PRESENTER BIOGRAPHIES

Daniel C. Boice, Ph.D.

Founder & Principal Astronomer
Scientific Studies & Consulting

Dr. Daniel Boice is the founder and principal astronomer at Scientific Studies & Consulting in San Antonio, TX. He received his Ph.D. in astronomy at New Mexico State University in 1985. Prior to his present position, he spent 26 years in the Space Science & Engineering Division at Southwest Research Institute, where he specialized in cometary research sponsored by NASA and the National Science Foundation. Concurrently, he held a joint appointment to the Department of Physics and Astronomy faculty at the University of Texas at San Antonio, where he taught undergraduate and graduate courses for 20 years. He has also given numerous public lectures to audiences of all ages. During his career, Dr. Boice has developed computer models that has been successfully used to interpret spacecraft data and ground-based observations of many comets.

He has also developed an interest and expertise in the urban climate, especially the Urban Heat Island, when in the early 1990s he co-discovered San Antonio's UHI.

Dr. Boice has an extensive research record that includes over 80 peer-reviewed research papers, several hundred conference reports, and the books, *Comets in the 21st Century: A Personal Guide to Experiencing the Next Great Comet!* (Morgan & Claypool, 2019) and *Solar System: Between Fire and Ice* (CRC Press, 2021). He has served in leadership positions in several professional societies and spent a number of years abroad teaching and working with colleagues in Germany, Japan, France, Thailand, and Brazil. When not engaged in professional activities, Daniel loves collecting books and rock 'n' roll music, board gaming, and rice farming with his family in northern Thailand.

Michelle E. Garza
Planning Specialist, San Antonio River Authority
B.S. Environmental Science, Urban and Regional Planning M.S. Graduate Student
University of Texas at San Antonio

Ms. Garza has 12 years of experience in the environmental science and sustainable energy fields and 13 years in business management. She has a Bachelor of Science degree from the University of Texas at San Antonio (UTSA) where she focused on geology and worked for the Texas Sustainable Energy Research Institute. Ms. Garza has been part of the Sustainable Infrastructure/Planning Unit at the San Antonio River Authority for more than eight years, where she works to educate the community on nature-based stormwater solutions to improve water quality and the urban environment.

Ms. Garza is the development coordinator for SARA, working with developers in mandatory coordination areas, such as the River Improvement Overlay District and Westside Creeks Water Quality Overlay, on their LID/green infrastructure to protect our community's investment in the health and recreation of our creeks and rivers. Ms. Garza has project managed, working with the Texas Commission on Environmental Quality (TCEQ) on the Upper San Antonio River (SAR) Watershed Protection Plan (WPP) Green Stormwater Infrastructure (GSI) Master Plan 319 Grant and as the representative on contractual matters for the Texas Commission on Environmental Quality on the Upper SAR WPP Implementation - Stormwater Retrofit Best Management Practices (BMPs) 319 Grant.

She is actively involved in the community as a member of the US Green Building Council (USGBC), University of Texas at San Antonio Urban Planning Student Association, a SARA Watershed Wise Warrior, Texas Master Naturalist, and Texas Waters Specialist. Ms. Garza works with SA 2020, SA Tomorrow, SA Regional Center Plans, SA Climate Ready Plan, SA 2030 District, and the USGBC. She is also working toward her M.S. in Urban and Regional Planning at the UTSA where she hopes to learn strategies for implementing nature-based infrastructure, including low impact development/GSI, into planning for the River Authorities four county jurisdiction.

Farzad Hashemi
Assistant Professor of Architecture
University of Texas at San Antonio

Farzad Hashemi is an Assistant Professor of Architecture at the University of Texas at San Antonio (UTSA) and the founding director of the Climate Sensitive Design Lab (CSDL) within the UTSA's School of Architecture and Planning. He received a Ph.D. in Architecture from the Pennsylvania State University, with a focus on Sustainability.

In his doctoral research, Hashemi developed a novel methodology that couples Local Climate Zones (LCZs) with the Urban Weather Generator (UWG) to create climate data specifically designed for urban environments to accurately reflect the Urban Heat Island (UHI) effects. This methodology aims to surpass the limitations of Typical Meteorological Year (TMY) data, which is generally gathered from open spaces such as airports and often fails to capture the specific climatic conditions of urban neighborhoods.

Hashemi's work is dedicated to providing architects and urban planners with a more accurate workflow for evaluating and reducing urban buildings' energy demands, steering towards more sustainable urban development. His dissertation received the 2023-2024 Dissertation Award from the International Association of Architectural Research Centers (ARCC). The ARCC Dissertation Award recognizes excellence in dissertation research by a doctoral student from an ARCC member school. The award is intended to honor significant new research in architecture and environmental design and to recognize the achievement of an emerging scholar.

Leslie Antunez
Senior Municipal Sustainability Manager
City of San Antonio
Office of Sustainability

Leslie Antunez is a dedicated and committed public servant with 17 year of service specializing in climate initiatives, public information, crisis and media communication strategies, and community engagement and education.

As the Senior Municipal Sustainability Manager, she responsible for overseeing the City's municipal climate planning and implementation efforts. To include projects such as the Urban Heat Island/Cool Pavement pilots and assisting with the municipal on-site solar project.

Leslie is proud alumna of the New Mexico State University, the University of Texas at Arlington, and the Texas Women's Leadership Institute.

TITLE: The Heat is On! Understanding San Antonio's Urban Heat Island and What We Can Do About It

ABSTRACT: The heat is on! Major urban areas are hot and getting hotter! Urban heat, caused by human activities, forms a "heat bubble" surrounding the city known as the Urban Heat Island (UHI), resulting in higher temperatures, impacting human health, power consumption air and water quality, and more. Dr. Daniel Boice will present original research on San Antonio's UHI over the past 7 decades. Dr. Farzad Hashemi, Assistant Professor of Architecture at University of Texas at San Antonio will discuss his novel methodology to create climate data specifically designed for urban environments to accurately reflect the Urban Heat Island (UHI) effects. Michelle E. Garza, Planning Specialist, will share positive initiatives the San Antonio River Authority has implemented to mitigate heat and improve water quality and Leslie Antunez, Senior Municipal Sustainability Manager, Office of Sustainability will present the City of San Antonio's heat reduction strategies.