## Logic Model for Dynamic Genome Summer Research Experience

| Situation | Inputs | Activities | Outputs | Outcomes | | |
|---|---|---|---|---|---|---|
| | | | | Knowledge | Actions | Conditions |
| High attrition rate of Hispanics from CNAS to other colleges.<br><br>Lack of engaging (cutting edge) curricula in plant genomics 9-16 levels.<br><br>Serious underrepresentation of Hispanics in local biotechs<br><br>Underrepresentation of Hispanics in professional careers in academic and industrial and civil service agriscience.<br><br>Lack of training in Citrus science, an important state and local crop, and pipelines into the Citrus industry | -Personnel<br>-Time<br>-Salary<br>-Stipends/Room and Board<br>-NACSLL facility and labs<br>-KGI<br>-USDA/ARS Citrus Center<br>-Expert scientists in genomics and biotech business<br>-Expertise in translating cutting-edge science into meaningful 9-16 learning outcomes<br>-Access to large, talented Hispanic population<br>-Recruitment<br>-Trained students<br>-Resources of R1 university<br>-Bio20 course for training summer students<br>-Commitment of university to program | **What we do:**<br>-Two component summer experiential learning<br>1. Design and conduct research<br>2. KGI agribusiness problem solving<br><br>-Develop 9-16 curriculum<br><br>-USAD-ARS collaboration<br><br>-Student mentoring<br><br>-Publish<br><br>-Visits from scientists and business leaders<br><br>**Who we reach:**<br>-UCR Hispanic undergraduates<br>-Other undergraduates<br>-Graduate students and post-docs<br>-High school teachers<br>-Local biotechs | -Publications<br><br>-Workshops<br><br>-Trained undergraduates<br><br>-Experiential learning experience<br><br>-Webpage<br><br>-Course modules | -New knowledge of plant sciences and careers<br><br>-Improved college skills<br><br>-Appreciation of the need for computational literacy<br><br>-Integration of computational and experimental skills<br><br>-Awareness of issues surrounding food safety and supply<br><br>-Improved communication skills | -Students continue in CNAS<br><br>-Students increase number of courses in plant biology<br><br>-Placement in internships in local biotech<br><br>-Adopt college survival skills<br><br>-Apply new knowledge to policy and voting decisions | -Students will be motivated to remain in STEM and attain training for agriscience.<br><br>-Improved courses and mentoring in agriculture related fields for 9-16 levels.<br><br>-Attain skills needed for success in agriscience.<br><br>-Increased workforce diversity, esp. Hispanics, to better design solutions to complex real-world problem<br><br>-Increased awareness in career options in agribusiness and the civil service<br><br>-Increased connections between UCR and other non-profits to advance agriscience career choice of underrepresented groups |
| Assumptions: Research experiences stimulates interest and retention in a science major. (Doing is better than memorizing.) | | | External Factors: Student illness or sudden changes in family or financial situation. | | | |