Sterling Ranch
A Unique Vanderbilt Sustainability & Education Research Center
ViA Award, Cycle 2015

What We Do:
• Vanderbilt University has partnered with Sterling Ranch, a master planned 21st century community, to collaborate on research, development, design & implementation of technology, data analytics and an educational ecosystem to enhance sustainability, resilience and quality of life.
• Vanderbilt is designing near real-time homeowner and community feedback on utilities usage (water, electric, gas) and savings opportunities using high resolution usage data.
• Vanderbilt is designing an educational ecosystem and new learning paradigms that leverages unique Sterling Ranch features with respect to the environment, energy sustainability, and the internet of things (IoT).
• Vanderbilt provides an immersion experience for students through an annual “Vanderbilt Week at Sterling Ranch” (January 2016, 2017), summer internships, undergraduate research, honors & engineering design projects and capstone doctoral research.

Why We Do It:
• Achieving community goals of sustainable use of resources, resilient infrastructure, economic opportunity and high quality of life can be achieved through integration of technology, education and information resources requires cutting edge trans-disciplinary research on human-IoT interfaces and feedback, big data, education and civil and environmental engineering.
• Sterling Ranch provides a unique Sustainability Science, Engineering and Education living research laboratory within a multi-purpose community setting, facilitating a broad range of immersion experiences.
• Sterling Ranch TIPS motivated substantial revision of Civil Engineering undergraduate curriculum to focus on sustainability and infrastructure.
• Sterling Ranch TIPS provides unique leveraging for other related proposals, e.g., NSF Research Traineeship Program (NRT), NSF Smart and Connected Communities, and a new University Course.

Who’s Involved?

College of Arts & Science
John Ayers, Professor, Dept. of Earth & Environmental Sciences
Steven Goodbred, Professor and Chair, Dept. of Earth & Environmental Sciences

Peabody College
Claire Smrekar (co-PI), Associate Professor, Dept. of Leadership, Policy & Organizations
Paul Speer, Professor and Chair, Department of Human & Organizational Development

School of Engineering
Dept. of Civil and Environmental Engineering
David Kosson (PI), Cornelius Vanderbilt Professor of Engineering
Hiba Baroud, Assistant Professor
Sanjiv Gokhale, Professor of the Practice
Eugene LeBoeuf, Professor
Shihong Lin, Assistant Professor
Lori Traxel, Associate Professor of the Practice

Dept. of Electrical Engineering and Computer Science
Xenaton Koutsoukos, Professor
Gautam Biswas, Professor
Abhishek Dubey, Assistant Professor
Gabor Karsai, Professor
Ralph Bruce, Professor of the Practice

Dept. of Biomedical Engineering
Cynthia Paschal, Associate Professor

Sterling Ranch
Sterling Ranch Development Co., Douglass County School District, Siemens Building Technologies, Lennar Homes, Rachio, Xcel Energy, Dominion Water, National Center for Atmospheric Research (NCAR) and DOE-NREL.