

Parallel session 7: PCST as a performance: looking for new audiences

**SCIENCE AS PERFORMANCE:
A PROACTIVE STRATEGY TO COMMUNICATE AND EDUCATE
THROUGH THEATER, MUSIC AND DANCE**

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Abstract

Science as Performance is designed to communicate science to the general public. We present the concept of a *Center on Science and the Arts* consisting of public performances, program dissemination, and outreach to schools, professional societies and laboratories. We put forward a strategy for exporting productions to other venues, spreading public engagement in science issues. As an example of international outreach, two of the authors (BS+LM) are producing a musical play, based on the acclaimed novel *Einstein's Dreams* by Alan Lightman, which will have its European premiere in Lisbon next year.

Key Words: Science, Performing Arts, Theater, Science and the Arts

Text

Science as performance

Context: It is a challenge to convey to the public the exciting developments in science, technology, engineering and mathematics (STEM). (In what follows we use the word science to represent all the STEM disciplines.) Theater, music, dance, the literary and the visual arts can convey the joys and controversies of science. Over the past few years there have been major successes in communicating science to the public through the arts. This is especially evident in theater and film with such recent plays as *Copenhagen* and the Oscar winning film *A Beautiful Mind* [Ref. 1-2].

The performance series *Science and the Arts* has been developed and tested at the Graduate Center of the City University of New York (CUNY) in mid-Manhattan for more than three years [Ref. 3]. The response to the series has shown that the arts can make the sciences accessible, relevant, and exciting to diverse audiences in ways that provide both scientific content and significant artistic and entertainment values.

Objectives: The overall objective is to disseminate widely the concept of *Science as Performance*, by using three strategies:

- 1- Presenting high-quality performances in our *Science and the Arts* series.
- 2- Helping other institutions develop their own *Science and the Arts* series.
- 3- Presenting performances at the meetings of science societies, and as part of the educational outreach programs of national and private laboratories.

Methods: The *Science and the Arts* series at the Graduate Center has been an incubator for the development of programming. The authors have identified performers who use science content in their work and others who wish to develop such work. This has been accomplished by attending many art and theatre events; a task made possible because we are located in New York City, the cultural center of the U.S. After presenting an event on our stage, we judge its suitability for performance at other venues. We have often supplemented performances with discussions with the audience about the science ideas conveyed in the script.

A strategy for replicating the *Science and the Arts* program on another campus is to make use of the talents of faculty and staff in the science and the arts departments, and the infrastructure of performance and meeting spaces at the institution. We are researching those institutions which will be good candidates for collaboration, with promising talent, facilities, and a philosophy that encourages interdisciplinary thought.

Currently, many US government agencies such as the National Science Foundation, the Department of Energy, the Department of Education, and the National Aeronautics and Space Administration support educational programs for public school teachers and students. We work with the developers of these programs to bring to their projects appropriate performances in *Science and the Arts*.

In an example of international outreach, Brian Schwartz and Linda Merman are producing a musical play based on physicist Alan Lightman's book *Einstein's Dreams* (Ref. 4-5), which is scheduled to have its European premiere in Lisbon in January 2005.

Results to Date: The authors have collected a wealth of professional contacts and documentary materials. For example, the authors have a listing with annotations (and a personal library) of over 100 science-related plays including dramas, histories, biographies, comedies and musicals [Ref. 6-7 and personal collection]. In addition, over the years we have developed working relationships with actors, playwrights, dancers, choreographers, musicians, composers, artists and scientists who work at the intersection of science and the arts. In the conference presentation we will illustrate many of our collaborations in theater, dance, music and art.

The presentation of *Science and the Arts* programming at the professional meetings of teachers and scientists has proven to be a particularly popular strategy. A successful symposium on *Copenhagen* [Ref 8] and the *Science and the*

Arts programs at the Graduate Center have been well covered by the national print and electronic media [Ref. 9-10]

Conclusions: We observe that there is a non-professional public with a strong interest in all aspects of science. We attempt to satisfy this interest with quality performances that impart some information about science and the lives of scientists. Our productions are well attended and we are drawing the attention of other institutions that would like to replicate our success. In time, we will package many of the science/arts series productions so that they may be duplicated. We hope to expand our project into a *Center on Science and the Arts*, including residencies and opportunities for artists to develop new work in dialogue with scientists. To this end, the *Science and the Arts* program is currently establishing a Board of Advisors.

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