

**Project Proposal for STEAM:
STEM meets Art through WiSE
(Women in Science and Engineering at University of California, Santa Cruz)**

STEAM (Science, Technology, Engineering, Arts, and Mathematics) is a new program within Women in Science and Engineering (WiSE) at UC Santa Cruz that is taking an innovative approach to support women and minorities in STEM fields. The mission of STEAM is two-fold: (1) to foster interaction and collaboration between STEM researchers and artists, (2) to use an artistic medium to provoke thought, discussion, and engagement of issues affecting women and minorities in STEM. We plan to achieve these goals via the following projects. First, we will sponsor an annual STEM-themed art competition through *Seeking Symbiosis*, a new WiSE-sponsored program linking art and science. Second, we will work with WiSE outreach to promote a science-art outreach event called, *We Periodically Do Art*. Third, we will launch a new social media project, *The Road Less Travelled*, which will feature blogged stories from professionals working in STEM fields. Lastly, we will expand our work with *PostSecret* to initiate a STEM-themed *Pop Up Museum* within the Santa Cruz community. The above projects comprise a greater effort from WiSE to foster communication between the STEM community and the greater public, and in doing so, help to bring a voice to women and minorities facing challenges in STEM fields.

Lack of academic performance is a huge deterrent to students contemplating a future in a STEM field (Chen 2013). Failure can also come in other forms along the academic road, such as paper and grant rejections. Many of these negative experiences also feed off of feelings of inadequacy (Clance and Imes 1978) and assumptions of high expectations (Leslie et al. 2015). Many of us have failed at one point in our lives but we rarely talk about it. *The Road Less Travelled* is a social media project dedicated to collecting stories from people working in STEM fields. We will launch the project with stories from interviews with selected faculty and students and subsequently open up the blog for open submissions. We will work with undergraduate organizations to make this blog more accessible and visible to undergraduates. This project strives to open the dialogue surrounding challenges faced by all people in STEM fields in order to dispel the anxiety, fear, and shame associated with failure. The message from these posts will strive to help struggling students realize that the road to achieving a career in STEM is not always a straight path and that sometimes in order to get from A to B, you will also encounter C's, D's, and even F's.

Pop Up Museum is a creative program initiated by the Santa Cruz MAH to promote public participation in temporary exhibits based on a theme¹. Inspired by these ideas, WiSE is proposing to expand on current projects, such as *PostSecret*², and to further expand on themes affecting women and minorities in STEM via the medium of *Pop Up Museum*. For example, using the theme of Imposter Syndrome, we will organize a Pop Up Museum in the UCSC student quarry with the theme, "Imposter." Following the SC MAH Pop Up Museum how-to-kit³, we will provide art materials for participants to expand on this theme. We will also collect other works of art and social media on this theme (example: Amy Cuddy Ted

¹ <http://popupmuseum.org/>

² <https://sites.google.com/site/ucscwise/wise-postsecret>

³ <http://popupmuseum.org/pop-up-museum-how-to-kit/>

Talk⁴) to display in the exhibit. We will take photos of artwork and share it via SC MAH Pop Up Museum website, in addition to WiSE social media outlets. Future WiSE *Pop Up Museum* events will also coincide with off-campus community events, such as First Friday⁵ events in downtown Santa Cruz.

Art is a powerful medium from which to provoke thought and generate discourse beyond academic wings. Through our proposed collaborative STEM-art projects, we anticipate to create a new framework for collaboration at UCSC between artists and STEM researchers. This collaboration will provide a platform from which the art and science community at UCSC can engage with the greater public. All STEAM projects are easily replicable at any institution with a little bit of initiative. Many of our projects connect with existing community movements, and can be launched in collaboration and with the support of these institutions.

REFERENCES

- Chen, Xianglei. 2013. "STEM Attrition: College Students' Paths Into and Out of STEM Fields." : 1-104.
- Clance, Pauline R, and Suzanne A Imes. 1978. "The Imposter Phenomenon in High Achieving Women: Dynamics and Therapeutic Intervention.." *Psychotherapy: Theory, Research & Practice* 15(3): 241.
- Leslie, Sarah-Jane, Andrei Cimpian, Meredith Meyer, and Edward Freeland. 2015. "Expectations of Brilliance Underlie Gender Distributions Across Academic Disciplines.." *Science* 347(6219): 262-65.

⁴http://www.ted.com/talks/amy_cuddy_your_body_language_shapes_who_you_are/transcript?language=en

⁵ <http://firstfridaysantacruz.com/>