## IMPACTS NRT – Michigan State Logic Model DRAFT 5/20/21

| Inputs   | Activities   | Outputs   | Short-Term Outcomes Long-Term   |
|--|--|---|---|
| Trainers/Faculty – engaged,<br>productive, with research<br>expertise → including a<br>science educator<br>CMSE<br>Large, successful, productive<br>plant sciences including<br>collaborations across<br>departments and faculty<br>Central administration<br>support – includes student<br>scholarships, funding for<br>symposium<br>Multiple existing outreach<br>activities, opportunities<br>Existing professional<br>development activities<br>offered by graduate school<br>Internship opportunities at<br>federal level<br>Existing<br>networks/relationships with<br>industry<br>Strong student pool across<br>disciplines<br>Historically strong<br>relationships among Exec<br>Committee and trainers<br>Efforts focused on the HDR<br>"big ideas" from NSF<br>CSBR evaluation | Recruiting         Development and implementation of foundational courses         • Foundation in Computational and Plant Science         • Frontiers in Computational and Plant Science         • (Plant Science only, implementation only) Introduction to Computational Modeling [optional – redundancy with other core courses]         • Forums – 1 credit, 2 required [now considered part of core curriculum; now incorporates mentor training (S), science communication (F)]         • Develop individual development plan (IDP)-trainees         • Structure remains same, content shifts based on feedback and student needs/wants         Disseminate professional development workshop opportunities (requirement for external PD) [committee service that includes professional development – recruitment, internship committees]         [ASPB World Summit NRT student presentations/workshop]         Interdisciplinary research experience with co-mentors         Develop outreach         • Grins Math and Science         • Coding Camp         • MSU Science Day         Trainee subcommittee participation (1 year) or Symposium organization committee participation [2021 retreat organization committee participation [2021 retreat organized by trainees, focused on content for trainees – research speed dating]         Social events [monthly Happy Hour (virtual during COVID)], planned by trainees | Successful recruitment of trainees [short trainee videos for recruitment efforts]         Course performance, student reflections/feedback and instructor reflections         Oral presentations         Mentor-mentee partnerships for trainees         Student workshop/reflections (symposium)         Student workshop/reflections (symposium)         Student workshop/reflections (symposium)         Student workshop/reflections (symposium)         Student workshop/reflections [symposium]         Student workshop/reflections [symposium]         Student workshop/reflections [symposium]         Student proposals         Travel grant applications         Lightning talk rubric (student developed)         IDPs         Foundation/Frontiers/Forum class projects/papers [group work on real-world problems/solutions] published         PD workshop attendance, student reports         ASPB presentation/workshop materials         Student presentations, manuscripts, posters, dissertations, proposals, publications         Outreach attendance and reflections [as part of EOY reporting]         • Video [2021+] [COVID-19 delay for 2020/2021]         Subcommittee attendance and reflections, symposium program, meeting minutes         Social event occurrence and attendance         Industry contact resource document [in place, continue to populate with trainee experience] | <ul> <li>Increased recruitment and retention of good, engaged trainers</li> <li>Expanded trainer participation <ul> <li>Increased recruitment and retention of good, engaged trainers</li> </ul> </li> <li>Expanded trainer participation <ul> <li>Increased recruitment and engineering</li> </ul> </li> <li>IMPACTS students can communicate and teach computational and plant science topics to diverse audiences</li> <li>Able to communicate across disciplinary fields</li> <li>Strong project management, mentorship and leadership skills held by IMPACT students possess the knowledge and ability to do interdisciplinary research and collaborate</li> <li>Ability to generate important interdisciplinary research to answer the questions</li> <li>Ability to collaborate effectively across multiple disciplines</li> <li>Increased recruitment of URM</li> </ul> |
| Internal/External evaluation activities -<br>formative, implementation, and progress<br>evaluations in recursive design to inform<br>and to guide project throughout<br>planning and implementation phases   | Internship – link and expand<br>Website and blog presence<br>Process and summative evaluation activities   | Internship report/reflection<br>Portfolios<br>Website and blog posts <mark>[transition to Github]</mark><br>Evaluation reports  | Assumptions<br>Secure funding throughout the project<br>Buy-in from transdisciplinary faculty<br>Institutional adoption of curricular changes<br>External/Contextual Factors<br>University and departmental structure and expressed interest  |

Proportion of underrepresented student populations in the state and region

1