

Alexander Abuabara

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Education

- Ph.D. in Urban and Regional Science, Texas A&M University, College Station (2022)
Dissertation: Applications of Causal Bayesian Networks in Urban Planning
Committee Members: Walter G. Peacock (chair), Zenon Medina-Cetina (chair), Douglas Wunneburger, David Bierling
- Master of Science in Production Engineering, Federal University of São Carlos, Brazil (2006)
Thesis: A Mixed Integer Programming Approach Applied to Multi-Period Industrial Planning
Committee Members: Reinaldo Morabito (chair), Horacio Hideki Yanasse, Marcos Nereu Arenales, Denise Sato Yamashita
(original in Portuguese)
- Bachelor of Science in Civil Engineering, University of São Paulo, Brazil (2001)

Academic Positions

Wm Michael Barnes '64 Department of Industrial and Systems Engineering, Texas A&M University

- Instructional Assistant Professor (Fall 2025–present)
Supervisor: Lewis Ntaimo

Department of Landscape Architecture and Urban Planning, Texas A&M University

- Instructional Assistant Professor (2024–2025)
Supervisor: Galen D. Newman
- Postdoctoral Research Associate (2022–2024)
Supervisors: Walter G. Peacock, Galen D. Newman

Teaching

Courses Taught *(average teaching evaluation 4.54)*

Wm Michael Barnes '64 Department of Industrial and Systems Engineering, Texas A&M University

- DAEN 300 Data Engineering Coding Experience I (Fall 2025)
- DAEN 301 Data Engineering Coding Experience II (Spring 2026)
- DAEN 427/ISEN 627 Decision and Risk Analysis (graduate-level; Fall 2025, Spring 2026)
- DAEN 459 Capstone Senior Design Planning (Fall 2025)
- DAEN 460 Capstone Senior Design (Spring 2026)

Department of Landscape Architecture and Urban Planning, Texas A&M University

- URPN 201 Evolving Cities (Fall 2021, Spring 2024)
- URPN 210 Urban Analytical Methods I (Fall and Spring 2019, 2020, 2021, 2022, 2023, 2024)
- URPN 310 Urban Analytical Methods II (Fall 2024)
- URPN 325 Introduction to GIS in Urban and Regional Planning (Fall 2024, Spring 2025)
- URPN 326/PLAN 626 Advanced GIS in Urban and Regional Planning (graduate-level; Spring 2025)
- PLAN 604 Planning Methods I (graduate-level; Fall 2023, 2024)
- URSC 642 Analytical Methods II (graduate-level; Spring 2024)
- FYEX 101 First Year Experience (Fall 2022)

Guest Lecturer

Department of Landscape Architecture and Urban Planning, Texas A&M University

- URPN 361 Urban Issues, presenting *GIS in Planning Communities* (Fall 2022)
Instructor: Madhavi Dixit
- PLAN 610 Structure and Function of Urban Settlements, presenting *Urban Sprawl* (Fall 2016)
Instructor: Han Park
- URSC 631 Foundations of Planning, presenting *Natural Hazards Research* (Spring 2025)
Instructors: Sinan Zhong, Ji Won Nam

Teaching Assistant

Department of Landscape Architecture and Urban Planning, Texas A&M University

- URPN 201 Evolving Cities (Spring 2017)
Instructor: Yu Xiao
- URSC 642 Analytic Methods II (Spring 2017, 2018, 2019)
Instructor: Walter G. Peacock

Department of Production Engineering, Federal University of Sao Carlos, Brazil

- Coding, Introduction to Production Engineering (Spring 2006)
Instructor: Reinaldo Morabito
- Operations Research Applied to Management (Fall 2005)
Instructor: Reinaldo Morabito
- Operations Research Applied to Logistics (Fall 2005)
Instructor: Reinaldo Morabito

Research

Peer Reviewed Journals

(Google Scholar: <https://scholar.google.com/citations?hl=en&user=r7vp11AAAAAJ>)

1. Blanks, J., Abuabara, A., Roberts, A., Semien, J. (2021). Preservation at the Intersections: Patterns of Disproportionate Multihazard Risk and Vulnerability in Louisiana's Historic African American Cemeteries. *Environmental Justice*, 14 (1), 1-14.
2. Horney, J., Karaye, I., Abuabara, A., Gearhart, S., Grabich, S., Perez-Patron, M. (2020). The Impact of Natural Disasters on Suicide in the United States. *Crisis*, 42 (5), 328-334.
3. Abuabara, A., Abuabara, A., Tonchuk, C. (2017). Comparative Analysis of Death by Suicide in Brazil and in the United States: descriptive, cross-sectional time series study. *Sao Paulo Medical Journal*, 135, 150-156.
4. Abuabara, A., Morabito, R. (2009). Cutting Optimization of Structural Tubes to Build Agricultural Light Aircrafts. *Annals of Operations Research*, 169 (1), 149-165.
5. Abuabara, A., Morabito, R. (2008). Modelos de Programação Inteira Mista para o Planejamento do Corte Unidimensional de Tubos Metálicos na Indústria Aeronáutica Agrícola. *Gestão & Produção*, 15 (3), 605-617.

Reports

1. Lee, R. J., Day, W., Abuabara, A., Newman, G., Peacock, W. G. (2023). The Effect of Flood Buyouts on Nearby Property Values. Working paper for the *Lincoln Institute of Land Policy*.
2. Rosenheim, N., Lane, G., Katare, A., Watson, M., Williams, A., Peacock, W. G., Abuabara, A., Perez, M., Sullivan, E., Kastor, H. (2021). Food Retailer Data, in *Food Access Impact Survey for Harris County and Southeast Texas after Hurricane Harvey in 2017*.
3. Peacock, W. G., Abuabara, A., Wunneburger, D., Bierling, D., Mullins, J. A., Borchardt, D. (2020). Coastal Bend Hurricane Evacuation Study: Evacuation Zone Development Report.
4. Peacock, W. G., Wunneburger, D., Abuabara, A., Bierling, D., Mullins, J. A., Borchardt, D. (2020).

Coastal Bend Hurricane Evacuation Study: Vulnerability Analysis Report.

5. Bierling, D., Lindell, M., Peacock, W. G., Abuabara, A., Moore, R., Wunneburger, D., Mullins, J. A., Borchardt, D. (2020). Coastal Bend Hurricane Evacuation Study: Hurricane Harvey Evacuation Behavior Survey Outcomes and Findings.
6. Mullins, J. A., Borchardt, D., Bierling, D., Peacock, W. G., Wunneburger, D., Abuabara, A. (2020). Coastal Bend Hurricane Evacuation Study: Transportation Analysis Report.
7. Peacock, W. G., Wunneburger, D., Abuabara, A., Park, H., Van Zandt, S. (2016). Rio Grande Valley Hurricane Evacuation Study: Vulnerability Analysis Report.

Data

- Lane, G., Rosenheim, N., Williams, A., Watson, M., Abuabara, A., Maher, D., Rathburn, A., Peacock, W. G. (2024). Food Aid Agency Data, in Food Access Impact Survey for Harris County and Southeast Texas after Hurricane Harvey in 2017. DesignSafe-CI.

Conferences with Peer Reviewed Abstracts

(underlined name indicates the presenter)

1. Day, W., Abuabara, A., Peacock, W. G., Wade, H. FEMA's Financial Housing Assistance to Owners and Renters After Hurricane Harvey. *49th Natural Hazards Workshop*. Broomfield (Jul 2024)
2. Blanks, J., Abuabara, A. Did You Check on the Cemetery? A Geospatial Risk Assessment of Cemeteries in Southeast Louisiana. *PRIMR Conference at PVAMU*. Prairie View (Mar 2023)
3. Abuabara, A., Day, W., Peacock, W. G., Wade, H. An Analysis of FEMA's Individual Assistance After Hurricane Harvey. *Natural Hazards Research Summit*. Washington DC (Oct 2022)
4. Abuabara, A., Peacock, W. G., Bierling, D., Lindell, M. A Statistical Analysis of Household Evacuation in Response to Hurricane Harvey. *Society for Risk Analysis Annual Meeting*. Austin (Dec 2020)
5. Abuabara, A., Medina-Cetina, Z., Peacock, W. G. Application of Bayesian Networks to Hurricane Risk Assessment. *Society for Risk Analysis Annual Meeting*. Arlington (Dec 2019)
6. Horney, J., Karaye, I., Gearhart, S., Abuabara, A., Perez-Patron, M. Impact of Natural Disasters on Suicide Risk in the United States. *American Public Health Association Annual Meeting*. Philadelphia (Nov 2019)
7. Abuabara, A., Peacock, W. G. Importance of Mobile Homes to Determine Natural Hazard Evacuation Boundaries. *46th Natural Hazards Workshop*. Broomfield (Jul 2017)
8. Abuabara, A., Considerations for Modeling Natural Hazard Evacuation of Mobile Neighborhoods and Mobile Parks in the Texas Valley Region. *42nd Urban Affairs Assoc. Conference*. San Diego (Mar 2016)
9. Abuabara, A., Morabito, R. Modelo de Otimização de Corte Unidimensional Aplicado a Fabricação de Aeronaves Agrícolas, *Annals of XXXIX Simpósio Brasileiro de Pesquisa Operacional*. Fortaleza, Brazil (Aug 2007)
10. Morabito, R., Abuabara, A. A One-dimensional Cutting Stock Problem in the Production of Agricultural Light Aircrafts", *XXII European Conference on Operational Research*, Prague, Czech Republic (Jul 2007)
11. Abuabara, A., Morabito, R. Pipe Cutting Optimization: Application to the Aeronautics Industry. *Latin-Iberoamerican Conference on Operations Research CLAIO*. Montevideo, Uruguay (Nov 2006)

Workshops, Conferences, and Seminars

1. Problem Structuring, Data, and My Teaching Journey, and Why My Students Still Ask for Extra Credit. Industrial and Systems Engineering Spring Seminar (2025)
2. Hurricane Evacuation Studies: Zone Planning for Coastal Texas. CoA Research Symposium (2024)
3. Application of Bayesian Networks to Hurricane Risk Assessment. CoA Research Symposium (2024)
4. Modeling Individual Assistance to Households in Texas After Hurricane Harvey. CoA Research Symposium (2024)
5. Hurricane Evacuation Studies: Zone Planning for Coastal Texas. CoA Research Symposium (2024)

6. Modeling Individual Assistance to Households in Texas After Hurricane Harvey. CoA Research Symposium (2023)
7. A Web-Based GIS Platform and Applications for Evacuation, Preparedness, Response, Mitigation, and Recovery Planning: The Texas Hazard Resilience Atlases. Texas Emergency Management Conference (2023)
8. FEMA Individual Assistance Program for Housing. IN-CORE Summer Research Meeting (2022)
9. Hurricane Evacuation Studies. TAMU/GEOSAT Seminar (2018)
10. Texas GIS Day (2018, 2019, 2020, 2021)
Supervisor: Daniel Goldberg
 - Introduction to QGIS
 - Spatial Analysis in R

Research Experience

Department of Landscape Architecture and Urban Planning, Texas A&M University

- *Graduate Research Lecturer*, TAMU/LAUP (2021-2022)
Advisors: Walter G. Peacock and Galen Newman
- *Graduate Research Assistant*, TAMU/LAUP (2015-2022)
Advisor: Walter G. Peacock

Research Projects Collaboration

1. Safeguarding Texas's Inland Rural Heritage: Collaborative Strategies for Resilience Against Natural Hazards (upcoming Spring 2026). *Center for Heritage Conservation, Texas A&A University*.
2. Hurricane Evacuation Studies: (i) Southeastern Texas (2024-2025), (ii) Texas Coastal Bend (2018-2019), and (iii) Texas Valley (2014-2016). *US Army Corps of Engineers*.
3. Risk-Based Community Resilience Planning (2022-2024). *National Institute of Standards and Technology*.
4. The Adoption and Utilization of Hazard Mitigation Practices by Jurisdictions along Gulf and Atlantic Coasts (2016-2018). *National Science Foundation*.

Service

- Faculty Senator, College of Architecture (2024-2025)
COA Faculty Senator Caucus Leader: Shelley D. Holliday, Senate Speaker: Angie Hill Price

Honors, Fellowships, Awards

Professional Development

- Faculty Affairs Third-Party Conflict Resolution Mediator, TAMU (Fall 2024)
Associate Provost for Faculty Affairs: Heather Wilkinson
- Graduate Graduate Mentoring Academy Fellow, TAMU (Fall 2024)
Assistant Director of Mentoring & Graduate Education: Clinton A. Patterson

Professional Affiliations and Memberships

- Center for Geospatial Sciences, Applications and Technology Fellow, TAMU (2020-present)
- Stochastic Geomechanics Laboratory Fellow, TAMU (2018-present)
- Hazard Reduction and Recovery Center Fellow, TAMU (2015-present)
- Society for Risk Analysis (2018-present)
- Tau Sigma Delta Honor Society (2015-present)
- Regional Council of Engineering and Agronomy of São Paulo, Brazil (2002-2005)

Honors and Fellowships

- Full Tuition Assistantship, TAMU/HRRC (2015-2022)
- Travel Award for Natural Hazards Research Summit, NSF Washington, DC (Oct 2022)
- Summer Institute for Early-Career Faculty Award, NSF/NHERI, San Antonio, TX (Jun 2022)
- Open-Source GIS Developers Summer School, IBOT/GEOSTAT, Prague, Czech (Aug 2018)
- Coastal Flood Risk Reduction Research, NSF/PIRE, Amsterdam, Netherlands (May 2018)
- Graduate Program Scholarship, TAMU/LAUP (2014-2015)
- Graduate Program Scholarship, Department of Production Engineering, Federal University of Sao Carlos, Brazil (2005-2006)

Non-academic Positions

- Civil Engineer, Sucocitrico Cutrale Ltd., Araraquara, Brazil (2002-2005)
Supervisor: Marcos Neves Penteado Moraes
- Civil Engineer Trainee, University of São Paulo, São Carlos, Brazil (1999-2000)
Supervisor: Manoel Rodrigues Alves