

Sustainability Science for Sustainable Schools (S⁴)

An NSF-Funded GK-12 Project

The *Sustainable Schools* project brings together sustainability researchers, graduate students, high school teachers and students, and district administrators in a project designed to address the challenge of becoming a “sustainable school.”

Graduate students in the School of Sustainability will help high school students and teachers in Deer Valley, Phoenix Union and Peoria School Districts develop sound scientific methods for assessing the sustainability of their schools on multiple environmental, social, and economic dimensions.

- Read** about the project goals and activities
- Meet** the fellows, staff, faculty and others involved
- See** what’s happening at our partner districts
- Learn** more about sustainability

Project Goals and Objectives

Sustainability Science for Sustainable Schools

Goal | Objectives | Conceptual Overview

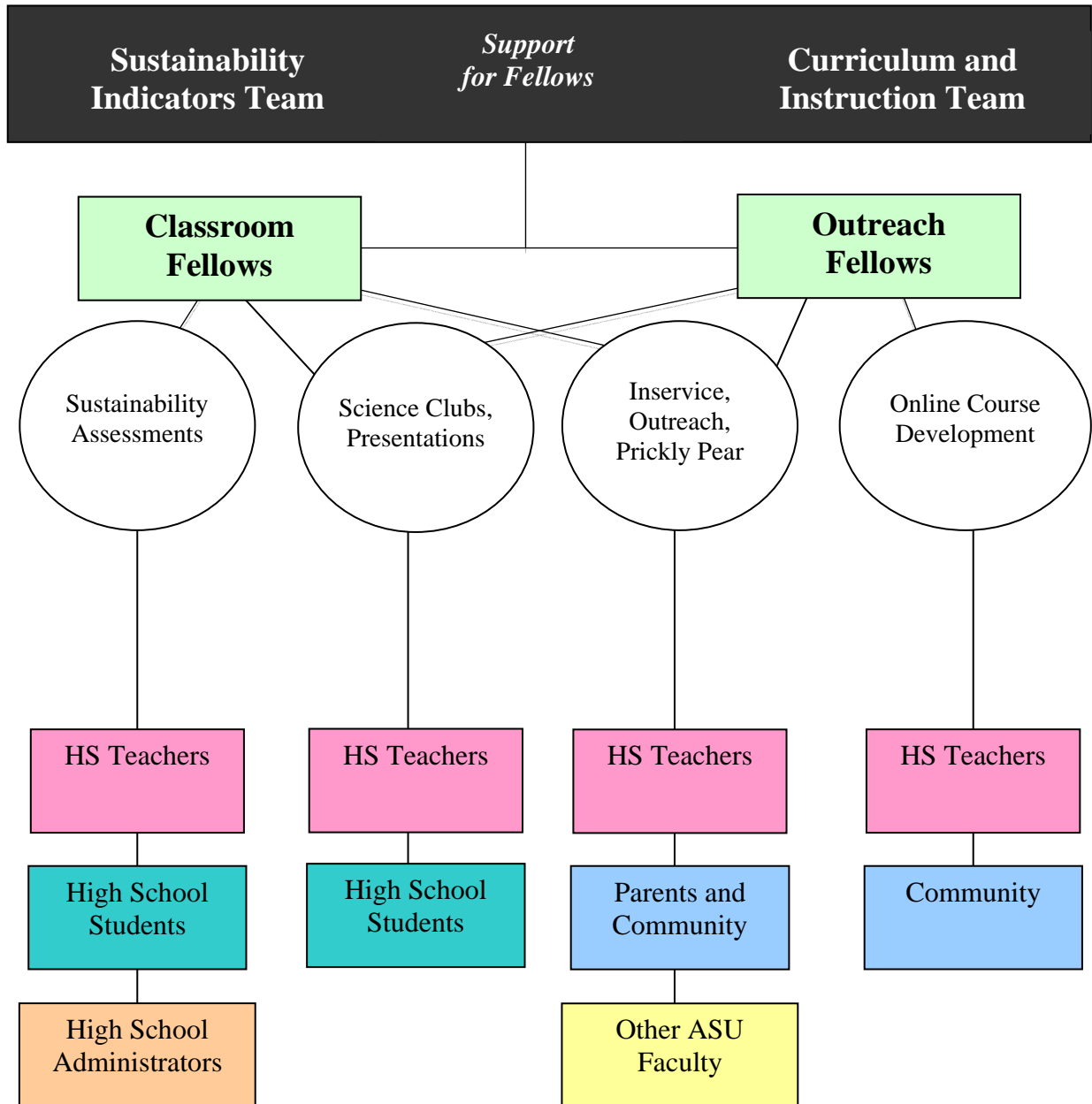
Goal

To equip graduate fellows with the skills to bring their sustainability-science research into K-12 settings to benefit K-12 teachers, students, and families, as well as enhance their own professional development.

Objectives

- ✓ Provide graduate students with real-world experiences that enhance their training and career trajectories.
- ✓ Prepare graduate students to work in interdisciplinary teams and sharpen skills in communication, collaboration, problem solving, and conflict resolution.
- ✓ Empower graduate students to be better teachers of sustainability in both formal and informal learning environments through training in curriculum development, evidence-based instructional strategies, and formative and summative assessment.
- ✓ Engage school districts with state-of-the-art sustainability science research for integration into curriculum and operations.
- ✓ Improve ability of teachers to integrate sustainability concepts into STEM teaching.
- ✓ Expand ability of teachers to engage in interdisciplinary curriculum and instructional development.
- ✓ Advance science skills of high-school students in specific Arizona State Standards.
- ✓ Contribute an interdisciplinary approach to high-school education by teaching specific science standards related to sociobehavioral aspects of sustainability.
- ✓ Increase awareness of high-school students and their families about the interdisciplinary nature of sustainability challenges, as well as STEM careers that address those challenges.
- ✓ Develop relationships with school districts that enhance STEM education and build capacity of teachers and students to implement sustainable solutions.

Conceptual Overview



GK-12 Sustainable Schools Fellows 2009 – 2010

Andrea Baty | Erin Frisk | Braden Kay | Chris Mercer | Riley Smith | Mark Wood



Andrea Baty was born and raised in the swamps of Louisiana, where she also attended college. She graduated from Louisiana State University with a B.S. in Environmental Management Systems, which she used to get a job as a photographer's assistant, and then as a graphic designer. Throughout her college career and beyond, Andrea worked as a community activist on campaigns for environmental justice, climate change, indigenous rights, and ending corporate welfare. She is currently in her second year as a Masters student in the School of Sustainability, studying planning and implementation of sustainable city programs.

Photo is not
currently available

Erin Frisk comes to ASU with a B.S. in Biology and Business Administration and an M.S. in Sustainable Systems. For the last 6 years her work and studies has been focused on Sustainability Education and Conscious Consumerism. Currently she is in her second year at the School of Sustainability seeking her Ph.D.

Photo is not
currently available

Braden Kay is an enthusiast. He is enthusiastic about urban renewal, food and community building. Braden is a graduate of Carleton College in frigid Minnesota where he studied his great nation of the United States of America. Mr. Kay hails from the District of Columbia and fully believes in its motto "No Taxation without Representation". Mr. Kay was a special educator in St. Louis, Missouri and worked for the KIPP Charter School Program in the Steel City (Gary, Indiana). Braden is in his second year as a PhD student at Arizona State's School of Sustainability in Tempe, Arizona.

Favorite Animal: Elephant (because they never forget)



Chris Mercer grew up in Wyoming and so naturally appreciates women in politics, oil and gas taxes, and the great outdoors. She turned those interests into a B.S. in Liberal Arts with a major in Political Science, a Master of Science in Accountancy, and two years pursuing a PhD in Sustainability. This past summer Chris assisted with the School of Sustainability's first Study Abroad program and has 212 pictures of kangaroos to prove it.



Riley Smith is a graduate of the University of Utah (BS Biology) where he fostered his passion for the environment and education (and also college football). To follow one of those passions, Mr. Smith taught two years in Henderson, NC as a HS Biology teacher and also coached the JV Basketball team to a 16-5 record. The time spent being a teacher/coach, catalyzed Riley's 'crazy fast ' work habits, which are again coming to fruition during this GK-12 project. Riley is in his second year as a Masters student, studying the implementation of sustainability governance.

Favorite Plant: Orchids (they're deceivers)



Mark Wood has a background as an architect, with a Bachelor of Architecture from the Instituto Tecnologico de Monterrey (Mexico) and a Master of Architecture from the University of Texas at Austin. He practiced architecture from 1991 to 1999 and has been in the faculty and senior administration in several campi of the Tecnologico de Monterrey. He is interested in topics such as sustainable urban and regional growth, innovation and entrepreneurship, sustainable enterprises in emerging economies, and university-business-government collaboration for development. He is currently a second-year PhD student in the School of Sustainability at ASU.

Leadership Team

Charles Redman, PI
Monica Elser, Co-PI, Project Manager (K-12)
Matthew Fraser, Co-PI
Susan Ledlow, Co-PI, Project Manager (Fellows, Faculty)
Harvey Bryan, Co-PI
Rebekka Goodman-Project Coordinator

Indicators Team

Joshua Abbott
Bonny Bentzin
Harvey Bryan
Hallie Eakin
Jonathan Fink
Matthew Fraser
Jay Golden
Aaron Golub
Nancy Grimm
Sharon Harlan
Christopher Martin
Agami Reddy
Edward Sadalla
Arnim Wiek
Eric Williams

Curriculum Team

Monica Elser
Susan Ledlow
Rob Melnick
Jim Middleton
Margaret Nelson
Charles Redman
Jill Schiefelbein

Partner Schools

Bioscience High School
<http://www.phxhs.k12.az.us/education/school/school.php?sectionid=5720>

Metro Tech High School
<http://www.phxhs.k12.az.us/education/school/school.php?sectionid=10>

Mountain Ridge High School
<https://mrhs.dvusd.org/>

GK-12 Fellows in Action

October 21, 2009

Event with Metrotech High School Teachers
EcoTech project funded by the Science Foundation of Arizona

