

BRINGING ART, MUSIC, THEATER AND DANCE STUDENTS INTO

EARTH AND SPACE SCIENCE RESEARCH LABS: A NEW ART PRIZE ARTISTS-IN-RESIDENCE PROGRAM

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Abstract

A new Arts/Lab Student Residence program was developed that brings artists into a research lab. Science and Engineering undergraduate and graduate students working in the lab describe their research and allow the artists to shadow them to learn more about the work. The Arts/Lab Student Residencies are designed to be unique and fun, while encouraging interdisciplinary learning and creative production by exposing students to life and work in an alternate discipline's maker space - i.e. the artist in the engineering lab, the engineer in the artist's studio or performance space. Each residency comes with a cash prize and the expectation that a work of some kind will be produced as a response to experience. The Moldwin Prize is designed for an undergraduate student currently enrolled in the Penny W. Stamps School of Art & Design, the Taubman School of Architecture and Urban Planning or the School of Music, Theatre and Dance who is interested in exchange and collaboration with students engaged in research practice in an engineering lab. No previous science or engineering experience is required, although curiosity and a willingness to explore are essential! Students receiving the residency spend 20 hours over 8 weeks of the semester participating with the undergraduate research team in the lab of Professor Mark Moldwin, which is currently doing work in the areas of space weather (how the Sun influences the space environment of Earth and society) and magnetic sensor development. The resident student artist will gain a greater understanding of research methodologies in the space and climate fields, data visualization and communication techniques, and how the collision of disciplinary knowledge in the arts, engineering and sciences deepens the creative practice and production of each discipline. The student is expected to produce a final work of some kind within their discipline that reflects, builds on, explores, integrates or traces their experience in the residency. This poster describes the program, the inaugural year's outcomes, and plans to expand the program to other research labs.

Inspiration

The program was inspired by University of Illinois Chemistry Prof. Cathryn Murphy who described a Murphy Lab Observer/Participant program to bring artists into her research lab to create a piece of work inspired by her research.

Inaugural Participants



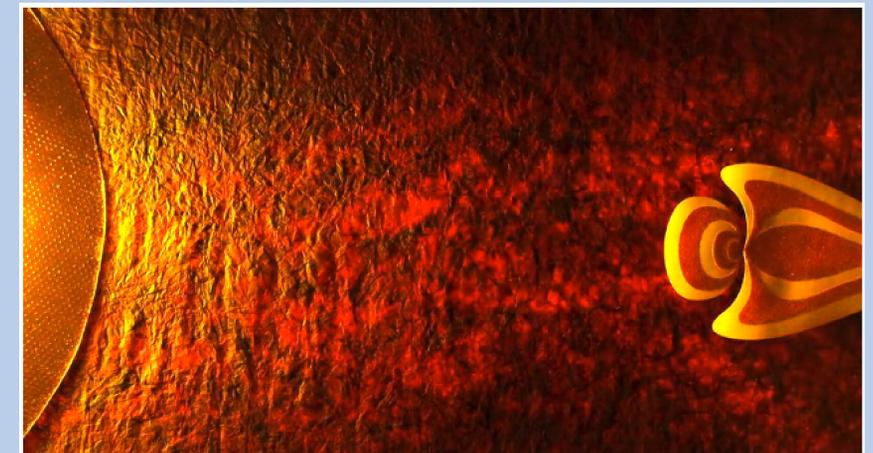
Anna Brooks and Joe Iovino with Prof. Moldwin

Each semester the Moldwin Art Prize is advertised and students in the three performance schools submit a short essay on what they hope to get out of the residency experience and link up to three examples of their work. We then conduct 20 minute interviews with each of the applicants. The program provides the artist \$1000 and is supported by donations from Moldwin, the Deans of the four UM North Campus Schools and Colleges and UM's Arts Engine.

Goals for the Program

- to enable science and engineering students to describe their work to artists and to have them learn the process of the investigation.
 - enable artists to describe how the creative process in their lab or studio is similar and different from a science lab.
 - to create and produce a cool and exciting work inspired by activities in the lab.
 - facilitate interdisciplinary interactions between artists and scientists.
- Expand the program to include more engineering and science faculty.
- Expand the program to include placing science and engineering students into artist and performance studios.

Our Magnetic Shield Animation



2017 Spring Moldwin Prize from ArtsEngine on Vimeo.

Anna and Joe created a video animation of how the solar wind interacts with the Earth's magnetosphere to protect us from space weather and create aurora. The stop-animation video was made with paper objects with light projected through it and consisted of a number of sets showing the the different domains. Anna composed, played the guitar and sang the accompanying soundtrack.

At the end of the residency, Professor Moldwin threw a party at his home to screen Our Magnetic Shield. "We met so many interesting people — scientists and researchers — and many were interested in similar collaborations with us," said Iovino.

Current and Future Plans

A new student (Siena McKim) is working in the lab Fall 2017 semester and was inspired by ionospheric total electron content (TEC) maps of the equatorial ionosphere that is being studied by Prof. Nigussie a visiting UM African Presidential Scholar from Bahir Dar University in Ethiopia. Using paper she is making colorful 3D contour "maps" inspired by the shape of the Appleton Anomalies across the geomagnetic equator. We just selected two new Artists to join the Moldwin lab Winter 2018.

References

<http://artsengine.engin.umich.edu/artists-in-residence-stamps-students-in-the-space-lab/>