

**Martín Torres, PE**  
**CURRICULUM VITAE**  
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**RESEARCH:** Uncertainty modeling of building material emissions, biogenic carbon accounting, building stock analysis, sustainability-motivated structural design, embodied carbon benchmarking

**SOFTWARE:** Python, Tally, Athena IEB, EC3's API, ETABS, SAP2000, ADAPT-PT, Rhino and Grasshopper, RAM Structural Systems, RAM Element, RAM SBeam, AutoCAD, Bluebeam

## EDUCATION

- 2026 (expected)    **PhD Architectural Engineering (Building Systems)**  
University of Colorado Boulder  
Advisor: Dr. Wil Srubar III, Living Materials Laboratory
- 2018    **MS Structural Engineering, Mechanics and Materials**  
University of California, Berkeley  
Structural Engineering, Mechanics and Materials
- 2017    **BS Civil & Environmental Engineering (Structures Focus)**  
Rice University

## PROFESSIONAL EXPERIENCE

Present - 2022	Graduate Research Assistant	Dr. Wil Srubar's Living Materials Laboratory	Boulder, CO
2024	Visiting Postgraduate Scholar	University of Bath	Bath, UK
2021	Graduate Engineer B	Austin Energy Green Building	Austin, TX
2020 - 2018	Graduate Engineer (Structures)	Walter P Moore	Austin, TX
2017	Structures Intern	Walter P Moore	Houston, TX
2016	Structures Intern	Pinnacle Structural Engineers	Houston, TX
2015	Structures Intern	MLAW Engineers	Austin, TX

## PART-TIME CONSULTING AND VOLUNTEER\* EXPERIENCE

Present-2021	*SE 2050 Committee	Program Mechanics, Data Science Team, LCA Data Methodology
2024-2023	*Reviewer	ICSA 2025 Conference
2024-2020	*Carbon Leadership Forum (CLF)	Regional Hub Director

2023	*Reviewer	Buildings & Cities Journal
2022	cove.tool	Technical Consultant
2021	CLF	Technical Consultant
2021	*CLF	Content Lead, News You Can Use
2021	*CLF	Austin Hub Founder and Chair
2021	LeMessurier	Structural Engineer - Sustainability Initiatives (LCA)
2018	KATERRA	Structures Intern
2016	C-Crete Technologies	Undergraduate Research Assistant

## SPEAKING ENGAGEMENTS

2025	Carbon Leadership Forum, Los Angeles Hub Degenkolb Engineers   Sustainability Interest Group Structural Engineers Association of Colorado International Conference on Structures and Architecture   Antwerp, Belgium Center for the Built Environment   University of California, Berkeley Structures Congress   Phoenix, AZ Life Cycle Lab   University of Washington
2024	UBath PhD Mini-Symposium Bath Institute for Sustainability and Climate Change Austin Energy Green Building
2023	SEAC Sustainability Committee FGIA Southeast Region
2022	Greenbuild International Conference + Expo   San Francisco, CA Carbon Leadership Forum, Austin, TX Hub
2021	Carbon Leadership Forum, Nebraska Hub Austin Energy Green Building Professional Development Seminar Carbon Leadership Forum, Austin, TX Hub American Institute of Architects, Austin, TX Columbia University Graduate School of Architecture, Planning, and Preservation
2020	Carbon Leadership Forum, Atlanta, GA Hub AIA Austin Design Excellence Conference Walter P Moore 'Better Practices' Seminar Series Carbon Positive   Los Angeles, CA Carbon Leadership Forum, Austin, TX Hub

## PUBLICATIONS [[Google Scholar](#)]

## PEER-REVIEWED JOURNAL ARTICLES

- 2025 **M Torres**, WV Srubar III, “Characterizing Statistical Uncertainty and Variability of Building Material Emissions in Probabilistic Whole-Building Life Cycle Assessment Using Kernel Density Estimation,” *Building and Environment*, 113442. <https://doi.org/10.1016/j.buildenv.2025.113442>
- 2024 MA Jungclaus, N Grant, **M Torres**, JH Arehart, & WV Srubar III, “Embodied Carbon Benchmarks of Single-family Residential Buildings in the United States,” *Sustainable Cities and Society*, 105975. <https://doi.org/10.1016/j.scs.2024.105975>
- 2024 BC Acarturk, MA Jungclaus, **M Torres**, B Lash, WV Srubar III, “Effect of Algal Biomass on the Properties of Calcium Sulfoaluminate Cement”, *ACS Sustainable Chemistry & Engineering*. <https://doi.org/10.1021/acssuschemeng.4c01007>

## MANUSCRIPTS IN PREPARATION

**M Torres**, R Lupton, E Marsh, WV Srubar III, S Allen. “Using kernel density estimation and the Dirichlet distribution for uncertainty quantification of building material emissions”

MA Jungclaus, **M Torres**, WV Srubar III. “Theoretical material use and embodied carbon intensity benchmarks of commercial office buildings in the United States”

## ARTICLES IN CONFERENCE PROCEEDINGS

- 2025 **M Torres**, WV Srubar III, “Using Kernel Density Estimation to model uncertainty in building material emissions: Considering variable weighting and bandwidths,” *International Conference on Structures and Architecture*. Accepted Feb. 2025. Oral presentation by **M Torres** in Jul. 2025

## TECHNICAL REPORTS

- 2025 D Fang, M Chafart, **M Torres**, J Broyles, “SE 2050 Commitment Program 2023 Data Analysis and Findings Report,” American Society of Civil Engineers ASCE. <https://doi.org/10.1061/9780784485927>
- 2024 J Broyles, M Chafart, **M Torres**, D Fang, “Data Insights from over 500 Building Projects for Low-Carbon Structures.” *Structures Mag*, Dec. 2024, pp. 23–25. <https://issuu.com/structuremag/docs/decemberstructure2024/24>
- 2022 M Huang, M Lewis, P Escarcega, E Escarcega, **M Torres**, H Waterstrat, I Kinder-Pyle, K Simonen, “Buy Clean Buy Fair Washington Project: Final Report,” Carbon Leadership Forum and Washington State Department of Commerce. <https://carbonleadershipforum.org/bcbf-project/>
- 2022 **M Torres**, “City of Austin Green Building Guide: Embodied Carbon”
- 2022 M Sagaser, **M Torres**, MA Jungclaus, J Arehart, WV Srubar, “Brenton Building Renovation Life Cycle Assessment Report for the City of Boulder”

## SPONSORED RESEARCH PROJECTS

**Advanced Life Cycle Assessment Methodologies for Low-Carbon Buildings**

Sponsor	City of Austin
Award	\$305,000
Period	Aug 2022 - Dec 2026
Objective	To research and investigate the embodied carbon and whole building lifecycle analysis impacts of the quickly growing local building stock to advance sustainability. The purpose of this research is to: (1) Analyze Austin’s typical commercial and residential building types and local building materials market to determine a local baseline for embodied carbon (kgCO <sub>2</sub> e/m <sup>2</sup> ) based on standard local construction materials and techniques. (2) Identify areas of variation between local and global baselines to characterize opportunities for embodied carbon reduction. (3) Identify sound material and design approaches that result in lower embodied carbon quantities and fewer negative impacts on local air and water quality. (4) Inform AEGB ratings and policy to advance the sustainable building and construction materials markets and design techniques to meet City and Austin Energy Sustainability Goals and Initiatives around equity, climate change, environmental quality, the local green economy, and capacity building within the green jobs market without negatively impacting building safety and durability. (5) Explore and extend methodologies to account for variation and uncertainty in Lifecycle Analysis and develop a universal, simplified methodology for biogenic carbon accounting.

## OUTREACH

2023	DLA Program; University of Colorado Boulder
2020 - 2018	ACE Mentor Program of America
2019 - 2017	RCEL Mentorship Program

## AWARDS

2026-2022	NSF Graduate Research Fellow
2025	SEI Futures Fund Scholarship Recipient
2024	Temple Hoyne Buell Endowed Ambassadorial Scholarship
2022	Dean’s Future Leaders Fellowship, University of Colorado Boulder
2017	Rice Center for Engineering Leadership Certificate
2015	Gilbert Cuthbertson Service Award, Rice University

## PROFESSIONAL AFFILIATION

American Society of Civil Engineers (ASCE)  
ASCE, Structural Engineering Institute (SEI), Sustainability Committee (SE 2050)  
Carbon Leadership Forum (CLF)  
ORCID: 0009-0005-2039-8030

## PROFESSIONAL LICENSURE

Licensed Professional Engineer (PE) in Texas #142278

## REFERENCES

### **Wil Srubar III, PhD**

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University of Colorado Boulder  
Professor of Building Systems Engineering /  
Materials Science & Engineering  
Deming Associate Dean for Innovation &  
Entrepreneurship  
Charles Victor Schelke Endowed Professor

### **Jay Arehart, PhD**

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University of Colorado Boulder  
Assistant Teaching Professor / Faculty Director  
for Architectural Engineering  
Co-Founder & Chief Product Officer, Preoptima

### **Stephen Allen, PhD**

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University of Bath  
Senior Lecturer, Department of Architecture &  
Civil Engineering  
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IAAPS: Propulsion and Mobility