CURRICULUM VITAE OF
[Arindam Gan Chowdhury, Dept. of Civil and Environment Engineering, Florida International University (FIU)]

EDUCATION

Degree	Institution	Field	Dates
Doctor of Philosophy	Iowa State University, Ames, IA 50011, USA	Engineering Mechanics	2000-2004
Master of Technology	Indian Institute of Technology, Mumbai 400076, India	Structural Engineering	1993-1995
Bachelor of Engineering	Jadavpur University, Kolkata 70019, India	Civil Engineering	1988-1992

FULL-TIME ACADEMIC EXPERIENCE

Institution	Rank	Field	Dates
Florida International University, FL 33174, USA	Professor (Dept. of Civil & Environ. Engineering, CEE); Fellow, Extreme Events Institute (EEI); Co-Director, Laboratory for Wind Engineering Research	Civil/Structural/Wind Engineering	August 2017-present
	Interim Chair and Professor (Dept. of Civil & Environ. Engineering, CEE)	Civil/Structural/Wind Engineering	August 2020-January 2022; June 2023-October 2023
	Associate Professor (Dept. of Civil & Environ. Engineering, CEE; International Hurricane Research Center, IHRC)	Civil/Structural/Wind Engineering	August 2012-July 2017
	Assistant Professor (Dept. of Civil & Environ. Engineering, CEE; International Hurricane Research Center, IHRC)	Civil/Structural/Wind Engineering	June 2006-July 2012
	Director, Laboratory for Wind Engineering Research	Wind Engineering	July 2007-July 2017

PART-TIME ACADEMIC EXPERIENCE

Institution	Rank	Field	Dates
N/A			

NON-ACADEMIC EXPERIENCE

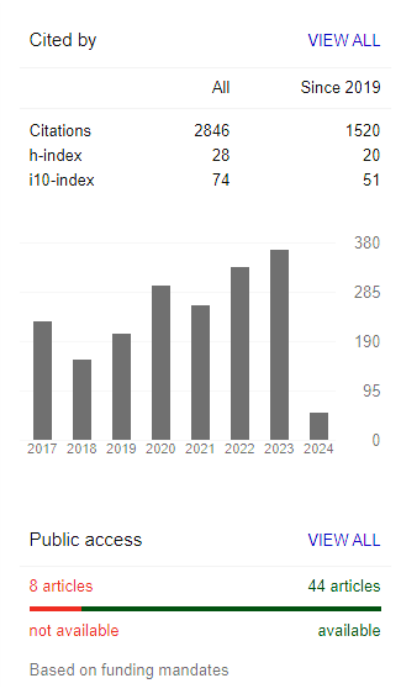
Place of Employment	Title	Dates
Thornton Tomasetti Fort Lauderdale, FL, USA	Project Director	Nov 2005- June 2006
Lear Corporation Iowa City, IA, USA	Tool Engineer	Nov 2003- Oct 2005
Iowa Department of Natural Resources, Des Moines, IA, USA	Pollution Prevention Intern	May 2002- Aug 2002
M/s. Shapers, Kolkata, India	Partner and Project Engineer	Jan 1998- July 2000
Development Consultants Limited, Kolkata, India	Structural Engineer	March 1995- Dec 1997
Simplex Concrete Piles Limited, Kolkata, India	Student Engineer	Sep 1992- June 1993

EMPLOYMENT RECORD AT FIU

Rank	Dates
Professor (CEE), Fellow (EEI), Co-Director, Laboratory for Wind Engineering Research	August 2017-present
Interim Chair and Professor (CEE)	August 2020-January 2022; June 2023-October 2023
Associate Professor (CEE, IHRC)	August 2012-July 2017
Director, Laboratory for Wind Engineering Research	July 2007-July 2017
Assistant Professor (CEE, IHRC)	June 2006-July 2012

PUBLICATIONS IN DISCIPLINE

Google Scholar Profile



Peer Reviewed Journal Publications (published or accepted for publication)

1. Vutukuru. K. S., Erwin, J., **Gan Chowdhury, A.** (2024). "Full-Scale Simulation of Wind-Driven Rain and a Case Study to Determine the Rain Mitigation Effect of Shutters." Wind and Structures, Vol. 38, No. 3 (2024), Accepted January 30, 2024. https://doi.org/10.12989/was.2024.38.3.000

2. Alawode, K. J., Azzi, Z., Elawady, A., **Gan Chowdhury, A.** (2023). "Dynamic Properties of An Aeroelastic Transmission Tower Subjected to Synoptic and Downburst-Like Outflows." Journal of Wind Engineering & Industrial Aerodynamics 242 (2023) 105557. https://doi.org/10.1016/j.jweia.2023.105557

3. Tolera, A. B., Estephan, J., **Gan Chowdhury, A.**, Zisis, I., Sherman, E., Kirby, J. (2023). "Wind Loading on Commercial Roof Edge Metals: A Full-Scale Experimental Study." Journal of Building Engineering, JOBE 106910. https://doi.org/10.1016/j.jobe.2023.106910

4. Tolera. A. B., Shiao, M., **Gan Chowdhury, A.**, Zisis, I., Irwin, P. (2023). "Performance of Asphalt Shingles Under Simulated Hurricane Winds and Evaluation of Current Installation Practices." Journal of Wind Engineering & Industrial Aerodynamics 239 (2023) 105456. https://doi.org/10.1016/j.jweia.2023.105456

5. Li, T., Qu, H., Zhao, Y., Honerkamp, R., Yan, G., **Gan Chowdhury, A.**, Zisis, I. (2023). "Wind Effects on Dome Structures and Evaluation of CFD Simulations through Wind Tunnel Testing." Sustainability 2023, 15, 4635. https://doi.org/10.3390/su15054635

6. Alawode, K. J., Vutukuru, K. S., Elawady, A., **Gan Chowdhury, A.** (2023). "Review of Wind Loading on Roof to Wall Connections in Low-Rise Light Wood-Frame Residential Buildings." Journal of Wind Engineering & Industrial Aerodynamics 236 (2023) 105360. https://doi.org/10.1016/j.jweia.2023.105360

7. Jeddi, A., Azzi, Z., Shafieezadeh, A., Elawady, A., **Gan Chowdhury, A.**, Irwin, P., (2023). "Revisiting Wind Drag Coefficients and Gust Response Factors for Lattice Transmission Towers Aeroelastic Wind Tunnel Testing with Multi-Sensor Data Fusion." Engineering Structures, Volume 278, 115486. https://doi.org/10.1016/j.engstruct.2022.115486

8. Alawode, K. J, Vutukuru, K. S., Elawady, A., Lee, S. J., **Gan Chowdhury, A.**, Lori, G. (2023). "Wind-Induced Vibration and Wind-Driven Rain Performance of a Full-Scale Single Skin Façade Unit with Vertical Protrusions." Journal of Architectural Engineering, Vol. 29, Issue2. https://doi.org/10.1061/JAEIED.AEENG-1393

9. Mejia, A., Elawady, A., Vutukuru, K. S., Chen, D., **Gan Chowdhury, A.** (2022). "Examination of Different Wall Jet and Impinging Jet Concepts to Produce Large Scale Downbursts Outflow." Frontiers in Built Environment 8:980617. https://doi.org/10.3389/fbuil.2022.980617

10. Mansouri, Z., Selvam, R. P., **Gan Chowdhury, A.** (2022). "Performance of Different Inflow Turbulence Methods for Wind Engineering Applications." Journal of Wind Engineering & Industrial Aerodynamics 229 (2022) 105141. https://doi.org/10.1016/j.jweia.2022.105141

11. Mansouri, Z., Selvam, R. P., **Gan Chowdhury, A.** (2022). "Maximum Grid Spacing Effect on Peak Pressure Computation Using Inflow Turbulence Generators." Results in Engineering 15 (2022) 100491. https://doi.org/10.1016/j.rineng.2022.100491

12. Tolera. A. B., Mostafa, K., **Gan Chowdhury, A.**, Zisis, I., Irwin, P. (2022). "Study of Wind Loads on Asphalt Shingles Using Full-Scale Experimentation." Journal of Wind Engineering & Industrial Aerodynamics 225 (2022) 105005. https://doi.org/10.1016/j.jweia.2022.105005

13. Abdelfatah, N., Elawady, A., Irwin, P., **Gan Chowdhury, A.** (2022). "Experimental Investigation of Wind Impact on Low-Rise Elevated Residences." Engineering Structures, 257, 114096. DOI: 10.1016/j.engstruct.2022.114096

14. Azzi, Z., Elawady, A., Irwin, P., **Chowdhury, A. G.**, Abi Shdid, C. (2022). "Aeroelastic Modeling to Investigate the Wind-Induced Response of a Multi-Span Transmission Lines System." Wind and Structures, 34(2), 231–257. DOI: 10.12989/was.2022.34.2.231

15. Estephan, J., **Gan Chowdhury, A.**, Irwin, P. (2022). "A New Experimental-Numerical Approach to Estimate Peak Wind Loads on Roof-Mounted Photovoltaic Systems by Incorporating Inflow Turbulence and Dynamic Effects." Engineering Structures, 252, 113739. DOI: 10.1016/j.engstruct.2021.113739

16. **Gan Chowdhury, A.**, Conte, J., Masters, F., Ramirez, J., Ricles, J. (2021). "Natural Hazards Engineering Research Infrastructure (NHERI): Mitigating the Impact of Natural Hazards on Civil Infrastructure and Communities." Frontiers in Built Environment, 95. DOI: 10.3389/fbuil.2021.708450

17. Estephan, J., **Gan Chowdhury, A.**, Elawady, A., Erwin, J. (2021). "Dependence of internal pressure in low-rise buildings on aerodynamic parameters, defect features and background leakage." Journal of Wind Engineering and Industrial Aerodynamics, 219, 104822. DOI: 10.1016/j.jweia.2021.104822

18. Azzi, Z., Elawady, A., Irwin, P., **Gan Chowdhury, A.**, Abi Shdid, C., (2021). "Aeroelastic Modeling to Study the Wind-Induced Response of a Self-Supported Lattice Tower" Engineering Structures, 245-112885. DOI: 10.1016/j.engstruct.2021.112885

19. Estephan, J., Feng, C., **Gan Chowdhury, A.**, Chavez, M., Baskaran, A., Moravej, M. (2021). "Characterization of Wind-Induced Pressure on Membrane Roofs Based on Full-Scale Wind Tunnel Testing." Engineering Structures, 235, Article 112101. DOI: 10.1016/j.engstruct.2021.112101

20. Lenjani, A., Dyke, S.J., Bilionis, I., Yeum, C.M., Kamiya, K., Choi, J., Liu, X., **Gan Chowdhury, A.** (2020). "Towards Fully Automated Post-Event Data Collection and Analysis: Pre-Event and Post-Event Information Fusion." Engineering Structures, Volume 208, 109884, DOI: 10.1016/j.engstruct.2019.109884.

21. Azzi Z., Habte F., Vutukuru, K.S., **Gan Chowdhury, A.**, Moravej, M. (2020). "Effects of Roof Geometric Details on Aerodynamic Performance of Standing Seam Metal Roofs." Engineering Structures 225, 111303, DOI: 10.1016/j.engstruct.2020.111303

22. Vutukuru, K.S., Moravej, M., Elawady, A., **Gan Chowdhury, A.** (2020). "Holistic Testing to Determine Quantitative Wind-Driven Rain Intrusion for Shuttered and Impact Resistant Windows." Journal of Wind Engineering & Industrial Aerodynamics 206 (2020) 104359, DOI: 10.1016/j.jweia.2020.104359

23. Azzi, Z., Matus, M., Elawady, A., Zisis, I., Irwin, P., **Gan Chowdhury, A.** (2020). "Aeroelastic Testing of Span-Wire Traffic Signal Systems." Front. Built Environ. 6:111. DOI: 10.3389/fbuil.2020.00111

24. Kim, J.H., Moravej, M., Sutley, E.J., **Gan Chowdhury, A.**, Dao, T.N. (2020). "Observations and Analysis of Wind Pressures on the Floor Underside of Elevated Buildings." Engineering Structures, Volume 221, 111101, DOI: 10.1016/j.engstruct.2020.111101

25. Chavez, M., Baskaran, B., Feng, C., **Gan Chowdhury, A.** (2020). "Effect of Assembly Construction on the Wind Induced Pressure of Membrane Roofs." Engineering Structures 221 (2020) 110725, DOI: 10.1016/j.engstruct.2020.110725

26. Feng, C., **Gan Chowdhury, A.**, Elawady, A., Chen, D., Azzi, Z., Vutukuru, K.S. (2020). "Experimental Assessment of Wind Loads on Roof-to-Wall Connections for Residential Buildings." Front. Built Environ. 6:10. DOI: 10.3389/fbuil.2020.00010.

27. Azzi, Z., Habte, F., Elawady, A., **Gan Chowdhury, A.**, Moravej, M. (2020). "Aerodynamic Mitigation of Wind Uplift on Low-Rise Building Roof Using Large-Scale Testing." Front. Built Environ. 5:149. DOI: 10.3389/fbuil.2019.001496:10.

28. Batouli, M., Mostafavi, A., **Gan Chowdhury, A.** (2020). "DyNet-LCCA: A Simulation Framework for Dynamic Network-Level Life-Cycle Cost Analysis in Evolving Infrastructure Systems." Sustainable and Resilient Infrastructure, DOI: 10.1080/23789689.2019.1710071.

29. Abdelfatah, N., Elawady, A., Irwin, P., **Gan Chowdhury, A.** (2020). "A Study of Aerodynamic Pressures on Elevated Houses" Wind and Structures, Vol. 31, No. 4 (2020) 335-350; DOI: 10.12989/was.2020.31.4.335.

30. Andary, E., Abi Shdid, C., **Gan Chowdhury, A.**, Ahmad, I. (2019). "Integrated Project Delivery Implementation Framework for Water and Wastewater Treatment Plant Projects." Engineering, Construction and Architectural Management, DOI: 10.1108/ECAM-02-2019-0075.

31. Abi Shdid, C., Andary, E., **Gan Chowdhury, A.**, Ahmad, I. (2019). "Project Performance Rating Model For Water and Wastewater Treatment Plant Public Projects." ASCE Journal of Management in Engineering, 35(2): 04018064, DOI: 10.1061/(ASCE)ME.1943-5479.0000678.

32. **Gan Chowdhury, A.**, Moravej, M., Zisis, I., Irwin, P., Tremante, A., Hajra, B. (2019). "Mitigation of Aerodynamic Uplift Loads Using Roof Integrated Wind Turbine Systems." Frontiers in Built Environment, 5:10. DOI: 10.3389/fbuil.2019.00010.

33. Ahmad, I., Azhar, N., **Gan Chowdhury, A.** (2019). "Enhancement of IPD Characteristics as Impelled by Information and Communication Technology." ASCE Journal of Management in Engineering, 35(1): 04018055, DOI: 10.1061/(ASCE)ME.1943-5479.0000670.

34. Chatterjee, C., Flugman, E., Jiang, F., Mozumder, P., **Gan Chowdhury, A.** (2019). "Insights from a Stated Preference Experiment of Florida Residents: Role of Information and Incentives in Hurricane Risk Mitigation." ASCE Natural Hazards Review, 20(1): 04018029, DOI: 10.1061/(ASCE)NH.1527-6996.0000316.

35. He, J., Pan, F., Cai, C.S., Habte, F., **Gan Chowdhury, A.** (2018). "Progressive Failure Analysis of Low-Rise Timber Buildings under Extreme Wind Events Using a DAD Approach." Journal of Wind Engineering & Industrial Aerodynamics, 182, pp. 101–114. DOI: 10.1016/j.jweia.2018.09.018.

36. Khawaja, W., Guvenc, I., **Gan Chowdhury, A.** (2018). "UWB Channel Measurements and Modelling For Hurricanes." IET Microwaves, Antennas & Propagation, 12(10), pp. 1691–1699. DOI: 10.1049/iet-map.2018.0003

37. He, J., Pan, F., Cai, C.S., Habte, F., **Gan Chowdhury, A.** (2018). "Finite-Element Modeling Framework for Predicting Realistic Responses of Light-Frame Low-Rise Buildings

under Wind Loads." Engineering Structures, 164(1), pp. 53-69. DOI: 10.1016/j.engstruct.2018.01.034

38. Johnson, T., Pinelli, J-P., Baheru, T., **Gan Chowdhury, A.**, Weekes, J., Gurley, K. (2018). "Simulation of Rain Penetration and Associated Damage in Buildings within a Hurricane Vulnerability Model." ASCE Natural Hazards Review, 19(2): 04018004, DOI: 10.1061/(ASCE)NH.1527-6996.0000288

39. Amir Sayyafi, E., **Gan Chowdhury, A.**, Mirmiran, A. (2018). "Innovative Hurricane-Resistant UHPC Roof System." ASCE Journal of Architectural Engineering, 24(1): 04017032. DOI: 10.1061/(ASCE)AE.1943-5568.0000290

40. Moravej, M., Irwin, P., Zisis, I., **Chowdhury, A.**, Hajra, B. (2017). "Effects of Roof Height on Local Pressure and Velocity Coefficients on Building Roofs." Engineering Structures, 150, pp. 693–710. DOI: 10.1016/j.engstruct.2017.07.083

41. Meyer D., Zisis I., Hajra B., **Gan Chowdhury, A.**, Irwin, P. (2017). "An Experimental Study on the Wind-Induced Response of Variable Message Signs." Frontiers in Built Environment, 3:66. DOI: 10.3389/fbuil.2017.00066

42. Arch, G., Hajra, B., Moravej, M., Zisis, I., Irwin, P., **Gan Chowdhury, A.**, Suaris, W. (2017). "An Experimental Study to Assess the Effect of Soffit Louvered Vents on Wind Loads and Wind Driven Rain Intrusion on Low Rise Buildings." Sustainable Cities and Society, 34, pp. 43–55. DOI: 10.1016/j.scs.2017.06.005

43. Habte, F., **Gan Chowdhury, A.**, Zisis, I. (2017). "Effect of Wind-Induced Internal Pressure on Local Frame Forces of Low-Rise Buildings." Engineering Structures, 143, pp. 455–468. DOI: 10.1016/j.engstruct.2017.04.039

44. Habte, F., Mooneghi, M.A., Baheru, T., Zisis, I., **Gan Chowdhury, A.**, Masters, F., Irwin, P. (2017). "Wind Loading on Ridge, Hip and Perimeter Roof Tiles: A Full-Scale Experimental Study." Journal of Wind Engineering & Industrial Aerodynamics, 166, pp. 90–105. DOI: 10.1016/j.jweia.2017.04.002

45. **Gan Chowdhury, A.**, Zisis, I., Irwin, P., Bitsuamlak, G., Pinelli, J-P., Hajra, B., Moravej, M. (2017). "Large Scale Experimentation using the 12-Fan Wall of Wind to Assess and Mitigate Hurricane Wind and Rain Impacts on Buildings and Infrastructure Systems." ASCE Journal of Structural Engineering, 143(7), 04017053-1 to 04017053-16. DOI: 10.1061/(ASCE)ST.1943-541X.0001785

46. Habte, F., **Gan Chowdhury, A.**, Yeo, D., Simiu, E. (2017). "Design of Rigid Structures for Wind Using Time Series of Demand-To-Capacity Indexes: Application to Steel Portal Frames." Engineering Structures, 132, pp. 428–442. DOI: 10.1016/j.engstruct.2016.11.024

47. Moravej, M., Zisis, I., **Gan Chowdhury, A.**, Irwin, P., Hajra, B. (2016). "Experimental Assessment of Wind Loads on Vinyl Wall Siding." Frontiers in Built Environment, 2(35). pp. 1-9. DOI: 10.3389/fbuil.2016.00035

48. Li, R., **Gan Chowdhury, A.**, Bitsuamlak, G., Hajra, B. (2016). "Assessment of Wind-Induced Loads on Tiled and Shingled Roofs through Large-Scale Measurements at the 6-Fan Wall of Wind." Indian Society for Wind Engineering's (ISWE) Journal of Wind and Engineering, 13 (1), pp. 21-33.

49. Mooneghi, M.A., Irwin, P., **Gan Chowdhury, A.** (2016). "Partial Turbulence Simulation Method for Predicting Peak Wind Loads on Small Structures and Building Appurtenances." Journal of Wind Engineering and Industrial Aerodynamics, 157, pp. 47–62. DOI: 10.1016/j.jweia.2016.08.003

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52. Mooneghi, M.A., Irwin, P., **Gan Chowdhury, A.** (2016). "Towards Guidelines for Design of Loose-Laid Roof Pavers for Wind Uplift." Wind and Structures, 22(2), pp. 133-160. DOI: 10.12989/was.2016.22.2.133

53. Habte, F., Mooneghi, M.A., **Gan Chowdhury, A.**, Irwin, P. (2015). "Full-Scale Testing to Evaluate the Performance of Standing Seam Metal Roofs under Simulated Wind Loading." Engineering Structures, 105, pp. 231–248. DOI: 10.1016/j.engstruct.2015.10.006

54. Mintz, B., **Gan Chowdhury, A.**, Mirmiran, A., Suksawang, N., Kargarmoakhar, R. (2015). "Design, Development, and Testing of a Composite Roofing System." ASCE Journal of Composites for Construction, pp. 04015052-1-11. DOI: 10.1061/(ASCE)CC.1943-5614.0000605

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61. Baheru, T., **Gan Chowdhury, A.**, Pinelli, J-P., Bitsuamlak, G. (2014). "Distribution of Wind-Driven Rain Deposition on Low-Rise Buildings: Direct Impinging Raindrops versus Surface Runoff." Journal of Wind Engineering and Industrial Aerodynamics, 133, pp. 27-38. DOI: 10.1016/j.jweia.2014.06.023

62. Baheru, T., **Gan Chowdhury, A.**, Bitsuamlak, G., Masters, F., Tokay, A. (2014). "Simulation of Wind-Driven Rain Associated with Tropical Storms and Hurricanes using the 12-fan Wall of Wind." Building and Environment, 76, pp. 18-29. DOI: 10.1016/j.buildenv.2014.03.002

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65. Li. R., **Gan Chowdhury, A.**, Bitsuamlak, G., Gurley, K. (2014). "Wind Effects on Roofs with High-Profile Tiles: An Experimental Study." ASCE Journal of Architectural Engineering, pp. B4014002-1-11. DOI: 10.1061/(ASCE)AE.1943-5568.0000156

66. Fu, T-C., **Gan Chowdhury, A.**, Bitsuamlak, G., Baheru, T. (2014). "Partial Turbulence Simulation and Aerodynamic Pressures Validation for an Open-Jet Testing Facility." Wind and Structures, 19(1), pp. 15-33. DOI: 10.12989/was.2014.19.1.015

67. Hagos, A., Habte, F., **Gan Chowdhury, A.**, Yeo, D. (2014). "Comparisons between Two Wind-Tunnel Pressure Databases, and Partial Validation against Full-Scale Measurements." ASCE Journal of Structural Engineering, pp. 04014065-1-14. DOI: 10.1061/(ASCE)ST.1943-541X.0001001

68. Tecle, A., Bitsuamlak, G., **Gan Chowdhury, A.** (2014). "Opening and Compartmentalization Effects of Internal Pressure in Low-Rise Buildings with Gable and Hip Roofs." ASCE Journal of Architectural Engineering, pp. 04014002-1-14. DOI: 10.1061/(ASCE)AE.1943-5568.0000101

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71. Yeo, D., **Gan Chowdhury, A.** (2013). "Simplified Wind Flow Model for the Estimation of Aerodynamic Effects on Small Structures." ASCE Journal of Engineering Mechanics, 139(3), pp. 367-375. DOI: 10.1061/(ASCE)EM.1943-7889.0000508

72. Bitsuamlak, G., Warsido, W., Ledesma, E., **Gan Chowdhury, A.** (2013). "Aerodynamic Mitigation of Roof and Wall Corner Suctions Using Simple Architectural Elements." ASCE Journal of Engineering Mechanics, 139(3), pp. 396-408. DOI: 10.1061/(ASCE)EM.1943-7889.0000505

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74. Chen, S., Nelson, R., Chen, F., **Gan Chowdhury, A.** (2013). "Impact of Stochastic Traffic on Modified Cross-Section Profiles of a Slender Long-span Bridge: Wind Tunnel Experimental Investigation." ASCE Journal of Engineering Mechanics, 139(3), pp. 347-358. DOI: 10.1061/(ASCE)EM.1943-7889.0000444

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76. Aly, A.M., Bitsuamlak, G., **Gan Chowdhury, A.** (2012). "Full-Scale Aerodynamic Testing of a Loose Concrete Roof Paver System." Engineering Structures, 44, pp. 260-270. DOI: 10.1016/j.engstruct.2012.05.008

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71. Fu, T-C., Aly, A.M., **Gan Chowdhury, A.**, Bitsuamlak, G., Yeo, D., Simiu, E. (2011). "Simplified Wind Flow and Aerodynamic Response of Residential Homes: Laboratory and Computational Fluid Dynamics Simulations." Proceedings of the Experimental Vibration Analysis for Civil Engineering Structures (EVACES 2011) (Varenna, Italy), (Electronic Form).

72. Bitsuamlak, G., **Gan Chowdhury, A.**, Salna, E., Conklin, W., Erwin, J., Liu, R. (2011). "Reaching Out to K-12 Students -- The Next Generation of Wind Engineers -- While Enhancing Community Preparedness." Proceedings of the 13th International Conference on Wind Engineering (13ICWE) (Amsterdam, Netherlands), (Electronic Form).

73. Erwin, J., **Gan Chowdhury, A.**, Bitsuamlak, G., Guerra, C. (2011). "Wind Effects on Photovoltaic Panels Mounted on Residential Roofs." Proceedings of the 13th International Conference on Wind Engineering (13ICWE) (Amsterdam, Netherlands), (Electronic Form).

74. Aly, A.M., Bitsuamlak, G., **Gan Chowdhury, A.** (2011). "Florida International University's "Wall of Wind: A Tool for Improving Construction Materials and Methods for Hurricane-Prone Regions." International Conference on Vulnerability and Risk Analysis and Management (ICVRAM)/Fifth International Symposium on Uncertainty Modeling and Analysis (ISUMA 2011) (Hyattsville, Maryland, USA), pp. 352-359.

75. Fu, T-C., Aly, A.M., Bitsuamlak, G., **Gan Chowdhury, A.**, Simiu, E. (2010). "Flow Simulation in 12-Fan Wall of Wind Testing Facility." Proceedings of the 2nd Workshop of the American Association for Wind Engineering (AAWE) (Marco Island, Florida, USA), (Electronic Form).

76. **Gan Chowdhury, A.**, Aly, A.M., Bitsuamlak, G. (2010). "Full- and Large-Scale Testing to Promote Wind Disaster Mitigation." Proceedings of the Fifth U.S.-Japan Workshop on Wind Engineering (Chicago, Illinois, USA), pp. 153-160.

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Chapters in Books

1. Chapter 17: *Wall of Wind Research and Testing to Enhance Resilience of Civil Infrastructure to Hurricane Multi-Hazards* by **Gan Chowdhury**, **A.**, Moravej, M., and Habte, F. in "Multi-hazard Approaches to Civil Infrastructure Engineering," Gardoni, P., LaFave, J.M. (eds.), Springer International Publishing Switzerland 2016. DOI: 10.1007/978-3-319-29713-2_17.

2. Dr. Chowdhury contributed a significant number of calculations related to Standard ASCE/SEI 7-10[1] wind load examples in Part A of the book titled "Design of Buildings for Wind" (Wiley, 2011) authored by Dr. Emil Simiu. His effort is acknowledged in the book.

Government Reports or Monographs

1. Gan Chowdhury, A., Gorle, C., Kijewski-Correa, T. L., Lomonaco, P., Masters, F. J. 2024. Mid-scale RI-1 (M1:DP): National Full-Scale Testing Infrastructure for Community Hardening in Extreme Wind, Surge, and Wave Events (NICHE). Annual Report (February 1, 2023 – January 31, 2024). Submitted to National Science Foundation (35 pages).

2. Gan Chowdhury, A., Zisis, I., Irwin, P., Lee, S. J., Elawady, A. 2024. Natural Hazards Engineering Research Infrastructure: Experimental Facility with Twelve-Fan Wall of Wind 2021-2025. Annual Report (January 1, 2023 – December 31, 2023). Submitted to National Science Foundation (61 pages).

[1] American Society of Civil Engineers (ASCE) Minimum Design Loads for Buildings and Other Structures

3. Gan Chowdhury, A., Gorle, C., Kijewski-Correa, T. L., Lomonaco, P., Masters, F. J. 2023. Mid-scale RI-1 (M1:DP): National Full-Scale Testing Infrastructure for Community Hardening in Extreme Wind, Surge, and Wave Events (NICHE). Annual Report (February 1, 2022 – January 31, 2023). Submitted to National Science Foundation (17 pages).

4. Gan Chowdhury, A., Zisis, I., Irwin, P., Lee, S. J., Elawady, A. 2023. Natural Hazards Engineering Research Infrastructure: Experimental Facility with Twelve-Fan Wall of Wind 2021-2025. Annual Report (January 1, 2022 – December 31, 2022). Submitted to National Science Foundation (51 pages).

5. Gan Chowdhury, A., Zisis, I., Irwin, P. 2022. Natural Hazards Engineering Research Infrastructure: Experimental Facility with Twelve-Fan Wall of Wind (including No Cost Extension). Final Report (January 1, 2016 – December 31, 2021). Submitted to National Science Foundation (94 pages).

6. Zisis, I., Irwin, P., Gan Chowdhury, A., Azizinamini, A. 2019. Development of a Test Method for Assessing the Performance of Vehicular Traffic Signal Assemblies during Hurricane Force Winds. Submitted to Florida Department of Transportation Research Center (500 pages).

7. Zisis, I., Irwin, P., Gan Chowdhury, A. 2019. Assessment of the Performance of Vehicular Traffic Signal Assemblies during Hurricane Force Winds. Submitted to Florida Department of Transportation Research Center (290 pages).

Book Reviews

Dr. Chowdhury reviewed and checked the calculations in Part A of the book titled "Design of Buildings for Wind" (Wiley, 2011) authored by Dr. Emil Simiu. His effort is acknowledged in the book.

OTHER PUBLICATIONS

An article named '***Meeting the Challenge***' was published in March/April 2003 issue of '***Iowa Conservationist***' Magazine. The article describes Arindam Gan Chowdhury's various accomplishments regarding product/process improvements using aerodynamic and other solutions at **Lear Corporation** during summer of 2002. Accomplishments include- a) Implemented cost reduction: $467,000/year, b) Additional projected cost reduction: $1.66 million/year.

PRESENTED PAPERS AND LECTURES

Presentations at Major International and National Conferences and Workshops in the Field:

Keynote/Invited Speaker Presentations.

1. Inauguration of Student Chapter at IIT Delhi and Invited Expert Lecture: "Advancements in Coastal Resilience Research and Education." Indian Institute of Technology (IIT), December 2023 (Delhi, India).

2. Keynote Speaker Presentation: "Hurricane Engineering Research and Education using the Wall of Wind Experimental Facility." 8th International Congress on Computational Mechanics and Simulation (ICCMS 2022), December 2022 (Indore, India).

3. Keynote Speaker Presentation as Chief Guest: "Wind Effect on Structures and Wind Tunnel Testing." The Institution of Engineers (India), February 2020 (Kolkata, India).

4. Keynote Speaker Presentation: "NHERI Wall of Wind Experimental Facility." Indian Institute of Technology (IIT), December 2018 (Kharagpur, India).

5. Keynote Speaker Presentation: "Research, Education, and Outreach Activities at the Wall of Wind Experimental Facility." Indian Institute of Technology (IIT), August 2018 (Mumbai, India).

6. Keynote Speaker Presentation: "Full- and Large-Scale Experimentation at the NHERI Wall of Wind EF." Indian Institute of Technology (IIT), March 2017 (Gandhinagar, India).

7. Keynote Speaker Presentation: "Full- and Large-Scale Experimentation Using the Wall of Wind to Assess and Mitigate Wind Loading and Rain Impacts on Buildings and Infrastructure Systems." Structural Engineering Convention (SEC-2018), December 2018 (Jadavpur University, Kolkata, India).

8. Invited Speaker Presentation: "Resilience of Structures to Hurricane Multi-Hazards - Wall of Wind (WOW)." ASCE Miami-Dade Structural Engineering Institute (SEI), May 2017 (Miami, Florida, USA).

9. Guest of Honor and Keynote Speaker Presentation: "12-Fan Wall of Wind Experimental Facility under NSF's Natural Hazards Engineering Research Infrastructure (NHERI) Program." 8th National Conference on Wind Engineering (NCWE 2016), December 2016 (Varanasi, Uttar Pradesh, India).

10. Keynote Speaker Presentation: "Wall of Wind Research to Enhance Building Codes and Mitigate the Disastrous Effects of Hurricanes through Preventive Measures." International Code Council's (ICC's) 2014 Annual Conference GLOBAL FORUM 2014, September 2014 (Miami, Florida, USA).

11. Invited Speaker Presentation: "Wall of Wind Research and Testing to Enhance Resilience of Civil Infrastructure to Hurricane Multi-Hazards." International Conference on Multi-hazard Approaches to Civil Infrastructure Engineering (ICMAE), July 2014 (Chicago, Illinois, USA).

Presentations at Conference and Workshops.

1. "Experimental Investigation of Peak Wind Effects on Rooftop PV Arrays." 20th International Conference on Experimental Mechanics, Porto, Portugal, July, 2023.

2. "Integrating Research into STEM Education: Application to Wind Engineering." 15th Annual International Conference of Education, Research and Innovation, Seville, Spain, November, 2022.

3. “The Role of the 12-Fan Wall of Wind to Assess and Mitigate Hurricane Impacts.” ASCE Structures Congress 2019, Orlando, FL, USA, April 2019.

4. “Aerodynamic Mitigation and Wind Energy Generation using Roof Mounted Turbines.” 9th International Congress - Croatian Society of Mechanics (9th ICCSM), Split, Croatia, September 2018.

5. “Mitigation of Wind Loads on a Building Using a Wind Turbine.” International Conference on Wind Engineering (ICWE 2018), Prague, Czechia, March 2018.

6. “Wind Loads on Buildings with Balcony Glass Handrails.” 9th Asia-Pacific Conference on Wind Engineering (APCWE-IX), Auckland, New Zealand, December 2017.

7. “The NHERI Wall of Wind Experimental Facility at Florida International University.” 13th Americas Conference on Wind Engineering (ACWE), Gainesville, FL, USA, May 2017.

8. “Wind Engineering Research Opportunities through the Natural Hazards Engineering Research Infrastructure.” 4th American Association for Wind Engineering Workshop (4AAWE), Miami, Florida, USA, August 2016.

9. “Active Aerodynamic Mitigation on a Building Roof.” The Sixth U.S.-Japan Workshop on Wind Engineering, Tokyo, Japan, May 2016.

10. “Wind-Induced Global and Local Forces in a Low-Rise Building with Multiple Openings.” 14th International Conference on Wind Engineering (14ICWE), Porto Alegre, Brazil, June 2015.

11. “Performance of Standing Seam Metal Roofs under Realistic Wind Loading.” 14th International Conference on Wind Engineering (14ICWE), Porto Alegre, Brazil, June 2015.

12. “Dynamic Effects of Wind Loading on Photovoltaic Systems.” 14th International Conference on Wind Engineering (14ICWE), Porto Alegre, Brazil, June 2015.

13. “Full-Scale Testing to Evaluate Wind Effects on Residential Tiled Roofs.” International Conference on Building Envelope Systems and Technologies (ICBEST 2014), Aachen, Germany, June 2014.

14. “Aerodynamic Testing of Large-Scale Variable Message Signs.” 12th Americas Conference on Wind Engineering (12ACWE), Seattle, Washington, USA, June 2013.

15. “Sustainable Development of Hurricane Resilient and Energy Efficient Coastal Communities.” CREST-RESSACA Environmental and Energy Sustainability Conference, Houston, Texas, USA, April 2012.

16. “Wind Tunnel and Large-Scale Testing for Estimating Wind Loads on Solar Collectors.” Structures 2012 Congress, Chicago, Illinois, USA, March 2012.

17. “Wind Effects on Photovoltaic Panels Mounted on Residential Roofs.” 13th International Conference on Wind Engineering (13ICWE), Amsterdam, Netherlands, July 2011.

18. “Flow Simulation in 12-Fan Wall of Wind Testing Facility.” 2nd Workshop of the American Association for Wind Engineering (AAWE), Marco Island, Florida, USA, August 2010.

19. “Wall of Wind: A New Tool for Coastal Hazards Mitigation.” Engineering Mechanics Institute Conference (EMI 2010), Los Angeles, California, USA, August 2010.

20. “Full- and Large-Scale Testing to Promote Wind Disaster Mitigation.” The Fifth U.S.-Japan Workshop on Wind Engineering, Chicago, Illinois, USA, July 2010.

21. “Aerodynamic Load and Multi-Axial Performance Testing on Fiber-Reinforced Polymer Connections and Metal Fasteners.” IV European Conference on Computational Mechanics (ECCM 2010), Paris, France, Europe, May 2010.

22. “Turbulence Simulation of Small-Scale Wall of Wind Flows.” 4th International Conference on Advances in Wind and Structures, Jeju, Korea, May 2008.

23. “Full-Scale Wind Testing.” American Society of Civil Engineers (ASCE) National Conference, Symposium on Hurricanes and Insurance, Orlando, Florida, USA, November 2007.

24. “Hurricane Damage Mitigation of Coastal Houses.” 12th International Conference on Wind Engineering (12ICWE), Cairns, Australia, July 2007.

25. “Identification of Eighteen Flutter Derivatives.” 11th International Conference on Wind Engineering (11ICWE), Lubbock, Texas, USA, June 2003.

STUDENT MENTORING AND TEACHING

Dr. Chowdhury is making significant educational contributions in the field of natural hazards engineering. He cherishes imparting knowledge to generations of youth emerging every year with dreams and thirst for knowledge. He has served and is serving as major professor and dissertation/thesis advisor for several students. He has graduated to date 22 PhD and 11 MS students and mentored them to publish their research results in renowned journals. His former students secured prestigious positions in esteemed organizations such as Verisk, AECOM, Walker Consultants, and Berkshire Hathaway Specialty Insurance. He has taught several courses at the graduate and undergraduate levels and received ‘excellent’ to ‘very good’ student evaluations. Based on his NSF CAREER project, he developed a new course “Hurricane Engineering and Global Sustainability” under FIU’s Global Learning for Global Citizenship initiative. This *active learning* course is synergistically integrating hurricane engineering research with inductive learning to foster undergraduate student interest and, crucially important, retention in STEM programs. He is reaching out to K-12 students and teachers for fostering the next generation of hurricane/wind damage mitigation professionals. *Wall of Wind Mitigation Challenge* contests have been organized to educate many high school students and teachers in hurricane damage mitigation activities. The education and outreach approaches, based on Research Experience for Undergraduates (REU) and Research Experience for Teachers (RET) programs, are expected to play a major role in strengthening the STEM skills of students and teachers and underrepresented groups.

CREATIVE WORK / RESEARCH IMPACTS

National Full-Scale Testing Infrastructure for Community Hardening in Extreme Wind, Surge, and Wave Events (NICHE):

Dr. Chowdhury is leading a Mid-scale Research Infrastructure-1 (MsRI-1) project that supports the design of a ***National Full-scale Testing Infrastructure for Community Hardening in Extreme Wind, Surge, and Wave Events*** **(NICHE)**. Extreme windstorm events, such as hurricanes, downbursts, and tornadoes, occur annually and historically have caused community disruption, damaged civil infrastructure, population displacement, and economic losses. The risk to the Nation's society and assets, especially to civil infrastructure, e.g., residential homes, buildings, bridges, and critical utility systems, is now compounded by increasing hazard exposure and sea level rise due to anthropogenic warming. To help protect the Nation against such extreme event losses, this multi-institutional and multi-disciplinary MsRI-1 project aims to design the NICHE, which will provide a unique, national-scale, shared-use facility to study the impact of extreme winds combined with storm surge and wave actions on different types of civil infrastructure. The convergence research vision of NICHE responds to a pressing national imperative to promote more resilient communities by reducing losses, population displacement, and outmigration due to climate-driven hazards, enabling communities to thrive sustainably and equitably to improve quality of life. The NICHE will enable the wind and coastal engineering research community to address high-priority scientific questions arising from the impact of increasing storm risks on civil infrastructure, particularly from the combination of extreme winds, storm surge, and wave action, through high-fidelity investigations of the three dimensions of the problem space: wind hazards (synoptic and non-synoptic), coastal hazards (waves and storm surge), and the built environment (e.g., from structures to community scale). This four-year design project (awarded for $12.8 M) is a collaborative effort between Florida International University, Colorado State University, Georgia Institute of Technology, Oregon State University, Stanford University, University of Florida, University of Illinois at Urbana-Champaign, University of Notre Dame, Wayne State University, and Aerolab LLC. This project will be a component of the National Science Foundation (NSF)-supported Natural Hazards Engineering Research Infrastructure (NHERI) and will contribute to the NSF role in the National Windstorm Impact Reduction Program (NWIRP).

Creative Hurricane Engineering Research at the "Wall of Wind" (WOW) Facility:

Dr. Chowdhury has been instrumental in designing and developing the Wall of Wind (WOW) hurricane simulation and testing facility. The WOW supports wind engineering research and education based on its cutting-edge capabilities, including large- and full-scale testing of building systems, components, and other structures in wind speeds up to and including hurricane Category 5 on the Saffir-Simpson scale (157 mph and above), with a wind-driven rain option. Under Dr. Chowdhury's direction, the WOW research team has had a significant impact in mitigating hurricane damage by enhancing building codes, validating (and patenting) innovative mitigation technologies, and developing new products. Since 2015, the National Science Foundation (NSF) designated the 12-fan WOW as one of the nation's major Experimental Facilities (EFs) under the **NSF's Natural Hazards Engineering Research Infrastructure (NHERI) Program**. Dr. Chowdhury is the Director and Principal Investigator for the NHERI WOW EF. The U.S. has learned hard lessons about its human, economic, and infrastructure vulnerabilities to wind hazards. Accordingly, the science goals and drivers for the NHERI WOW EF are to (a) support frontier research and education to improve the resiliency and sustainability of the nation's new and existing civil infrastructure, and (b) facilitate emerging transformative discoveries for wind hazard mitigation to prevent wind events from becoming community disasters. The WOW facility provides unique experimental capabilities for wind engineering that do not exist at other U.S. universities at comparable scale. With its twelve-fan, large wind field cross section, rain generation system, and automated flow conditioning roughness and spires for atmospheric boundary layer (ABL) simulation, the facility can simulate realistic hurricane wind speeds for various exposures. The facility's experimental capabilities include: (1) high-speed holistic full- and large-scale testing

in simulated ABL flows at high Reynolds numbers (Re) to minimize scaling errors, (2) system-level destructive testing to study progressive damage and failure of components and connections to improve designs, (3) wind-driven rain simulations to study water intrusion through building envelopes, and (4) testing to assess innovative mitigation devices to attenuate wind damage and rain infiltration. The facility also provides capabilities of downburst simulation and Particle Image Velocimetry (PIV) based whole-flow-field and fluid-structure interaction characterization at high Re. These capabilities enable high fidelity measurements to provide experimental data for validating computational simulations, thereby reducing future reliance on physical testing. Research conducted at the facility provides new knowledge to improve current design standards and practices. Experimental data generated from research conducted at this facility are archived in the Data Depot on the NHERI web portal.

Invention of Smart Multi-Functional Solutions for Reducing Hurricane Impacts:
Dr. Chowdhury's research led to a patent publication (United States Patent Application Publication, Pub. No.: US 2015/0345472 A1, Pub. Date: Dec. 3, 2015). Based on this patent he is working with industry partners to develop and commercialize products that can mitigate wind damage AND produce wind (green) energy simultaneously. The newly developed **A**erodynamic **M**itigation and **P**ower **S**ystem (**AMPS**) is a smart multi-functional solution for reducing hurricane impacts BOTH in terms of reducing risk of loss and providing much needed power during outages in storms. The new active mitigation system, comprising mini- wind turbines attached to the roof edges with or without gutters, can reduce wind induced uplift on roofs by more than 50%. Significant portion of hurricane-induced losses can be prevented by the use and application of the new mitigation technology. At the same time the new system will facilitate on-site green energy generation during both ambient and extreme wind conditions, thus providing power to buildings and homes to reduce societal disruption caused by power outages, as was evidenced in past hurricanes.

Dr. Chowdhury and his team members developed an innovative Hurricane Resistant Concrete Roof System. The team has patented this new roofing system (based on United States Patent Application Publication, MGB Ref. No. 29171/46793) that can be commercialized. The multi-functional system integrates architectural aesthetics AND strength, a new concept in building industry, and reduces the risk of damage due to poor workmanship. One of the original features of this roofing system is that it eliminates workmanship issues (e.g., missing nails or inadequate spacing of connections) that affect conventional roofs and were the cause of most damages wrought by hurricanes.

Dr. Chowdhury's former PhD student Dr. Ameyu Tolera collaborated with him and Dr. Ioannis Zisis to develop a patent entitled "Roof Shingles Having Perforations" (Patent No.: US 11,459,759 B1). Asphalt shingles experience high wind loads due to wind flows that separate from their leading edges. This local phenomenon results in a loading mechanism that often peels off the shingles during high wind events. The patent pertains to including perforations in the protruding part of a shingle to significantly reduce the wind pressure in the leading edge and/or in the area behind the sealing strip of the shingle. Any water entering the perforations can be blocked by the sealing strips and will flow down the roof slope. The perforations substantially reduce the risk of roof shingle failure and water intrusion during hurricanes.

Enhancement of Building Codes and Design Practices:
Innovative research projects, conducted by Dr. Chowdhury's team, have had a significant impact in mitigating hurricane damage by enhancing building codes and standards. Full-scale experimentation results were applied to improve Florida Building Code's (FBC) wind load provisions to decrease the vulnerability of building roofs, and roof-mounted equipment for the entire state of Florida, including its High Velocity Hurricane Zones. In collaboration with Dr. Peter Irwin, former Professor of Practice at WOW, Dr. Chowdhury's team developed and advanced the 'Partial Turbulence Simulation' (PTS) method that is needed in the post-test analysis of wind effects using large-scale models. The findings of this study were incorporated in Sections 2.3.1.3 and C2.3.1.3 of the ASCE 49-12 "Wind Tunnel

Testing for Buildings and Other Structures" to provide boundary-layer wind tunnels with recommendations for Partial Turbulence Simulation of the approach flow and estimation of peak wind loading. As part of WOW research, Dr. Chowdhury and his team have also studied the wind effects on roof pavers and developed design guidelines that were included in Section C5.6 of the ANSI/SPRI RP-4 2017 "Wind Design Standard for Ballasted Single-ply Roofing Systems" and Chapter C30.12 of the ASCE 7-22 "Minimum Design Loads and Associated Criteria for Buildings and Other Structures" to provide designers with specific credible design criteria for roof pavers. The ANSI/SPRI RP-4 2017 was also referenced in FBC and the International Building Code (IBC). Moreover, Dr. Chowdhury's team experimentally investigated the wind loading on elevated buildings and the findings were included by Dr. Elaina Sutley in Chapter C27.3.1 of the ASCE 7-22 Standard. In addition to investigating wind effects on buildings, Dr. Chowdhury's team studied the wind-induced response of other structures, such as variable message signs. The study's findings were referenced in Chapter C29.3 (Design Wind Loads: Solid Freestanding Walls and Solid Signs) of ASCE 7-22. These research-to-application endeavors are expected to create safer and hurricane-resilient communities across the entire U.S.

Enhancement of Vulnerability Modeling for Hurricane Wind and Rain Damage:
Dr. Chowdhury's research using large scale experimentation in the WOW provided valuable insight into the wind-driven rain deposition distribution on low-rise buildings in hurricane conditions and the subsequent water surface run-off. These tests led to a better understanding of the phenomena associated with water intrusion through the building envelope, which is a predominant factor contributing to one of the major sources of hurricane-induced losses: building interior and contents damage. The research helped in filling critical gaps in knowledge concerning building envelope performance in hurricane winds. The test-based data on wind and rain effects were incorporated in the Florida Public Hurricane Loss Model (FPHLM) to enhance its vulnerability modeling capabilities and improve the accuracy of loss prediction. This work helps to improve decision-making and stimulate mitigation-oriented research outputs to minimize losses.

Industry Products Validation for Hurricane Damage Mitigation:
Dr. Chowdhury's Wall of Wind experimentation at FIU helped to achieve, for the first time ever, the full-scale validation of industry products, such as the **AeroEdge®, that** reduce hurricane induced damage. **AeroEdge® was** FIU's first successful University-Industry partnership which led to the formation of a new company, AeroEdge USA LLC (http://www.aeroedgeusa.com/), whose aim is to commercialize this product and thus create new jobs. The WOW test-based research results were published in a peer-reviewed journal, *Engineering Structures* (Blessing et al., 2009).

Innovative Non-Intrusive Fiber Reinforced Polymer (FRP) Tie System:
Reconnaissance of hurricane damage to structures has shown that losses include large numbers of residential buildings damaged due to failure of metallic roof-to-wall connections. Research funding from the National Science Foundation (NSF Awards: 0727871 and 1541142) helped Dr. Chowdhury and his team to develop a novel, cost-effective, light, strong, and non-intrusive Fiber Reinforced Polymer (FRP) roof-to-wall connection system that uses strips of high-performance FRP materials applied with high-strength adhesives between the roof and the wall. Through a partnership with one of the industry leaders, BASF Corporation, that creates chemistry for a sustainable future, Dr. Chowdhury's team made effort in further improving the product to achieve easy-to-apply, rapid, minimally intrusive, and cost-effective retrofitting of coastal residential buildings to enhance their hurricane resiliency.

Creative Research in the Field of Bridge Aerodynamics and Aeroelasticity:
Dr. Chowdhury's doctoral research at Iowa State University (ISU) focused on flutter instability, an aeroelastic self-excited oscillation that can occur mainly in suspension or cable-stayed long-span

bridges. The accomplishment of his creative research work can be categorized under three major areas as follows: Development of a Novel Three Degree-of-Freedom (DOF) Suspension System for the Wind-Tunnel Section Model Testing; Development of a New Technique for Identification of Eighteen Flutter Derivatives Using a Three-Degree-of-Freedom Section Model; Experimental Identification of Rational Function Coefficients for Time-Domain Flutter Analysis. His research has important potential applications in the development of future elements of the national transportation infrastructure. In recognition, in 2004 he was awarded the *Iowa State University Research Excellence Award*. The novel 3-DOF suspension system and the new system identification algorithm have been widely adopted by researchers in the field. Dr. Chowdhury's work was published in peer-reviewed journal papers, and is widely cited in specialized publications in the field.

WORKS IN PROGRESS

Topics of Papers Submitted to Journals for Consideration

1. Dynamic Wind Response and Watertightness of Double Skin Curtain Walls
2. Wind Effects on Ballasted Roof Mounted Photovoltaic (PV) Systems
3. Advanced Partial Turbulence Simulation for Wind-Induced Dynamic Effects
4. Scaling Effects on Peak Wind Load Estimation: An Experimental and Analytical Study

Other Completed Papers

N/A

Research in Progress

1. Wind Gust Induced Responses of Slender Structures (such as Tall Chimneys)
2. Convergence Research on Combined Wind, Surge, and Wave Effects
3. Leveraging Machine Learning to Enhance Understanding of Wind Effects on Low-Rise Building Communities
4. Integrated Computational Modeling and Wind-Tunnel Validation Experiments for Improved Prediction of Peak Pressures on Low-Rise Buildings in Strong Winds
5. Ballasted PV System Load Sharing and Effective Wind Area (EWA)
6. Mitigation of Peak Wind Loads on Roofs and Rooftop Photovoltaic Systems

FUNDED RESEARCH

1. **National Science Foundation (NSF) Award** (NSF Award No. 2131961).

   PI: Arindam Gan Chowdhury; Co-PIs: Tracy Kijewski-Correa, Forrest Masters, Pedro Lomonaco, Catherine Gorle

Project Title: Mid-scale RI-1 (M1:DP): National Full-Scale Testing Infrastructure for Community Hardening in Extreme Wind, Surge, and Wave Events (NICHE)

Award Amount: $12,835,821

Award Duration: 02/01/2022-01/31/2026

2. **National Science Foundation (NSF) Award** (NSF Award No. 2037899).

   PI: Arindam Gan Chowdhury; Co-PIs: Peter Irwin, Seung Jae Lee, Ioannis Zisis, Amal Elawady

   Project Title: Natural Hazards Engineering Research Infrastructure: Experimental Facility with Twelve-Fan Wall of Wind

   Award Amount: $5,651,188

   Award Duration: 01/01/2021-01/01/2025

3. **National Science Foundation (NSF) Award** (NSF Award No. 2034656)

   PI: Arindam Gan Chowdhury; Co-PIs: Ioannis Zisis, Amal Elawady

   Project Title: MsRI-EW: Conference to Identify Research Infrastructure Concepts for a National Full-Scale 200 mph Wind and Wind-Water Testing Facility; Virtual; August 2020

   Award Amount: $49,624

   Award Duration: 07/01/2020-06/30/2021

4. **National Science Foundation (NSF) Award** (NSF Award No. 1841503)

   PI: Ioannis Zisis; Co-PIs: Arindam Gan Chowdhury, Amal Elawady, Seung Jae Lee

   Project Title: Phase I I/UCRC at Florida International University: Center for Wind Hazard and Infrastructure Performance (WHIP)

   Award Amount: $750,000

   Award Duration: 02/04/2019-02/07/2023

5. **Industry–University Cooperative Research Center at Florida International University**

   PI: Arindam Gan Chowdhury; Co-PIs: Ioannis Zisis, Amal Elawady

Year	Project Title	Award Amount	Account No.
Year 1	Investigation of Wind Performance of Roofing Elements Using Full-Scale Experimentation (Year 1)	$ 38,636.92	800013154
Year 2	Investigation of Wind Performance of Roofing Elements Using Full-Scale Experimentation (Year 2)	$ 67,000.00	800013987
Year 3	Investigation of Installation and Anchor Requirements of Roof Systems Under High Wind Conditions	$ 55,672.00	800015287
Year 3	Investigation of Installation and Anchor Requirements of Roof Systems Under High Wind Conditions	$ 5,680.00	800015668
Year 4	Wind Effects on Roof-Mounted Photovoltaic Systems	$ 50,000.00	800016929
Year 4	Wind Effects on Roof-Mounted Photovoltaic Systems	$ 37,000.00	800017738
Year 5	Ballasted PV System Load Sharing and Effective Wind Area (EWA)	$ 50,000.00	800018916
		$ 303,988.92	

   Award Duration: 02/04/2019-02/07/2023

6. **Florida Department of Emergency Management** (FIU Account No: 800019288)

   PI: Arindam Gan Chowdhury

   Project Title: Study of Wind Effects on Rooftop Photovoltaic (PV) Systems

   Award Amount: $119,651

   Award Duration: 10/01/2023-06/30/2024

7. **Florida Department of Emergency Management** (FIU Account No: 800017364)

   PI: Richard Olson; Co-PIs: Arindam Gan Chowdhury, Ioannis Zisis, Amal Elawady

   Project Title: Understanding Hurricane Effects on Manufactured Homes (Year 2)

   Award Amount: $691,825

   Award Duration: Completed in June 2023

8. **Florida Department of Emergency Management** (FIU Account No: 800015516)

   PI: Arindam Gan Chowdhury; Co-PIs: Ioannis Zisis, Amal Elawady

Project Title: Understanding Hurricane Effects on Manufactured Homes (Year 1)

Award Amount: $125,045

Award Duration: Completed in June 2022

9. **Florida Department of Emergency Management** (FIU Account No: 800013456)

   PI: Arindam Gan Chowdhury

   Project Title: Quantification of Wind Driven Rain (WRD) Intrusion Through Shuttered Window Systems

   Award Amount: $153,554

   Award Duration: Completed in June 2021

10. **National Science Foundation (NSF) Award** (NSF Award No. 1828585)

    PI: Arindam Gan Chowdhury; Co-PIs: Ioannis Zisis, Peter Irwin, Amal Elawady, Maryam Refan

    Project Title: MRI: Acquisition of a Three Component Particle-Image Velocimetry System to Enable Fundamental Research in Wind Engineering and Fluid Mechanics

    Award Amount: $605,899 ($466,076 from NSF + $139,823 in cost sharing)

    Award Duration: 09/15/18-08/31/20

11. **National Science Foundation (NSF) Award** (NSF Award No. 1825908)

    PI: Arindam Gan Chowdhury; Co-PIs: Peter Irwin

    Project Title: Collaborative Research: Hybrid Experimental-Numerical Methodology and Field Calibration for Characterization of Peak Wind Effects on Low-Rise Buildings and Their Appurtenances

    Award Amount: $217,747.00

    Award Duration: 08/01/18-07/31/21

12. **Florida Sea Grant College Program (FSGCP) Award** (Sea Grant Proposal No. #0043; FIU Account No. 800-008-505)

    PI: Arindam Gan Chowdhury; Co-PIs: Seung Jae Lee, Peter Irwin

    Project Title: Full-Scale Experimentation and Advanced Computational Modeling to Mitigate Wind-Induced Vibrations and Their Effects on Curtainwall Window Systems

Award Amount: $300,000 ($200,000 from FSGCP + $100,000 in cost sharing)

Award Duration: 02/01/18-01/31/21

13. **Florida Department of Emergency Management** (FIU Account No: 800012063)

    PI: Arindam Gan Chowdhury, Co-PI: Peter Irwin

    Project Title: Experimental and Analytical Assessment of Effects of Leakage around Doors, Windows, and Other Openings on Internal Pressures in Residential Buildings

    Award Amount: $128,886

    Award Duration: Completed in June 2020

14. **Florida Department of Emergency Management** (FIU Account No: 800010655)

    PI: Arindam Gan Chowdhury

    Project Title: Research Area 1: Experimental and Analytical Assessment of Wind Loads on Roof-to-Wall Connections for Residential Buildings

    Award Amount: $135,374

    Award Duration: Completed in June 2019

15. **Florida Department of Emergency Management** (FIU Account No: 800008787)

    PI: Arindam Gan Chowdhury

    Project Title: Holistic Testing to Determine Wind Driven Rain (WRD) Intrusion Reduction for Shuttered Windows

    Award Amount: $114,220

    Award Duration: Completed in June 2018

16. **Florida Department of Emergency Management** (FIU Account No: 800008159)

    PI: Arindam Gan Chowdhury; Co-PI: Peter Irwin

    Project Title: Holistic Testing to Determine the Efficacy of a Retrofit Technique for Residential Buildings and Assessing the Aerodynamics of Elevated Home

    Award Amount: $256,894

    Award Duration: Completed in June 2017

17. **National Science Foundation (NSF) Award** (NSF Award No. 1520853)

    PI: Arindam Gan Chowdhury; Co-PIs: Peter Irwin, Ioannis Zisis

    Project Title: Natural Hazards Engineering Research Infrastructure (NHERI): Experimental Facility with Twelve-Fan Wall of Wind

    Award Amount: $4,066,835

    Award Duration: 01/01/16-12/31/20

18. **National Science Foundation (NSF) Award** (NSF Award No. 1635569)

    PI from FIU: Arindam Gan Chowdhury
    PI from Ohio State University (OSU): Abdollah Shafieezadeh

    Project Title: Experimentally Validated Stochastic Numerical Framework to Generate Multi-Dimensional Fragilities for Hurricane Resilience Enhancement of Transmission Systems

    Award Amount: $529,807 (FIU: $199,807, OSU: $330,000)

    Award Duration: 08/01/2016-07/31/20

19. **National Science Foundation (NSF) Award** (NSF Award No. 1541142)

    PI: Arindam Gan Chowdhury
    EL: Mohammadtaghi Moravej
    Mentor: Pedram Zohrevand

    Project Title: NSF I-Corps: "Innovative Hurricane Damage Mitigation Systems"

    Award Amount: $50,000

    Award Duration: 05/01/15 to 10/31/16

20. **National Science Foundation (NSF) Award** (NSF Award No. AST-1443999)

    PI: Kemal Akkaya (Former PI: Ismail Guvenc); Co-PI: Arindam Gan Chowdhury

    Project Title: Collaborative Research: Pervasive Spectrum Sharing for Public Safety Communications

    Award Amount: $199,996

    Award Duration: 9/15/2014 to 8/31/2017

21. **National Science Foundation (NSF) Award** (REU Supplement to NSF Award No. AST-1443999)

PI: Kemal Akkaya (Former PI: Ismail Guvenc); Co-PI: Arindam Gan Chowdhury

Project Title: Research Experience for Undergraduates (REU) Supplement
(REU Supplement to Project 800004589)

Award Amount: $16,000

Award Duration: 09/15/14 to 08/31/17

22. **National Science Foundation (NSF) Award** (NSF Award No. CMMI-1234004; FIU Account No. 800001638)

PI: Arindam Gan Chowdhury

Project Title: Collaborative Research: Progressive Failure Studies of Residential Houses towards Performance Based Hurricane Engineering

Award Amount: $127,000

Award Duration: 09/01/12 to 08/31/17

23. **National Science Foundation (NSF) Award** (NSF Award No. CMMI-1151003; FIU Account No. 800001253)

PI: Arindam Gan Chowdhury

Project Title: CAREER: Full-Scale Simulation of Peak Responses to Reduce Hurricane Damage to Low Buildings and Use of Related Research to Develop Hurricane-Engineering Expertise

Award Amount: $400,000

Award Duration: 02/01/2012 to 01/31/2017

24. **Florida Department of Emergency Management** (FIU Account No: 800006946)

PI: Arindam Gan Chowdhury; Co-PI: Peter Irwin

Project Title: Hurricane Loss Reduction for Housing in Florida -- Estimation of Wind Loads on Glass Railings of Residential Mid- and High-Rise Buildings

Award Amount: $282,389

Award Duration: Completed in June 2016

25. **Florida Department of Emergency Management** (FIU Account No: 800005667)

PI: Arindam Gan Chowdhury; Co-PI: Peter Irwin

Project Title: Hurricane Loss Reduction for Housing in Florida -- Performance of Building Envelope Systems under Hurricane Conditions

Award Amount: $260,959

Award Duration: Completed in June 2015

26. **The Florida Office of Insurance Regulations (OIR)** (FIU Account No: 800005052)

PI: Arindam Gan Chowdhury, Co-PI: Ioannis Zisis

Project Title: Wall of Wind Research -- 2014-2015

Award Amount: $ 300,000

Award Duration: Completed in June 2015

27. **National Center for Transportation System Productivity and Management (Georgia Institute of Technology, University Transportation Center -- UTC)** (Proposal No. 039)

PI: Arindam Gan Chowdhury; Co-PIs: Amir Mirmiran, Fouad H. Fouad, Ian Hosch

Project Title: Full-Scale Wall of Wind Testing of Variable Message Signs (VMS) Structures to Develop Drag Coefficients for AASHTO Supports Specifications

Award Amount: $ 319,916 (FIU: $89,916 from UTC + $90,000 in matching; UAB: $70,000 from UTC + $70,000 ALDOT in matching)

Award Duration: 08/01/2012 to 06/30/2014

28. **Georgia Tech Institute** (FIU Account Nos: 800003620, 800004638, 800004639)

PI: Arindam Gan Chowdhury; Co-PIs: Peter Irwin, Ioannis Zisis

Project Title: Wall of Wind Testing of Photovoltaic (PV) Systems

Award Amount: $195,827 ($97,931 from Georgia Tech Research Institute / Department of Energy + $97,896 in matching)

Award Duration: 04/01/2014 to 12/31/2014

29. **Florida Department of Emergency Management** (FIU Account No: 800003900)

PI: Arindam Gan Chowdhury; Co-PI: Peter Irwin

Project Title: Hurricane Loss Reduction for Housing in Florida -- Performance of Roofing Systems under Wind Load

Award Amount: $ 256,205

Award Duration: Completed in June 2014

30. **Florida Department of Emergency Management** (FIU Account No: 800003086)

    PI: Arindam Gan Chowdhury

    Project Title: Hurricane Loss Reduction for Housing in Florida -- Full-Scale Testing to Evaluate Code Prescriptive Design Wind Load and Attachment Provisions for Hip, Ridge, and Eave Roof Tiles

    Award Amount: $ 126,383

    Award Duration: Completed in June 2013

31. **Florida Department of Emergency Management** (FIU Account No: 800001881)

    PI: Arindam Gan Chowdhury; Co-PI: Nakin Suksawang

    Project Title: Hurricane Loss Reduction (RCMP): Development of Hurricane Resilient Composite Structural Insulated Wall Systems for Residential Buildings

    Award Amount: $ 127,229

    Award Duration: Completed in June 2012

32. **National Science Foundation (NSF) Award** (NSF Award No. CMMI-0928740; FIU Account No. 800000070)

    PI: Arindam Gan Chowdhury; Faculty Associate: Emil Simiu

    Project Title: Development of Effective Approaches to the Large-Scale Aerodynamic Testing of Low-Rise Buildings

    Award Amount: $ 150,000

    Award Duration: 09/01/2009 to 08/31/2013

33. **National Science Foundation (NSF) Award** (NSF Award No. CMMI-0923365; FIU Account No. 800000012)

    PI: Arindam Gan Chowdhury; Co-PIs: Amir Mirmiran, Girma T. Bitsuamlak, Yong X. Tao

    Project Title: MRI: Acquisition of Instrumentation to Create a Transformative Large- and Full-Scale Wind Testing Capability in Support of Sustainable Windstorm-Resilient, Energy-Efficient Communities

    Award Amount: $ 429,593 ($300,715 from NSF + $128,878 in cost sharing)

Award Duration: 08/01/2009 to 07/31/2015

34. **Florida Sea Grant College Program (FSGCP) Award** (Sea Grant Award No. R/C-D-19; FIU Account No. 800000388)

    PI: Arindam Gan Chowdhury, Co-PIs: Emil Simiu, Pallab Mozumder

    Project Title: Development of Test-Based Data on Hurricane-Induced Building Interior, Utility, and Contents Damage for Improved Risk Prediction and Mapping

    Award Amount: $175,088 ($116,675 from FSGCP + $58,413 in cost sharing)

    Award Duration: 02/01/2010 – 01/31/2013

35. **Department of Energy (DOE)** (FIU Account No. 800000627)

    PI: Arindam Gan Chowdhury, Co-PI: Girma Bitsuamlak

    Project Title: State of the Art Large-Scale Testing for Wind to Enhance Infrastructure Resiliency and Develop Energy-Efficient Buildings

    Award Amount: $ 972,000

    Award Duration: 11/01/2010 – 10/31/2013

36. **Florida Department of Emergency Management** (FIU Account No: 800000749)

    PI: Arindam Gan Chowdhury

    Project Title: Hurricane Loss Reduction (RCMP): Building Envelope Performance under Hurricane Conditions and Mitigation Methods to Promote Sustainable Buildings

    Award Amount: $ 125,676

    Award Duration: Completed in June 2011

37. **Center of Excellence (COE) in Hurricane Damage Mitigation and Product Development Subproject** (FIU Account No: 120000198)

    PI on the Subproject: Arindam Gan Chowdhury, PI on the COE WoW Main Project: Amir Mirmiran, Co-PIs: Nakin Suksawang, Girma Bitsuamlak

    Project Title: Phase1: 6-fan WoW Based Development of New High-Tech Building Materials and High-Performance Building Envelope Systems

    Award Amount: $ 245,935

    Award Duration: Completed in June 2011

38. **Gulf of Mexico (GOM) Regional Sea Grant Program Award** (Sea Grant Award No. GOM/RP-1; FIU Account No. 212201523)

    PI: Arindam Gan Chowdhury; Co-PIs: Amir Mirmiran, Emil Simiu

    Project Title: Development of Innovative Load Transfer Mechanism to Reduce Hurricane-Induced Failures in New and Existing Residential Construction

    Award Amount: $ 198,000 ($132,000 from GOM + $66,000 in cost sharing)

    Project Completion Date: Completed in September 2010

39. **Florida Sea Grant College Program (FSGCP) Award** (Sea Grant Award No. R/C-D-18; FIU Account No. 212201524)

    PI: Arindam Gan Chowdhury, Co-PIs: Amir Mirmiran, Emil Simiu

    Project Title: Full-Scale Simulation of Hurricane Effects on Residential Building Envelopes to Reduce Hurricane-Induced Losses

    Award Amount: $ 240,000 ($160,000 from FSGCP + $80,000 in cost sharing)

    Project Completion Date: Completed in September 2010

40. **National Science Foundation (NSF) Award** (NSF Award No. 0727871; FIU Account No. 212201502)

    PI: Arindam Gan Chowdhury; Co-PI: Amir Mirmiran; Faculty Associate: Emil Simiu

    Project Title: Hurricane Wind Simulation and Testing to Develop Damage Mitigation Techniques

    Award Amount: $ 149,997

    Project Completion Date: Completed in August 2010

41. **National Science Foundation (NSF) Award** (NSF Award No. 0727871; FIU Account No. 212201549)

    PI: Arindam Gan Chowdhury; Co-PI: Amir Mirmiran; Faculty Associate: Emil Simiu

    Project Title: Research Experience for Undergraduates (REU) Supplement

    Award Amount: $ 6,000

    Project Completion Date: Completed in August 2010

42. **National Science Foundation (NSF) Award** (NSF Award No. 0727871; FIU Account No. 212201557)

    PI: Arindam Gan Chowdhury; Co-PI: Amir Mirmiran; Faculty Associate: Emil Simiu

    Project Title: Research Experience for Teachers (RET) Supplement

    Award Amount: $ 10,000

    Project Completion Date: Completed in August 2010

43. **Florida Department of Emergency Management** (FIU Account No: 800000311)

    PI: Arindam Gan Chowdhury, Co-PI: Norman Munroe

    Project Title: Hurricane Loss Reduction (RCMP): Wind Effects on Photovoltaic Panels Mounted on Residential Roofs

    Award Amount: $ 138,603

    Project Completion Date: Completed in August 2010

44. **Department of Commerce / National Oceanic & Atmospheric Administration (NOAA) Award** (FIU Account No: 120000594)

    PI: Arindam Gan Chowdhury

    Project Title: Florida Hurricane Alliance - Round 2

    Award Amount: $ 142,333

    Project Completion Date: Completed in May 2010

45. **Department of Commerce / National Oceanic & Atmospheric Administration (NOAA) Award** (FIU Account No: 120001506)

    PI: Arindam Gan Chowdhury

    Project Title: Florida Hurricane Alliance Round 3 - Surface Wind

    Award Amount: $ 76,969

    Project Completion Date: Completed in May 2010

46. **Florida Department of Emergency Management** (FIU Account No: 212201545)

    PI: Arindam Gan Chowdhury

Project Title: Hurricane Loss Reduction (RCMP): Roof and Wall Vents Study under Simulated Hurricane Winds

Award Amount: $ 174,454

Project Completion Date: Completed in August 2009

47. **Florida Department of Emergency Management** (FIU Account No: 212201516)

PI: Arindam Gan Chowdhury

Project Title: Hurricane Loss Reduction (RCMP): Roof Top Equipment Wind Load and its Mitigation for Buildings in Hurricane Prone Regions

Award Amount: $ 150,736

Project Completion Date: Completed in August 2008

48. **Florida Department of Community Affairs Award** (FIU Account No: 212201514)

PI: Amir Mirmiran, Co-PIs: Caesar Abi Shdid, Arindam Gan Chowdhury, Nakin Suksawang, Ton-Lo Wang

Project Title: Performance of Gable End Wall Bracing Retrofit for Hurricane Protection

Award Amount: $ 55,000

Project Completion Date: Completed in August 2008

49. **Florida Department of Community Affairs Award** (FIU Account No: 120001507)

PI: Arindam Gan Chowdhury

Project Title: Hurricane Loss Reduction for Housing in Florida 06-07--Vortex Suppression Techniques for Alleviating Uplift Forces on Roofs

Award Amount: $ 213,942

Project Completion Date: Completed in June 2007

50. **Renaissance Reinsurance Holdings Ltd. (RenaissanceRe) Award** (FIU Account No: 120000589)

PI: Arindam Gan Chowdhury

Project Title: Full-Scale Wind Load Testing Using the Wall of Wind

Award Amount: $ 377,485

Project Completion Date: Completed in May 2007

FUNDING FROM INDUSTRY

Agency	Amount	State Match
• FM Global	$57,000	--
• Applied Insurance Research (AIR) Worldwide	$50,000	$50,000
• Florida Power & Light (FPL)	$9,800	$9,800
• Arch Aluminum and Glass	$10,000	$10,000
• Concrecel USA	$7,500	$7,500
• The Roofing Industry Alliance for Progress	$100,000	$100,000
• WeatherPredict Consulting Inc.	$3,750	--
• WeatherPredict Consulting Inc.	$5,000	--
• WeatherPredict Consulting Inc.	$7,200	--
• TriCord Hurricane Products	$7,500	--

PROPOSALS SUBMITTED BUT NOT FUNDED

1. "Collaborative Research: Performance-Based Design of Engineered Low-Rise Buildings to Reduce Hurricane Damage." National Science Foundation, August 2014.

2. "Multifunctional Structural Insulated Panel Envelopes for Hazards Resistant Construction." National Science Foundation, April 2013.

3. "Sustainable Multifunctional Structural Insulated Panel Envelopes for Hazards Resistant Construction." National Science Foundation, July 2012.

4. "Development of an Aerodynamic Database for Codification of Wind Loads on Photovoltaic (PV) Systems." Department of Energy, Funding Opportunity Announcement (FOA) Number: DE-FOA-0000493, June 2011.

5. Pre-proposal: "Hurricane Multi-Stressors Impact Assessment for Vulnerable Coastal Buildings to Improve Risk Prediction and Hazard Awareness." Gulf of Mexico (GOM) Regional Research Competition, February 2011.

6. "CAREER: Development of Efficient Approaches to the Large-Scale, High Reynolds Number Aeroelastic Testing of Civil Engineering Structures." National Science Foundation, July 2009.

7. Pre-proposal: "Development of Mitigation Techniques Based on Full-Scale Testing to Enhance Lifeline Infrastructure Resiliency in Windstorms." Gulf of Mexico Regional Sea Grant Program, February 2009.

8. "Innovative High-Performance Non-Invasive Retrofitting Connections to Enhance Resiliency of Historic Structures against Natural and Human-Caused Hazards." National Center for Preservation Technology and Training (NCPTT), December 2008.

9. "Novel Retrofitting Techniques to Mitigate Hurricane Wind-Rain-Debris Induced Damages to Historic Structures." National Center for Preservation Technology and Training (NCPTT), December 2007.

10. “CAREER: Hurricane Effects on Structures: Experimental, Numerical, and Structural Reliability Research to Develop Performance-Based Design Criteria.” National Science Foundation, July 2007.

11. “Innovative Full Scale Wind Simulation and Testing to Develop a Novel Roof-to-Wall Connection.” National Science Foundation, September 2006.

12. “Hurricane Damage Mitigation and Preservation of Historic Structures.” National Center for Preservation Technology and Training (NCPTT), December 2006.

13. “Development of Advanced Retrofitting Techniques to Preserve Nation’s Architectural Heritage.” 2007 FIU Faculty Research Awards, December 2006.

PATENT DISCLOSURES, APPLICATIONS, AND AWARDS

1. U.S. Patent Publication has been issued for *Roof Shingles Having Perforations* (Patent No.: US 11,459,759 B1; Patent Date: Oct. 4, 2022) by Drs. Ameyu Tolera, Arindam Gan Chowdhury, and Ioannis Zisis. This innovation consists of including perforations in the protruding part of roof shingles to significantly reduce the pressure in the leading edge, the remainder of the protruding part, and the area behind the sealing strip of the shingle.

2. Received *2022 NHERI DesignSafe Dataset Award* (PRJ-1379: Experimentally Validated Stochastic Numerical Framework to Generate Multi-Dimensional Fragilities for Hurricane Resilience Enhancement of Transmission Systems – Drs. Abdollah Shafieezadeh and Arindam Chowdhury)

3. Under Dr. Chowdhury’s leadership the NHERI WOW EF was lauded by the American Society of Civil Engineers (ASCE) to receive the *2018 Charles Pankow Award for Innovation* in recognition for opening up a realm of opportunities in research and education to enhance the safety and resiliency of new and existing buildings and infrastructure, through full and large-scale testing simulating realistic winds up to Category 5 hurricane force.

4. U.S. Patent has been issued and Notice of Allowance received for *Hurricane Resistant Concrete Roof System* by Drs. Arindam Gan Chowdhury, Amir Mirmiran, and Nakin Suksawang (based on MGB Ref. No. 29171/46793, Pub. Date: Dec. 18, 2012). This new composite roofing system, which consists of large precast concrete structural panels designed to replicate the architectural shape of high-profile roof tiles, serves both as a structural system and as an architecturally pleasing building envelope.

5. U.S. Patent Publication has been issued for *Aerodynamics Mitigation and Power System* (AMPS) (Pub. No.: US 2015/0345472 A1, Pub. Date: Dec. 3, 2015) by Drs. Arindam Gan Chowdhury and Andres Tremante. The new system is designed to simultaneously reduce wind damage to buildings, homes, and other infrastructures, and produce wind energy to provide power.

6. 2012 Winner of FIU President’s Council “*Worlds Ahead Faculty Award*” in recognition of sustained excellence in teaching, research, and service.

7. Winner of Florida Sea Grant's "2012 *Research to Application Award*" for research that has identified innovative and practical ways to improve the structural integrity of homes and other buildings, thereby ensuring greater protection of future generations of Floridians from hurricanes and tropical storms.

8. 2012 *Presidential Excellence Award* finalist in recognition for commitment to strategic, operational, and service excellence pertaining to the Wall of Wind.

9. Received *Iowa State University Research Excellence Award* for Spring 2004 in recognition of outstanding research accomplishments in the field of Wind Structure Interaction. His research accomplishments comprise a significant addition to the knowledge base in the discipline of bridge aerodynamics and aeroelasticity.

PROFESSIONAL HONORS, PRIZES, FELLOWSHIPS

Dr. Chowdhury was honored *three times* as FIU Top Scholar (2021, 2012, and 2009). He attended the Faculty Scholarship Recognition Receptions on March 31, 2009 and April 9, 2012, where the FIU President and Provost honored selected faculty for their achievements and outstanding efforts and presented them with FIU Top Scholar pins.

OFFICES HELD IN PROFESSIONAL SOCIETIES

Editorship and Editorial Board Membership for Peer Reviewed International Journals

1. Associate Editor for the ASCE Natural Hazards Review Journal (since March 2016 – July 2023).

2. Guest Editor for the ASCE Natural Hazards Review Journal (January 2012 – February 2016).

3. Associate Editor on the Editorial Board of Wind Engineering and Science specialty section of Frontiers in Built Environment (www.frontiersin.org) (August 2019 – November 2020)

4. Review Editor on the Editorial Board of Wind Engineering and Science specialty section of Frontiers in Built Environment (www.frontiersin.org) (March 2015 – July 2019).

5. Member of the Editorial Board of the peer reviewed journal "Sustainable and Resilient Infrastructure" (published by Taylor and Francis Group) (September 2015 – June 2019).

6. Member of the Editorial Board of the peer reviewed international journal "Disaster Advances" (since June 2008).

Committee Membership in Professional Organizations

1. *ASCE Infrastructure Resilience Division Communications and Dissemination Committee (IRD-CDC)* (since May 2016)
   (Purpose: The IRD-CDC shall 'Administer and coordinate IRD Journals, Serve as the lead for organizing IRD conferences and sessions or tracks for which IRD may be responsible within conferences, Perform high-level reviews of IRD technical reports for style, Coordinate the IRD web content.')

2. *Subcommittee of Wind Loads on Solar Collectors* (under ASCE Technical Council on Wind Engineering's Structural Wind Engineering Committee (SWEC)) (since April 2011)
   (Purpose: To develop solar panel wind load provisions to be incorporated in ASCE 7-16.)

3. ASCE Technical Council on Wind Engineering's *Structural Wind Engineering Committee* (*SWEC*) (since March 2011)
   (Purpose: To re-examine, improve and disseminate present knowledge, and to enlighten the engineering profession on the subject of wind forces on structures, and the response of structures to those wind forces; to attempt to clarify, coordinate and unify wind design provisions on national and local building codes. Information will be disseminated through ASCE Journal papers, technical conferences, and committee reports.)

4. ASCE 7 *Subcommittee on Wind-Driven-Rain Effects* (since February 2011)
   (Purpose: To develop serviceability requirements for wind-driven rain penetration resistance of buildings in high wind areas to prevent business interruption, damage to building contents and the displacement of occupants during repairs.)

5. ASCE 7 *Subcommittee on Wind Loads* (since December 2010)
   (Purpose: To improve wind load provisions in ASCE 7 Standard 'Minimum Design Loads for Buildings and Other Structures' including revision of wind speed maps.)

6. ASCE Committee for *Experimental Analysis and Instrumentation*, Engineering Mechanics Institute (EMI), American Society of Civil Engineers (ASCE) (since August 2009)
   (Purpose: To foster the development and use of experimental methods, novel instrumentation and the utilization of new experimental techniques in civil engineering applications.)

Membership in Professional Organizations

1. Honorary Charter Member of the National Academy of Inventors® (NAI), that recognizes and encourages inventors who have a patent issued from the U.S. Patent and Trademark Office.

2. Member of American Society of Civil Engineers (ASCE).

3. Member of American Association for Wind Engineering (AAWE).

4. Faculty Member of Chi Epsilon, the National Civil Engineering Honor Society.

5. Member of Florida Structural Engineers Association (FSEA).

OTHER PROFESSIONAL ACTIVITIES AND PUBLIC SERVICE

Reviewer of Manuscripts for Journals

1. Frontiers in Built Environment

2. Engineering Applications of Computational Fluid Mechanics

3. ASCE Journal of Structural Engineering

4. Journal of Wind Engineering & Industrial Aerodynamics
5. ASCE Journal Natural Hazards Review (NHR)
6. Proceedings of ICE Journal – Structures and Buildings
7. Sustainable and Resilient Infrastructure
8. Coastal Management Journal
9. Wind and Structures
10. ASCE Journal of Architectural Engineering
11. Canadian Journal of Civil Engineering
12. ASCE Journal of Bridge Engineering
13. Journal of Fluids and Structures
14. ASCE Journal of Engineering Mechanics

Participation in NSF Proposal Review Panels

Wind and Structural Engineering Panel, Panel ID: P151855, June 4 – 5, 2015
Engineering for Natural Hazard (ENH) and Structural and Architectural Engineering (SAE)
Division of Civil, Mechanical and Manufacturing Innovation
National Science Foundation, Arlington, VA

NSF CAREER Panel, Panel ID: P150398, November 17 – 18, 2014
Hazard Mitigation and Structural Engineering (HMSE)
Division of Civil, Mechanical and Manufacturing Innovation
National Science Foundation, Arlington, VA

Wind Engineering Panel, Panel ID: P090439, December 12, 2008
Structural Systems and Hazard Mitigation
Division of Civil, Mechanical and Manufacturing Innovation
National Science Foundation, Arlington, VA

Participation in NOAA / Sea Grant Strategic Planning Workshops

Dr. Chowdhury served as an invited panel member at the Florida Sea Grant Strategic Planning Workshop (September 2008, St. Petersburg, Florida) and South Atlantic Regional Research Project (SARRP) Strategy Team Workshop (April 2009, Savannah, Georgia). During these workshops he actively participated in prioritizing the investment categories for coastal research to develop sustainable and hazard resilient coastal communities.

Session-Chair/Organizer/Advisory-Committee-Member in Major International and National Conferences and Forums in the Field

1. Session Chair in 2019 ***The 15th International Conference on Wind Engineering*** (ICWE15), September 2019, Beijing, China.

2. Session Chair in 2017 ***Asia-Pacific Conferences on Wind Engineering*** (APCWE), Dec 2017, Auckland, New Zealand.

3. Session Chair in 2017 ***Americas Conference on Wind Engineering*** (ACWE), May 2017, Gainesville, Florida, USA.

4. Session Chair at the ***4th American Association for Wind Engineering Workshop*** (August 2016, Miami, Florida); Session Number: 5.

5. Session Chair at the ***Sixth U.S.-Japan Workshop on Wind Engineering*** (May 2016, Tokyo, Japan); Session Title: "Experimental/Computational Wind Engineering."

6. Session Chair at the ***14th International Conference on Wind Engineering*** (14ICWE) (June 2015, Porto Alegre, Brazil); Session Title: "Emerging Large-Scale Wind Testing."

7. Session Chair at the ***14th International Conference on Wind Engineering*** (14ICWE) (June 2015, Porto Alegre, Brazil); Session Title: "Low-Rise Buildings: Wind Tunnel and Large Scale Model Tests."

8. Session Chair at the ***ATC & SEI Advances in Hurricane Engineering Conference*** (October 2012, Miami, Florida, USA); Session Title: "Full Scale Wind Testing."

9. Symposium Organizer and Session Chair at the ***Engineering Mechanics Institute Conference*** (EMI 2011) (June 2011, Boston, Massachusetts, USA); Symposium #7 Title: "Workshop on State-of-the-Art Experimental Approaches for Wind Engineering and Wind Energy."

10. Session Chair at the ***IV European Conference on Computational Mechanics*** (ECCM 2010), (May 2010, Paris, France, Europe); Session Title: "Database-Assisted Design: Basics, Data Compression, Applications to Tall Buildings;" Presented talk titled "Aerodynamic Load and Multi-Axial Performance Testing on Fiber-Reinforced Polymer Connections and Metal Fasteners."

11. Session Chair at the ***4th International Conference on Advances in Wind and Structures*** (AWAS'08) (May 2008, Jeju, Korea); Organized an Invited Session titled "Experimental and Probabilistic Tools for Developing Risk-Based and Performance-Based Design Criteria" containing 7 papers on wind engineering; Member of the International Advisory Committee for AWAS'08; Presented talk titled "Turbulence Simulation of Small-Scale Wall of Wind Flows."

Panelist in Major National Conferences or Forums

1. Panelist at the ***2016 McKnight Doctoral Research & Writing Conference*** (Tampa, Florida, February 2016).
    a. Panel Title: 2016 McKnight Doctoral Research & Writing Conference's Environmental Sciences Panel
    b. Panel Theme: Research Presentations for McKnight Doctoral Fellowship Program

2. Panelist at the ***2009 Federal Alliance for Safe Homes, Inc. – FLASH® Annual Meeting*** (Orlando, Florida, October 2009).
    a. Panel Title: Academic/Research Problem Solvers
    b. Panel Theme: Disaster Safety Leadership, Building Codes, Building Products and Testing, Integration of Energy and Green Building, How Incentives Fit into Disaster Safety

3. Panelist at the ***Hurricane Risk Mitigation Leadership Forum*** (Orlando, Florida, February 2008).
    a. Panel Title: Moving the Latest Innovations from Theory to Market
    b. Panel Theme: Understanding the physics of failure is crucial to creating economical loss mitigation techniques. This panel will include the foremost academics who are actively working to understand the forces on structures from high winds and what can be done to mitigate these forces.

4. Panelist at the ***12th CIGMAT Annual Conference*** on "Construction, Geotechnical and Flooding Issues Related to Houston & Other Major Cities" (Houston, Texas, March 2007)
    a. Panel Title: Hurricane and Geotechnical Issues
    b. Panel Theme: Hurricane and geotechnical issues related to Houston and other major cities

Services at FIU

1. *Fall 2023 to Spring 2024*: Dr. Chowdhury served on the Research Committee for developing FIU's 2030 strategic work plan. Dr. Chowdhury emphasized on cultivating a collaborative culture that transcends disciplinary boundaries. Breakthroughs often emerge at the intersection of diverse fields, which essentially requires a convergence research framework driven by the merging of disciplines, methodologies, and technologies. By fostering an environment where convergence is not only encouraged but ingrained, we aim to amplify the impact of our research outcomes in all fields and contribute to advancing knowledge and achieving groundbreaking solutions.

2. *Spring 2024*: Serving as the Chair for the Search and Screening Committee for the *Coastal Engineering and Climate Driven Hazards* faculty position at FIU's Department of Civil and Environmental Engineering and Extreme Events Institute (Job Opening ID #531413).

3. *August 2020 to January 2022 and June 2023 to October 2023:* Interim Chair of the Department of Civil and Environmental Engineering (CEE).

4. *February 2020 to present*: Member of the College of Engineering & Computing (CEC) 2025 Vision and Strategic Plan Committee.

5. *Fall 2019 to Summer 2021*: First- and second-year representative of the CEE to the CEC Faculty Council for the Academic Years 2019-2021.

6. *Spring 2019 to Fall 2019*: Served as the Chair for the Search and Screening Committee for the *Robotics & Automation in Civil and Environmental Systems Construction Robotics* faculty position at FIU's Department of Civil and Environmental Engineering (Job Opening ID #517611).

7. *Spring 2016 to Fall 2019*: Dr. Chowdhury participated in the implementation of the FIU-BeyondPossible2020 Strategic Plan. He served as a member of the Preeminent (and Emerging Preeminent) Programs committee. FIUBeyondPossible2020 was a roadmap for improving student success, striving for very high research designation, building preeminent programs and diversifying revenues and improving organizational efficiencies.

8. *Fall 2013 to Summer 2019*: Served on the Department of Civil and Environmental Engineering Undergraduate Program Advisory Committee (UPAC).

9. *February 2018 to April 2018*: Served as a member of the Search and Screen Committee (SSC) for three new faculty positions in the general area of computational engineering (Job Opening ID #514707).

10. *October 2016 to November 2016*: Served as the Chair of the committee to evaluate two instructors in CEE who were considered for promotion to rank of senior instructor.

11. *October 2015*: Served as the Designee for the Dean of the College of Engineering and Computing on the Board of Directors of the Florida International University Research Foundation, Inc., (FIU-RF Board).

12. *Spring 2016*: Served as the Chair for the Search and Screening Committee for the *Wind Engineering and Aerodynamics Pertaining to Buildings and Infrastructure Systems* faculty position at FIU's Department of Civil And Environmental Engineering (Job Opening ID #510583).

13. *Spring 2016*: Served as a member of the Search and Screening Committee for an open-rank tenure-track faculty position at FIU's OHL School of Construction.

14. *Fall 2013 to Spring 2020*: Served on the Department of Civil and Environmental Engineering Strategic Plan Committee.

15. *Summer 2013 to Spring 2015*: Served as a Faculty Senator and one of the representatives for FIU College of Engineering and Computing.

16. *Spring 2014*: Served on the Search and Screening Committee for the *Transportation Engineering* faculty positions at FIU's Department of Civil And Environmental Engineering (job opening Job ID #507201)

17. *Spring 2012*: Served on the Search and Screening Committee for the *Transportation/Wind-Hydrodynamic-Structural/Water Resources/Environmental Engineering* faculty positions at FIU's Department of Civil And Environmental Engineering (job opening ID 504091).

18. *Fall 2011*: Served as the Search and Screening Committee Chair for the *Wind Engineering and Aerodynamics* faculty position at FIU's Department of Civil And Environmental Engineering (position # 45359 - Wind Engineering Faculty).

19. *Fall 2011*: Served as the Department of Civil and Environmental Engineering representative to the Faculty Council on Governance (FCG), College of Engineering and Computing, FIU.

20. *Fall 2011*: Served as the Department of Civil and Environmental Engineering representative to the FIU College of Engineering and Computing Curriculum Committee (CCC).

21. *Fall 2011*: Served on the Search and Screening Committee for the *Karl Watson Jr. Professor of Practice in Concrete Paving Sustainability* faculty position at FIU's Department of Civil and Environmental Engineering.

22. *Summer 2011*: Contributed as a guest speaker to present hurricane engineering research-education activities to the students participating in the FIU's *GEAR UP 2011 Pre-College Program* funded by the U.S. Department of Education and organized by the FIU College of Engineering and Computing Office of Student Access and Success (OSAS).

23. *Spring 2011*: Served on the committee for brainstorming and developing the Dept. of Civil and Environ. Engineering (CEE) conceptual proposal for FIU College of Engineering (CEC) *Research Cluster*; Contributed in writing the proposal titled "Green and Sustainable Infrastructure for Climatically Vulnerable Coastal Environments and Communities – South Florida as Test-Bed."

24. *Summer 2010*: Contributed as a guest speaker to present hurricane engineering research-education activities to the students participating in the FIU's *GEAR UP 2010 Pre-College Program* funded by the U.S. Department of Education and organized by the FIU College of Engineering and Computing Office of Student Access and Success (OSAS).

25. *Spring 2010*: Participated in the Induction to the Profession Ceremony; Distributed the certificates on the platform.

26. *Spring 2010*: Served as the Department of Civil and Environmental Engineering representative to the FIU College Faculty Council for the College of Engineering and Computing.

27. *Spring 2010-present*: Faculty Advisor for Graduate Student Organization, Department of Civil and Environmental Engineering; Continues to support the organization; Organized the first event of Graduate Orientation and Reception on February 25, 2010; Attended the Faculty Advisor training in September 2010.

28. Actively participated in developing the NSF Engineering Research Center (ERC) proposal titled "NSF Engineering Research Center for a Hurricane Resilient Community System (HuRCS);" Funding Agency: National Science Foundation; Date of Submission: Feb 2010.

29. *Fall 2009*: Participated in the Induction to the Profession Ceremony; Distributed the certificates on the platform.

30. In January 2009, Dr. Chowdhury organized a Wall of Wind Workshop at FIU. Participants from NSF, Florida Sea Grant College Program, Colorado State University, Louisiana State University, Texas Tech University, Miami Dade Building Code Compliance Office, National Roofing Contractors Association, Florida Power and Light, Florida Department of Transportation, and other organizations presented research activities and needs. Wall of Wind experimentation was demonstrated to the participants.

31. *Spring 2008*: Served on a Strategic Planning Committee (SPC) (Committee Members: Drs. Hector Fuentes, Albert Gan, Arindam Gan Chowdhury, and Nakin Suksawang); Researched RATING SYSTEM for several academic programs; Participated and contributed in monthly meetings for developing a SPC report.

32. Participated in ABET mock review session in Spring 2008; Interacted and shared improvement concepts with the visiting personnel for the ABET mock review; Prepared a detailed document for "evidence of outcome achievement" based on course materials of CES3100 Structural Analysis and described detailed evidences in course materials (i.e., theories, methods, equations, computer software, exam problems, homework problems, projects, sample student work, experiment procedure, data analysis …etc.) for attaining ABET requirement Outcome 3a in this course (Outcome 3a: Our students will have ability to apply knowledge of mathematics, science, and engineering to solve civil engineering problems).

33. Organized Tsinghua University Delegation in November 2007.

34. Participated in developing the proposal for the 'Center of Excellence in Hurricane Damage Mitigation and Product Development' (September 2007). He garnered support letters from the industry, assisted in the wind engineering technical write-up, scrutinized the entire proposal write-up and suggested corrections and changes. This proposal was rated #1 among 41 proposals submitted throughout the universities in Florida. FIU was awarded with $7.5M for this center.

35. *Spring 2007*: Served on the Search and Screening Committee for the *Wind Engineering* faculty position at FIU's Department of Civil and Environmental Engineering.

36. Organized the Wall of Wind Workshop in March 2007.

37. Coordinated with several U.S. and Canadian universities and industry to form the Technical Advisory Committee (TAC) for the Wall of Wind (WoW) in Spring 2007. The networking helped develop a ten-member TAC for advising the WoW development. A White Paper on 'Full-Scale Testing and Measurements' was developed with the contributions from all members. Such networking with the academia and industry participants brought significant attention and visibility for FIU WoW.

38. Served on a two-member Committee to co-edit the CEE Fall 2006 Newsletter (Committee Members: Drs. Caesar Abi and Arindam Gan Chowdhury). The Newsletter was published with Construction Training Qualification Program (CTQP) and Wall of Wind articles.

39. Served on a Committee to prepare a report on the status of FIU College of Engineering and Computing instruction laboratories in view of the impending accreditation visit in Fall 2008 (Committee Members: Dr. Yong Tao (MME), Dr. Tony McGoron (BME), and Dr. Arindam Gan Chowdhury (CEE)). The Committee visited all labs that were part of the ABET accredited baccalaureate programs - BME, CE, EE, Comp Eng., ISE, ME as well as Environ. Eng. that went for accreditation in Fall 2008. The Committee visited all the labs, observed lab related items, took notes, and prepared a detailed report based on the observations and submitted to the Dean of the College of Engineering on November 20, 2006.