NSF R2I2: A Hub for innovation and community engagement to accelerate climate resilience and adaptation in the Inland Southern California.

Rosibel Ochoa (PI) – Technology Partnerships Dept – University of California, Riverside
Hoori Ajami (Co-PI) – Environmental Sciences Dept – University of California, Riverside
Shane A. Cybart (Co-PI) - Electrical & Computer Eng Dept – University of California, Riverside
Samantha C. Ying (Co-PI) - Environmental Sciences Dept – University of California, Riverside
Kevin J. Vaughn (Co-PI) - UNEX Deans Office Dept – University of California, Riverside

Synopsis:

Inland Southern California, including Riverside, San Bernardino, and Imperial counties, is a diverse and rapidly growing area facing various socio-economic and environmental challenges. With over 27,000 square miles, the Inland Empire (IE) is one of the fastest-growing regions in California and the US, with nearly 5 million people. African Americans, Latinos, and Native Americans make up over half the population, and in metro areas, over 80% of residents are people of color. Despite being the 13th largest region in the US by population, it ranks 295th in per-capita income, below Waco, Texas. Urgent needs include improving accessibility, supporting individuals with restricted mobility, and protecting outdoor workers and immigrants from poor air quality and drinking water.

Phase I of the program aims to identify viable, cost-effective solutions for private sector and community implementation through technology transfer and entrepreneurship. Over five years, the focus will be on technology derisking and market validation, with the goal of piloting and adopting the technology locally, identifying entrepreneurial leadership team and access to capital. Success will be measured by securing private and community partners to lead deployment and documenting the technology's impact. The program will establish a platform connecting climate and earth science research and discoveries with the needs of the region's most climate-vulnerable communities, addressing issues like poor air quality, extreme heat, wildfires, and human health. Key needs include tools and strategies to enhance access to government resources and early warning systems.

UCR’s R2I2 approach involves collaboration among experts in education, environmental science, engineering, public policy, economics, and health sciences. By partnering with over 20 organizations, including local government, community organizations, economic development departments, industry stakeholders, and representatives from the banking and investment communities, we aim to create a comprehensive innovation research agenda benefiting Inland Southern California.

Rosibel Ochoa, Associate Vice Chancellor for Technology Partnerships, leads UC Riverside’s efforts to translate academic research for societal benefit, with over 20 years of experience in innovation and entrepreneurship. Hoori Ajami specializes in catchment hydrology and spatial analysis. Shane Cybart directs the California Institute for Telecommunications and Information Technology (CalIT2), promoting discovery and economic growth through technology. Sam Ying, Co-Director of the UCGHI Planetary Health Center, studies biogeochemical processes and the impact of human activities on planetary health. Kevin J. Vaughn has nearly 25 years of experience in higher education leadership. This multidisciplinary team offers diverse perspectives on using education, science, entrepreneurship, technology, and innovation to solve societal problems.

The R2I2 program aligns with UCR's mission to catalyze positive regional change. We are committed to advancing knowledge and developing practical solutions to improve the quality of life for our community members, with the ultimate goal of piloting and adopting technology locally and beyond.