

**Center for Science and Mathematics Education
Filmmaking for Scientists Workshop
University of Utah October 14–16, 2011
Final Report**

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Introduction: The enterprise of science requires communication to many audiences. A major challenge for scientists is to record and disseminate complex concepts and detailed content in ways that are appropriate to diverse readers, listeners and viewers. The medium of film is a powerful mode of scientific engagement, but the technical skills for filming and editing – as well as developing a strong narrative – often lie outside the training of academic scientists.

In October 2011, we offered a “Filmmaking for Scientists” workshop at the University of Utah (U of U). Our objective was to provide efficient and effective tools and training to scientists from many disciplines so that they can document their research through film for research and for public engagement with their research. We also wished to create a nexus of interest and support for science filmmakers within and outside the University to promote these activities in the future.

Workshop Description: We engaged a professional film-training group, ScienceFilm, a non-profit group whose mission is to train scientists, conservationists, NGO’s, and nature enthusiasts to communicate science and natural history by telling compelling stories and creating professional-quality videos. This three-day immersion workshop taught the storytelling and technical skills needed to craft visual narratives. No previous experience was necessary, and equipment was provided. The workshop was organized through the Center for Science and Mathematics Education, and held on the U of U campus between October 14–16, 2011.

Workshop Leaders: Jeff Morales, the founder of ScienceFilm, has been affiliated with National Geographic Television since 1992 as an Emmy-winning staff producer in the NGS Natural History Unit. Jeff researches, develops, produces, directs and shoots wildlife and human subjects for National Geographic, Discovery, Animal Planet, The Nature Conservancy and The Canadian Broadcasting Corporation. Chun-Wei Yi has worked for broadcasters, non-profits and corporations, including National Geographic, PBS, The Nature Conservancy, MSNBC and Goldman Sachs to edit over 60 historical, science, and wildlife documentaries.

Workshop Activities: To recruit for our pilot workshop, we used the College of Sciences e-mail list serve to send out an announcement to all departments. We received 35 responses, and of those, selected 13 participants. These represented scientists from senior professors to first-year graduate students, and from the Biology, Physics, Math, Atmospheric Sciences, and Geology Departments.

The workshop covered many aspects of creating a documentary. The first day was dedicated to creating a storyboard for a film. The second day involved techniques of camera technology, framing camera shots, and lighting. The third day concerned interviews: developing questions, voiceovers, and music for the documentary. Information was conveyed through PowerPoint lectures, question/answer sessions, “field exercises” (students working in pairs to create 4 min pieces), and critiques of those pieces. Each evening, a full-length professional nature documentary film was viewed to illustrate techniques discussed. A communal dinner was held the second night, and certificates of completion of the Workshop were distributed at the end of the Workshop.

Workshop Results and Evaluation: Below are our findings, derived from our pre- and post-workshop survey, and from observations taken by workshop staff:

- Participants learned how to communicate their research to non-academic audiences and attained those goals after taking the course.
- The two major demographics that participants wanted to reach were K-12 students, and adults in informal settings. About 66% of participants felt that they would be able to reach those demographics after attending the course.
- About 65% of the participants stated that making a film was difficult prior to taking the course; 54% stated it was difficult after the workshop.
- Only 33% of the participants felt science outreach was extremely important prior to taking the course; this rose to 46% after taking the course.
- Participants felt that a 4-day workshop was preferable to a 3-day program, but noted that schedules require a weekend or summer timing.
- Offering a pre-workshop orientation, and pre-workshop tutorials for programs used in the workshop were suggested.
- Participants wish to stay in touch and have a list serve to be able to contact each other (this has been created).

Future Activities: We envision the following activities as future outcomes:

- Continue to communicate with participants and others who have expressed interest
- Within three months, administrate an evaluation questionnaire to learn the impact of these activities (e.g. dissemination of research via films and instruction by participants to other scientists or students)
- Offer the ScienceFilm Workshop to U of U scientists and mathematicians each fall
- Organize a U of U science film festival (possibly in conjunction with the Sundance Film Festival) to help present scientists work, create workshops to help scientists learn how to create their own documentaries, have workshops of how to deal with the media and bring in professional science filmmakers as keynote speakers.