On hurricane parametric wind and applications in storm surge modeling. *J. Geophys. Res. Atmos.*, 117, D09120, doi:10.1029/2011JD017126.
63. Lou, W., M. Huang, M. Zhang and **N. Lin** (2012). Experimental and zonal modeling of wind pressures on double-skin facades of a tall rectangular building. *Energy and Buildings*, 54, 179-191.
64. Klima, K., **N. Lin**, K.A. Emanuel, M.G. Morgan and I. Grossmann (2011). Hurricane modification and adaptation in Miami-Dade County, Florida. *Environmental Science and Technology*, 45, 636-642, doi: 10.1021/es202640p.

65. Yau, S.C., **N. Lin** and E. Vanmarcke (2011). Hurricane damage and loss estimation using an integrated vulnerability model. *Natural Hazards Review*, doi:10.1061/(ASCE)NH.1527-6996.0000035.
66. **Lin, N.**, K.A. Emanuel, J.A. Smith and E. Vanmarcke (2010). Risk assessment of hurricane storm surge for New York City. *J. Geophys. Res. Atmos.*, 115, D18121, doi:10.1029/2009JD013630.
67. **Lin, N.**, J.A. Smith, G. Villarini, T. Marchok and M.L. Baeck (2010). Modeling extreme rainfall, winds, and surge from Hurricane Isabel (2003). *Weather and Forecasting*, 25, 1342–1361, doi: 10.1175/2010WAF2222349.1.
68. **Lin, N.** and E. Vanmarcke (2010). Windborne debris risk analysis: Part I. Introduction and methodology. *Wind and Structures*, 13(2) (Special Issue on Windborne Debris; invited), 191-206.
69. **Lin, N.**, E. Vanmarcke and S.C. Yau (2010). Windborne debris risk analysis: Part II. Application in structural vulnerability modeling. *Wind and Structures*, 13(2) (Special Issue on Windborne Debris; invited), 207-220.
70. **Lin, N.** and E. Vanmarcke (2008). Windborne debris risk assessment. *Probabilistic Engineering Mechanics*, 23(4) (Special Issue dedicated to Ove Ditlevsen; invited), 523-530.
71. **Lin, N.**, J.D. Holmes and C.W. Letchford (2007). Trajectories of windborne debris and applications to impact testing. *ASCE Journal of Structural Engineering*, 133(2), 2, 274-282.
72. **Lin, N.**, C.W. Letchford and J.D. Holmes (2006). Investigations of plate-type windborne debris, I. Experiments in wind tunnel and full-scale. *Journal of Wind Engineering and Industrial Aerodynamics*, 94, 51-76.
73. Holmes, J.D., C.W. Letchford and **N. Lin** (2006). Investigations of plate-type windborne debris, II. Computed trajectories. *Journal of Wind Engineering and Industrial Aerodynamics*, 94, 21-39.
74. **Lin, N.**, C.W. Letchford, Y. Tamura, B. Liang and O. Nakamura (2005). Characteristics of wind forces on tall buildings. *Journal of Wind Engineering and Industrial Aerodynamics*, 93, 217-242.
75. **Lin, N.**, B. Liang and Y. Tamura (2003). Experimental investigation on local wind force coefficients and power spectra of high-rise buildings. *Journal of Vibration Engineering*, 16(4).

Book Chapters:

1. Garner, A.J., R.E. Kopp, B.P. Horton, M.E. Mann, R. B. Alley, K. A. Emanuel, **N. Lin**, J.P. Donnelly, A. C. Kemp, R. M. DeConto and D. Pollard (2018). New York City's evolving flood risk from hurricanes and sea level rise. *Sea Level Rise*, 16(1), p.30.
2. **Lin, N.** (2015). An integrated approach to assess and manage hurricane risk in a changing climate. (*NAE The Bridge* 45(4): 45–51.
3. **Lin, N.**, K. Emanuel and E. Vanmarcke (2014). Physically-based hurricane risk analysis. In *Extreme Natural Hazards, Disaster Risks and Societal Implications*, A. Ismail-Zadeh, J. Fucugaugh, A. Kijko, K. Takeuchi, and I. Zaliapin, editors, Cambridge University Press. ISBN: 9781107033863
4. Letchford, C., **N. Lin** and J. Holmes (2013). Windborne debris in horizontal winds and applications to impact testing. In *Advanced Structural Wind Engineering*, Y. Tamura and A. Kareem, editors, Springer. ISBN 978-4-431-54337-4

Licenses/Patents

Lin, N. and **R. Jing**. Physics-based machine-learning approach for tropical cyclone risk analysis. Provisional Patent Application No. 62/881,753 (Princeton Ref. 20-3607-1), Priority Date: 08/01/2019

Invited Seminars at Universities and Research Institutes:

1. Case Western Reserve University, Dept. of Civil and Environmental Engineering, April 2, 2021
2. University of Illinois at Urbana-Champaign, Dept. of Civil and Environmental Engineering, Mar. 25, 2019

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3. Stanford University, Dept. of Earth System Science, January 23, 2019
4. Rice University, Dept. of Civil and Environmental Engineering, Houston, TX, January 18, 2019
5. East China Normal University, School of Geographic Sciences, Shanghai, China, June 11, 2018
6. NASA Goddard Space Flight Center, Greenbelt, Maryland, May 21, 2018
7. NOAA/Geophysical Fluid Dynamics Laboratory (GFDL), Princeton, NJ, June 22, 2017
8. Lehigh University, Dept. of Civil and Environmental Engineering, Bethlehem, PA, Nov. 1, 2016
9. University of Notre Dame, Dept. of Civil and Environmental Engineering and Earth Sciences, Sep. 27, 2016
10. Columbia University, Tropical Cyclone Risk Modeling Workshop, May 9, 2016.
11. National Center for Atmospheric Research (NCAR), Boulder, CO, May 29, 2015
12. Princeton, The David Bradford Seminars in Science, Technology and Environmental Policy, Sep. 22, 2014
13. Catalan Institute of Climate Sciences, Barcelona, Spain, July 15, 2014
14. Nanyang Technological University, Earth Observatory of Singapore, Singapore, June 24, 2014
15. Rutgers University, Institute of Marine and Coastal Science, May 5, 2014
16. Columbia University, Dept. of Applied Physics and Applied Mathematics, Mar. 28, 2013
17. University of Pennsylvania, Dept. of Earth and Environmental Science, Philadelphia, PA, Mar. 15, 2013
18. Rensselaer Polytechnic Institute, Civil and Environmental Engineering, Troy, NY, April 4, 2012
19. Harvard University, School of Engineering and Applied Sciences, Cambridge, MA, Mar. 19, 2012
20. MIT, Dept. of Civil and Environmental Engineering, Cambridge, MA, Mar. 8, 2012
21. Cornell University, Dept. of Civil and Environmental Engineering, Ithaca, New York, Feb. 27, 2012
22. University of Michigan, Civil and Environmental Engineering, Ann Arbor, MI, Feb. 13, 2012
23. University of Washington, Dept. of Atmospheric Sciences, Seattle, WA, Feb. 8, 2012
24. Geophysical Fluid Dynamics Laboratory (GFDL), Princeton, NJ, Jan. 25, 2012
25. Princeton University, Civil and Environmental Engineering, Princeton, NJ, Jan. 24, 2012
26. Cornell University, Dept. of Earth and Atmospheric Sciences, Ithaca, New York, Dec. 1, 2011
27. AIR Worldwide Corporation, Boston, MA, Nov. 11, 2011
28. University of Delaware, Dept. of Civil and Environmental Engineering, Newark, DE, Apr. 8, 2011
29. Atmospheric and Environmental Research, Lexington, MA, Sept. 21, 2010
30. MIT, Dept. of Earth, Atmospheric, and Planetary Sciences, Cambridge, MA, Oct. 20, 2010
31. University of Notre Dame, Dept. of Civil and Environmental Engineering, IN, Aug. 24, 2010
32. Princeton University, Robert Hoffman *58 Scholars Forum, Princeton, NJ, Apr. 27, 2010
33. Rice University, Dept. of Civil and Environmental Engineering, Houston, TX, Feb. 15, 2010
34. Columbia University, NASA Goddard Institute for Space Studies, New York, NY, Nov. 24, 2009
35. Stanford University, Dept. of Civil and Environmental Engineering, Stanford, CA, Nov. 11, 2009
36. University of California, Berkeley, Dept. of Civil and Environmental Engineering, CA, Dec. 18, 2008

Invited Talks at Conferences:

1. US Climate Variability and Predictability Program (CLIVAR) Predictability, Predictions, and Applications Interface Panel (PPAI) Annual Meeting, Virtual, July 21, 2020
2. Princeton Andlinger Center for Energy and the Environment E-affiliates retreat: “Resilience: Coasts and Beyond”, Virtual, June 9, 2020
3. XXVII IUGG General Assembly, Session “Georisk Reduction: Science, Resources, and Governmental Action” Montréal, Canada, July 8-18, 2019
4. AGU Fall Meeting, Session “Coastal Hydrology: fluid flow, transport, and ecosystem responses from wave to climate scales”, Washington, D.C., Dec. 10-14, 2018
5. Biennial meeting of the Consortium for the Advancement of Hydrological Sciences (CUAHSI), Session: Water and the Changing Climate. Shepherdstown, West Virginia, July 29-Aug 2, 2018.
6. AGU Fall Meeting, GC012: Characterizing and managing risks of weather and climate extreme events in a changing world, New Orleans, LA, Dec. 11-15, 2017
7. 12th International Conference on Structural Safety & Reliability (ICOSSAR). Vienna, Austria, August 6-10, 2016 (Declined due to maternity reasons)
8. 6th International Summit on Hurricanes and Climate Change: From Hazard to Impact, Crete, Greece, June 4-9, 2017 (Declined due to maternity reasons)
9. ADCIRC Annual Workshop, Norwood, MA, May 4-5, 2017 (Keynote) (Declined due to maternity reasons)
10. SIAM Conference on Mathematics of Planet Earth, Philadelphia, PA, Sep. 30, 2016
11. Symposium on Reliability of Engineering System (SRES'2015), Hangzhou, China, Oct. 17, 2015 (Keynote)
12. US Frontiers of Engineering Symposium of the National Academy of Engineering, Irvine, CA, Sep. 11, 2015
13. Mini-symposium “Advances in Computational Techniques for Coastal Ocean Modeling” at the SIAM Conference on Computational Science and Engineering, Salt Lake City, Utah, March 17, 2015
14. AGU Fall Meeting, GC33D: Magnitudes and Mechanisms of Ice Sheet Melt, Sea-Level Changes, and Coastal Inundation: Past and Future II, San Francisco, CA, Dec. 11, 2013
15. NPCC Coastal Workshop, NASA Goddard Institute for Space Studies, New York, NY, Dec. 6, 2013
16. Hurricane Ike: 5 Years Later Conference, Rice University, TX, Sep. 25, 2013 (Keynote)
17. Davos Atmosphere and Cryosphere Assembly DACA-13, Davos, Switzerland, July 12, 2013.
18. Mini-symposium "Multiple Hazards Associated with Tropical Cyclones and Other Wind Storms" at the 11th International Conference on Structural Safety & Reliability, Columbia University, June 16-20, 2013
19. 4th International Summit on Hurricanes and Climate Change, Kos, Greece, June 13, 2013
20. The First IUGG GRC Conference on “Extreme Natural Hazards and Their Impacts”, Chapman University, Orange, CA, Dec. 8-11, 2012
21. AGU Fall Meeting, NH23C: Coastal Inundation for Present and Future Climates, Dec. 3-7, 2012
22. AGU Fall Meeting, U14A: Quantitative Modeling of Social and Environmental Systems, Dec. 3-7, 2012
23. AGU Fall Meeting, OS24C: Living on the Edge: Societies on the Frontline of Coastal Change, 2012
24. NOAA Climate & Global Change Summer Institute, Steamboat Springs, CO, July 10, 2012

25. The 3rd International Summit on Hurricanes and Climate Change, Rhodes, Greece, July 2, 2011
26. AGU Fall Meeting, Natural Hazards Focus Group, San Francisco, CA, Dec. 13, 2010
27. GFDL/Princeton Workshop on Fluid Dynamics & Global Environment, Princeton, NJ, May 27, 2009

Conference Papers in Published Proceedings (student or postdoc in Lin' group)

1. Jing, R. and **N. Lin** (2019). An environment-dependent probabilistic tropical cyclone model. *Proceedings of the 15th International Conference on Wind Engineering*, Beijing, China, September 1-6, 2019
2. Feng, K., S. Xian, and **N. Lin** (2019). Tuning deep flooding risk with adaptive strategy: An application for NYC. *Proceedings of the 13th International Conference on Applications of Statistics and Probability in Civil Engineering (ICASP13)*, Seoul, South Korea, May 26-30, 2019
3. Feng, K. and **N. Lin** (2019). Simulation of Hurricane Irma Evacuation Process. *Proceedings of the 13th International Conference on Applications of Statistics and Probability in Civil Engineering (ICASP13)*, Seoul, South Korea, May 26-30, 2019
4. Hatzikyriakou, A. and **N. Lin** (2016). Simulating storm surge inundation for structural vulnerability estimation and prediction. *Proceedings of the 4th American Association for Wind Engineering Workshop*, Miami, Florida, August 14-16, 2016
5. Gong, J., M. Guo, Z. Zhou, **N. Lin**, A. Kennedy (2016). Fusion of Geo-Tagged Post-Storm Damage Photos with Mobile LiDAR Data for Storm Surge Height Measurement. *Proceedings of Construction Research Congress*, San Juan, Puerto Rico, May 31-June 2, 2016
6. Vanmarcke, E. and **N. Lin** (2015). Multi-hazard geo-risk assessment of long coastal structures. *Proceedings of Symposium on Reliability of Engineering System (SRES'2015)*, 57-70, Hangzhou, China, Oct. 15-17, 2015.
7. Shullman, E. and **N. Lin** (2015). Economic evaluation of hurricane flood mitigation strategies: methodology development and case study for New York City. *Proceedings of Symposium on Reliability of Engineering System (SRES'2015)*, 297-298, Hangzhou, China, Oct. 15-17, 2015
8. Hatzikyriakou, A. and **N. Lin** (2015). Impact of damage correlation due to Performance interaction on structural vulnerability. *Proceedings of Symposium on Reliability of Engineering System (SRES'2015)*, 291-292, Hangzhou, China, Oct. 15-17, 2015
9. **Lin, N.**, K. Emanuel and E. Vanmarcke (2013). Hurricane risk analysis: A review on the physically-based approach. *Proceedings of 11th International Conference on Structural Safety & Reliability (ICOSSAR 2013)*, Columbia University, New York, June 16-20, 2013.
10. Owensby, M., N. Lin and A. Kennedy (2013). An assessment and analysis of Hurricane Sandy damage in Ortley Beach, New Jersey. *Proceedings of 11th International Conference on Structural Safety & Reliability (ICOSSAR 2013)*, Columbia University, New York, June 16-20, 2013.
11. Gong, J. and **N. Lin** (2013). Post-Sandy damage and vulnerability assessment with 3D geospatial sensing methods. *Proceedings of 11th International Conference on Structural Safety & Reliability (ICOSSAR 2013)*, Columbia University, New York, June 16-20, 2013.
12. Yeo, D., **N. Lin** and E. Simiu (2013). Multiple wind hazards in hurricane-prone regions and basic wind speeds specified by the ASCE 7 standard for New York City." *Proceedings of 11th International Conference on Structural Safety & Reliability (ICOSSAR 2013)*, Columbia University, New York, June 16-20, 2013.
13. **Lin, N.** and K. Emanuel (2011). Hurricane storm surge risk and impact of climate change. *Proceedings of the 13th International Conference on Wind Engineering (13ICWE)*, Amsterdam, Netherlands, July 10-15, 2011.
14. Vanmarcke, E. and **N. Lin** (2011). Quantitative risk analysis of damage to structures during windstorms: Random field and system reliability aspects. *Proceedings of International Conference on Vulnerability*

and Risk Analysis and Management (ICVRAM) and ISUMA 2011 Fifth International Symposium on Uncertainty Modeling and Analysis, Hyattsville, Maryland, April 11-13, 2011, doi:10.1061/41170(400)2.

15. Vanmarcke, E., **N. Lin** and S.C. Yau (2010). Quantitative risk analysis of damage to structures during windstorms: Some multi-scale and system-reliability effects. *Proceedings of International Symposium on Reliability Engineering and Risk Management (ISRERM2010)*, Shanghai, China, September 23-26, 2010.
16. **Lin, N.**, E. Vanmarcke and T. Marchok (2008). Landfalling hurricane simulation and wind damage assessment. *Proceedings of the 1st American Association for Wind Engineering Workshop*, Vail, Colorado, USA, August 21-22, 2008.
17. **Lin, N.** and E. Vanmarcke (2007). A windborne debris risk model. *Proceedings of the 12th International Conference on Wind Engineering (ICWE12)*, Cairns, Australia, July 1-6, 2007.
18. **Lin, N.**, C.W. Letchford and J.D. Holmes (2005). Experimental investigation of trajectory of windborne debris with applications to debris impact criteria. *Proceedings of the 10th Americas Conference on Wind Engineering (10ACWE)*, Baton Rouge, Louisiana, USA, June 1-4, 2005.
19. **Lin, N.**, C.W. Letchford and G. Taylor (2005). Investigation of the flight mechanics of 1D (rod-like) debris. *Proceedings of the 4th European & African Conference on Wind Engineering (EACWE2005)*, Prague, Czech Republic, July 11-15, 2005.
20. Holmes, J.D., C.W. Letchford and **N. Lin** (2005). Trajectories of windborne debris of the plate-type. *Proceedings of the 10th Americas Conference on Wind Engineering (10ACWE)*, Baton Rouge, Louisiana, USA, June 1-4, 2005.
21. **Lin, N.**, C.W. Letchford and J.D. Holmes (2004). Aerodynamics of 2D windborne debris in wind-tunnel and full-scale tests. *Proceedings of the 6th UK Conference on Wind Engineering*, Cranfield University, United Kingdom, September 15-17, 2004.
22. **Lin, N.**, C.W. Letchford and J.D. Holmes (2004). Wind tunnel and full-scale tests of 2D windborne debris. *Proceedings of the International Conference on Storms and the Annual National Conferences of the Australian Meteorological and Oceanographic Society (AMOS) and the Meteorological Society of New Zealand (MSNZ)*, Brisbane, Australia, July 5-9, 2004.
23. **Lin, N.**, C.W. Letchford and J.D. Holmes (2004). Investigation of 2D windborne debris in wind-tunnel and full-scale tests. *Proceedings of the 11th Australian Wind Engineering Society Workshop*, Darwin, Australia, June 28-30, 2004.
24. **Lin, N.**, O. Nakamura, B. Liang and Y. Tamura (2003). Local wind forces acting on tall buildings. *Proceedings of the 11th International Conference on Wind Engineering (ICWE11)*, Lubbock, Texas, June 2-5, 2003.

Conference Abstracts Since 2012 (student or postdoc in Lin' group)

1. Jing, R., **N. Lin**, and Y. Zhang (2019). "DeepRI: End-to-end prediction of tropical cyclone rapid intensification from climate data." NeurIPSw: Tackling Climate Change with Machine Learning. British Columbia, Canada, Dec. 14, 2019
2. Feng, K. and **N. Lin** (2019). "Tuning deep flooding risk with adaptive strategy: An application for NYC." The Institute for Operations Research and the Management Sciences (INFORMS) Annual Meeting. Seattle, WA, Oct. 20-23, 2019
3. Gori, A., **N. Lin**, D. Xi and J. Smith (2019). "Investigating Compounding Potential between Rainfall, Surge, and River Discharge for Landfalling Hurricanes along the North Carolina Coast." AGU Fall Meeting, San Francisco, CA D.C., Dec. 9-13, 2019
4. Feng, K., M. Ouyang, **N. Lin** (2019). "Modeling the impact of hurricane induced power outage in a changing climate." AGU Fall Meeting, San Francisco, CA D.C., Dec. 9-13, 2019

5. Muis, S., N. Bloemendaal, **N. Lin**, I. Pelupessy, M. Verlaan, P. Ward, M. Chertova (2019). “How to advance the global modelling of tropical cyclone-generated storm surges?” AGU Fall Meeting, San Francisco, CA D.C., Dec. 9-13, 2019
6. Jing, R. and N. Lin (2019). “An environment-dependent probabilistic tropical cyclone model.” XXVII IUGG General Assembly, Montréal, Canada, July 8-18, 2019
7. Lin, N and R. Marsooli (2018). “Impact of sea level rise and tropical cyclone climatology change on 21st century coastal flood hazards along the U.S. East and Gulf coasts.” AGU Fall Meeting, Washington, D.C., Dec. 10-14, 2018
8. Jing, R. and N. Lin (2018). “An environment-dependent probabilistic tropical cyclone model.” AGU Fall Meeting, Washington, D.C., Dec. 10-14, 2018
9. Marsooli, R. and N. Lin (2018). “Changing coastal flood hazards in Jamaica Bay, New York, induced by the mid and late 21st century sea level and tropical cyclone climatology.” AGU Fall Meeting, Washington, D.C., Dec. 10-14, 2018
10. He, X. K. Feng, J. Hall, Y Wada, P. Burek, **N. Lin**, E. Wood, and J. Sheffield (2018). “Identifying robust development pathways to manage the groundwater-food-energy trilemma in California through penetration of renewable energy generation” AGU Fall Meeting, Washington, D.C., Dec. 10-14, 2018
11. Oppenheimer, M., V. Gornitz, R. Kopp, P. Orton, M. Buchanan, **N. Lin**, R. Horton, D. Bader, C. Rosenzweig. “Challenges of Adapting to Upper-End Sea Level Rise and Increased Coastal Flooding: the Case of New York City” AGU Fall Meeting, Washington, D.C., Dec. 10-14, 2018
12. Hatzikyriakou, A. and **N. Lin** (2018). “Multi-hazard analysis of tropical cyclone return periods.” Forensic Engineering 8th Congress in Austin, Texas on Nov. 29 – Dec. 2, 2018
13. **Lin, N.**, R. Jing, and D. Xi (2018). “An environment-dependent hurricane climatology model.” ASCE Engineering Mechanics Institute Conference, MIT, Cambridge, MA, May 28-June 1, 2018.
14. Feng, K. and **N. Lin** (2018). “Simulating and managing hurricane evacuation process: the case of Hurricane Irma (2017).” ASCE Engineering Mechanics Institute Conference, MIT, Cambridge, MA, May 28-June 1, 2018.
15. Jing, R., and **N. Lin** (2018). “A Markov environment-dependent hurricane intensity model and its application in operational forecasting.” 33rd Conference on Hurricanes and Tropical Meteorology, Ponte Vedra, FL, April 16-20, 2018
16. Schenkel, B., **N. Lin**, Chavas, G. Vecchi, T. Knutson, and M. Oppenheimer (2018). “Will outer tropical cyclone size change due to anthropogenic warming?” 33rd Conference on Hurricanes and Tropical Meteorology, Ponte Vedra, FL, April 16-20, 2018
17. Marsooli, R. and **N. Lin** (2018). “Effects of wave setup and nonlinear tide-surge interaction on extreme sea levels along the U.S. East and Gulf coasts.” 2018 Ocean Sciences Meeting – AGU, Portland, OR, February 11–16.
18. Schenkel, B., **N. Lin**, D. Chavas, M. Oppenheimer, and A. Brammer (2018). “A simple statistical model for the lifetime evolution of outer tropical cyclone size.” 2018 AMS Annual Meeting, Austin, TX
19. **Lin, N.**, E. Shullman, S. Xian, and K. Feng (2017). “Assessing and mitigating hurricane storm surge risk in a changing environment.” American Geophysical Union (AGU) Fall Meeting, New Orleans, December 11-15, 2017.
20. Jing, R., **N. Lin**, K. Emanuel, G. Vecchi, and T. Knutson (2017). “A Markov environment-dependent hurricane intensity model and its comparison with multiple dynamic models.” American Geophysical Union (AGU) Fall Meeting, New Orleans, December 11-15, 2017.
21. Schenkel, B., **N. Lin**, D. Chavas, G. Vecchi, T. Knutson, and M. Oppenheimer (2017). “Will outer tropical cyclone size change due to anthropogenic warming?” American Geophysical Union (AGU) Fall Meeting, New Orleans, December 11-15, 2017.

22. Muis, S., **N. Lin**, M. Verlaan, H.C. Winsemius, P.J. Ward, and J. Aerts (2017). “Modeling extreme sea levels due to tropical and extra-tropical cyclones at the global-scale.” American Geophysical Union (AGU) Fall Meeting, New Orleans, December 11-15, 2017.
23. Garnera, A.J., M.E. Mann, K.A. Emanuel, R.E. Kopp, **N. Lin**, R.B. Alley, B.P. Horton, R.M. DeConto, J.P. Donnelly, and D. Pollard (2017). “Climate change impact on New York City coastal flood risk: Increases from the pre-industrial to 2300 CE.” American Geophysical Union (AGU) Fall Meeting, New Orleans, December 11-15, 2017.
24. Xian, S., **N. Lin**, K. Feng, and M. Oppenheimer (2017). “Coastal protection strategies for megacities.” Society for Risk Analysis Annual Meeting, Arlington, Virginia, December 10-14, 2017.
25. Xian, S., **N. Lin**, D. Chavas, and M. Oppenheimer (2017). “A new method for simulating US hurricane losses.” Society for Risk Analysis Annual Meeting, Arlington, Virginia, December 10-14, 2017.
26. Muis, S., **N. Lin**, M. Verlaan, H.C. Winsemius, J. Aerts, and P.J. Ward (2017). “Mapping of coastal flood hazard at the continental to global-scale.” Regional Sea Level Changes and Coastal Impacts Conference, New York, July 10-14, 2017.
27. Garnera, A.J., M.E. Mann, K.A. Emanuel, R.E. Kopp, **N. Lin**, R.B. Alley, B.P. Horton, R.M. DeConto, J.P. Donnelly, and D. Pollard (2017). “Climate change impact on New York City coastal flood risk: Increases from the pre-industrial to 2300 CE.” Regional Sea Level Changes and Coastal Impacts Conference, New York, July 10-14, 2017.
28. Jing, R. and **N. Lin** (2017). “Tropical cyclone intensity evolution modeled as a dependent hidden Markov process.” 8th Northeast Tropical Meteorology Workshop, Albany, June 20-23, 2017.
29. Schenkel, B., **N. Lin**, D. Chavas, M. Oppenheimer, and A. Brammer (2017). “How much do tropical cyclones grow in size during extratropical transition?” 8th Northeast Tropical Workshop, Rensselaerville, NY, June 20–23, 2017.
30. Marsooli, R. and **N. Lin** (2017). “Risk assessment of hurricane storm tide for the US east coast and gulf coast regions: First step - validation of a coupled circulation + wave model.” ADCIRC User Group Meeting, Norwood, MA, May 1-5, 2017
31. Muis, S., **N. Lin**, M. Verlaan, H.C. Winsemius, P.J. Ward, and J. Aerts (2017). Assessing extreme sea levels due tropical cyclones in the Atlantic basin.” Vienna, Austria, April 23–28, 2017.
32. Schenkel, B., **N. Lin**, D. Chavas, M. Oppenheimer, and A. Brammer (2017). “How much do tropical cyclones grow in size during extratropical transition?” American Meteorological Society (AMS) Fall Meeting, Seattle, WA, January 22–26, 2017.
33. Jing, R. and **N. Lin** (2016). “Statistical investigation of the dependence of tropical cyclone intensity on the surrounding environment.” American Geophysical Union (AGU) Fall Meeting, San Francisco, December 12-16, 2016.
34. Lu, P., **N. Lin**, J. Smith, K. Emanuel (2016). “Risk assessment of tropical cyclone rainfall flooding in the Delaware River Basin.” American Geophysical Union (AGU) Fall Meeting, San Francisco, December 12-16, 2016.
35. Muis, S., M. Verlaan, **N. Lin**, H. Winsemius, D. Vatvani, P. Ward and J. Aerts (2016). “Towards a full representation of tropical cyclones in a global reanalysis of extreme sea levels.” American Geophysical Union (AGU) Fall Meeting, San Francisco, December 12-16, 2016.
36. Orton, P., **N. Lin** and B. Colle (2016). “Ensemble tropical-extratropical cyclone flood hazard assessment with climate change.” American Geophysical Union (AGU) Fall Meeting, San Francisco, December 12-16, 2016.
37. Xian, S., Shao, W., **Lin, N.**, Kunreuther, H., and Goidel K (2016). “Understanding individual’s voluntary flood insurance purchase.” Society of Risk Analysis Annual Meeting, San Diego, CA, December 11-15, 2016.

38. Xian, S., Lin, N., and Small M (2016). “Coastal protection for megacities under rising flood risk.” Society of Risk Analysis Annual Meeting, San Diego, CA, December 11-15, 2016.
39. Shao, W., Xian, S., Lee, T., Lin, N. (2016). “Attitudes towards climate change adaptation policies across 15 countries globally.” Society of Risk Analysis Annual Meeting, San Diego, CA, December 11-15, 2016.
40. Hatzikyriakou, A. and N. Lin (2016). “Simulating storm surge for estimating structural vulnerability and evaluating FEMA flood hazard mapping.” Symposium on Probabilistic Modeling in Engineering & Science, Lehigh University, Bethlehem, Pennsylvania, October 31, 2016.
41. Xian S., N. Lin, J. Yin and M. Oppenheimer (2016). “How to protect coastal megacities: learning from cases.” National Conference of The American Shore and Beach Preservation Association, Long Beach, NJ, Oct 25-28, 2016.
42. Hatzikyriakou, A. and N. Lin (2016). “Simulating storm surge for estimating structural vulnerability and evaluating FEMA flood hazard mapping.” American Shore & Beach Preservation Association Conference, Ocean Place Resort, Long Branch, New Jersey, October 25-28, 2016.
43. N. Lin and R. Jing (2016). “Analysis and Modeling of Tropical Cyclone Climatology.” SIAM Conference on Mathematics of Planet Earth, Philadelphia, PA, September 30-October 2, 2016.
44. Xian, S., N. Lin, and H. Kunreuther (2016). “Optimal house elevation for reducing flood losses.” Workshop on Current Flood Insurance Policy and Potential Improvements in Wharton School, Philadelphia, PA, June 9th, 2016.
45. Little, C.M., N. Lin, R.M. Horton, R.E. Kopp, and M. Oppenheimer (2016). “Joint projections of sea level and storm surge using a flood index.” Ocean Sciences Meeting, New Orleans, LA, USA, February 21-26, 2016.
46. Lu, P., N. Lin, J. Smith, K. Emanuel, D. Chavas (2015). “A physically-based tropical cyclone rainfall model.” AGU Fall Meeting, San Francisco, CA, Dec. 14-18, 2015.
47. Reed, A, M. Mann, K. Emanuel, N. Lin, and et al. (2015). “Past, present, and future threat of tropical cyclones and coastal flooding in New York City.” AGU Fall Meeting, San Francisco, CA, Dec. 14-18, 2015.
48. Xian, S., N. Lin and H. Kunreuther (2015). “A risk based framework to manage costal flood damage.” Society for Risk Analysis Annual Meeting, Arlington, Virginia, Dec. 6-10, 2015.
49. Chavas, D., N. Lin and K. A. Emanuel (2015). “The tropical cyclone wind field and its variability.” 17th Cyclone Workshop, Monterey, CA. October 2015.
50. Chavas, D., N. Lin and K. A. Emanuel (2015). “A model for the radial structure of the tropical cyclone wind field and its variability. ” RPI2.0 Research Update Workshop, London, England, June 2015.
51. Chavas, D., N. Lin and K. A. Emanuel (2015). “A model for the radial structure of the tropical cyclone wind field and its variability.” 5th International Summit on Hurricanes and Climate Change, Crete, Greece. June 2015.
52. Chavas, D., N. Lin and K. A. Emanuel (2015). “A model for the radial structure of the tropical cyclone wind field and its variability.” Applied Physics and Applied Mathematics SEAS Colloquium, Columbia University, New York, NY. May 2015.
53. Lin, N. (2015). “Physically Based Assessment of Hurricane Surge Threat under Climate Change.” SIAM Conference on Computational Sciences and Engineering Meeting, Salt Lake City, UT, March 14-18, 2015.
54. Mayo, T. and N. Lin (2015). “Hurricane Storm Surge Risk Analysis for the US North Atlantic Coast.” SIAM Conference on Computational Sciences and Engineering Meeting, Salt Lake City, UT, March 14-18, 2015.
55. Mayo, T. and N. Lin (2014). “Hurricane Storm Surge Risk Analysis for the Development of Structures of Coastal Resilience.” American Geophysical Union (AGU) Fall Meeting, San Francisco, CA, Dec. 15-19, 2014.

56. Yonekura, E., **N. Lin**, Y. Wang, and J. Fan (2014). “Using Mixture Regression to Understand and Model Tropical Cyclone Intensification in Relation to the Environment and Climate.” AGU Fall Meeting, San Francisco, CA, Dec. 15-19, 2014.
57. Chavas, D., K. Emanuel and **N. Lin** (2014). “A complete tropical cyclone radial wind structure model and comprehensive comparison with observations.” AGU Fall Meeting, San Francisco, CA, Dec. 15-19, 2014.
58. Yonekura, E., **N. Lin**, D. Chavas and K. Emanuel (2014). “Hurricane Economic Damage and Climate Change: Considering Hurricane Climatology and Regional Resilience.” AGU Fall Meeting, San Francisco, CA, Dec. 15-19, 2014.
59. Lu, P., J. Smith, L. Cunha, and **N. Lin** (2014). “Spatial Characterization of Flood Magnitudes from Hurricane Irene (2011) over Delaware River Basin.” AGU Fall Meeting, San Francisco, CA, Dec. 15-19, 2014.
60. Reed A., M. Mann, K. Emanuel, **N. Lin**, A. Kemp, and B. Horton (2014). “An Analysis of North Atlantic Tropical Cyclones and Their Impacts on Coastal Inundation in New York and New Jersey during the Last Millennium.” AGU Fall Meeting, San Francisco, CA, Dec. 15-19, 2014.
61. **Lin, N.**, T. Mayo, G. Nordenson, and J. Chapman (2014). “Hurricane Storm Surge Risk Assessment for the Design of Structures of Coastal Resilience.” NCAR Workshop: Engineering for Climate Extremes, Boulder, CO, Nov. 19-21, 2014.
62. Hatzikyriakou, A., **N. Lin**, J. Gong, S. Xian, and A. Kennedy (2014). “Component-based vulnerability analysis of storm surge damage to residential structures from Hurricane Sandy.” S&T Innovations and Applications in Hurricane Sandy Research Workshop, Rutgers University, Oct. 21-22, 2014.
63. Mayo, T. and **N. Lin** (2014). “Hurricane Storm Surge Risk Assessment for the Design of Structures of Coastal Resilience.” IMA Hot Topics Workshop: Impact of Waves Along Coastlines, Minneapolis, MN, Oct. 14-17, 2014.
64. Chavas, D., K. Emanuel and **N. Lin** (2014). “A complete solution for the radial wind structure of a tropical cyclone.” National Center for Atmospheric Research (NCAR) Mesoscale and Microscale Meteorology Seminar, Boulder, CO, June 2014.
65. **Lin, N.**, P. Lane, K. Emanuel, R. Sullivan, and J. Donnelly (2014). “Climatological-hydrodynamic storm surge modeling for Apalachee Bay, Florida.” 31st Conference on Hurricanes and Tropical Meteorology, San Diego, California, April 2014.
66. Yonekura, E. and **N. Lin** (2014). “A climate-dependent statistical model of tropical cyclone hazard and risk.” 31st Conference on Hurricanes and Tropical Meteorology, San Diego, California, April 2014.
67. Chavas, D., K. Emanuel and **N. Lin** (2014). “Beyond the wind radius: a complete, observationally-constrained tropical cyclone radial wind profile.” 31st Conference on Hurricanes and Tropical Meteorology, San Diego, California, April 2014.
68. **Lin, N.** and K. Emanuel (2013). “Reassessing Storm Surge Risk for New York City.” AGU Fall Meeting, San Francisco, CA, Dec. 9-13, 2013.
69. **Lin, N.** and K. Emanuel (2013). “Black swan tropical cyclones.” Davos Atmosphere and Cryosphere Assembly DACA-13, Davos, Switzerland, July 8-12, 2013.
70. **Lin, N.** and K. Emanuel (2013). “Understanding hurricane storm surge risk in a changing climate.” 4th International Summit on Hurricanes and Climate Change.” Kos, Greece, June 13-18, 2013.
71. Lane, P., **N. Lin**, K. Emanuel and J. Donnelly (2013). “Climatological-Hydrodynamic Storm Surge Modeling for Apalachee Bay, Florida.” 1st IUGG GRC Conference on Extreme Natural Hazards and Their Impact, Orange, CA, Dec. 8-11, 2012.
72. Emanuel, N. and **N. Lin** (2013). “Black swan tropical cyclones.” AGU Fall Meeting, CA, Dec. 3-7, 2012.
73. **Lin, N.** (2012). “Physically-based Assessment of Tropical Cyclone Damage and Economic Losses.” AGU Fall Meeting, CA, Dec. 3-7, 2012.

74. **Lin, N.** and K. Emanuel (2012). “Storm Surge Simulation and Ensemble Forecast for Hurricane Irene (2011).” AGU Fall Meeting, CA, Dec. 3-7, 2012.

Synergistic Activities:

- Texas Integrated Flooding Framework Technical Advisory Committee (2021-2024)
- Member of the New York City Panel on Climate Change (NPCC), which advises the Mayor’s Office of Long-Term Planning and Sustainability (OLTPS) on recent developments in climate science, and reviews and recommends updated climate projections for the city (2013-2020, appointed by the Mayor of New York City).
- European Geophysical Union (EGU) Soloviev Medal Committee (2018-2019)
- Executive committee (Dec. 2014-Dec. 2016) and Secretary (Dec. 2012-Dec. 2014) of AGU Natural Hazards Focus Group
- Member of American Society of Civil Engineers’ (ASCE) Committee on Adaptation to a Changing Climate (Sep. 2018 – present)
- Editor Board – *GeoHazards* (2020-present)
- Editor Board – *Stochastic Environmental Research and Risk Assessment* (2020-present)
- Editor Board – *Frontiers in Water* (Oct. 2018-present)
- Reviewer Editor – *Frontiers in Built Environment* (Jan. 2015-present)
- Co-editor for Research Topic “Multivariate Extremes and Compound, Interconnected and Cascading Events: Understanding Past and Projections into the Future” in *Frontiers* (2020-2021)
- Editor for Research Topic “Worsening Tropical Cyclone Impacts in Cities” in *Frontiers* (2019-2020)
- Organizer/Co-organizer for Workshops and Conference Sessions:
 - International Scientific Committee for 2020 Engineering Mechanics Institute conference (EMI 2020) and the 13th ASCE Specialty Conference on Probabilistic Mechanics and Reliability (PMC 2020), Columbia University, May 26-30, 2020
 - Universities Space Research Association (USRA), Earth from Space Institute (EfSI) 2019 Symposium Organizing Committee
 - Mini-symposium “Hurricane Hazards, Risk, and Adaptation in a Changing Environment” as part of Engineering Mechanics Institute Conference 2019, California Institute of Technology, Pasadena, CA, June 18-21, 2019
 - Workshop “Princeton Program in Climate Adaptation Planning and Policy (CAPP),” Princeton University, October 27, 2017
 - Workshop “Current Flood Insurance Policy and Potential Improvements” organized jointly by Princeton University and Wharton School of University of Pennsylvania, Wharton Risk Management and Decision Processes Center, June 9, 2016
 - AGU session “Hydrological, geomorphological and climate-related hazards in coastal regions: risk, impact and adaptation,” San Francisco, CA, Dec. 14-18, 2015
 - Mini-symposium “Risk and management of urban meteorological disaster” as part of the Symposium on Reliability of Engineering System (SRES'2015), Shanghai, China, Oct. 15-17, 2015.
 - Mini-symposium “Multiple Hazards Associated with Tropical Cyclones and Other Wind Storms” as part of the 11th International Conference on Structural Safety & Reliability (ICOSSAR 2013), Columbia University, New York, June 16-20, 2013.

- Review Activities:
 - Journals: *Nature*, *Nature Climate Change*, *Nature Communications*, *Proceedings of the National Academy of Sciences*, *Bulletin of the American Meteorological Society*, *Geophysical Research Letters*, *Journal of Geophysical Research–Oceans*, *Journal of Advances in Modeling Earth Systems*, *Journal of Applied Meteorology and Climatology*, *Climatic Change*, *Stochastic Environmental Research and Risk Assessment*, *Journal of Hydrology*, *International Journal of Climatology*, *Natural Hazards*, *Ocean Modeling*, *Ocean Engineering*, *Coastal Engineering*, *Journal of Marine Science and Engineering*, *International Journal of Disaster Risk Reduction*, *ASCE Journal of Structural Engineering*, *ASCE Natural Hazards Review*, *Structural and Infrastructure Engineering*, *Journal of Wind Engineering and Industrial Aerodynamics*, *Wind and Structures*, *Frontiers in Built Environment*, *Sustainable and Resilient Infrastructure*, *PLOS ONE*, *Chaos*, *Journal of Applied Water Engineering and Research*, *Environmental Science & Policy*, *Population and Environment*
 - Proposals: NSF proposals; NSF panel review (2014 Spring, 2016 Spring, 2016 Winter, 2017 Fall, 2020 Fall)
- Professional Affiliations: American Society of Civil Engineers (ASCE), American Association for Wind Engineering (AAWE), American Geophysical Union (AGU), Society for Risk Analysis (SRA), American Meteorological Society (AMS)