The Use of Theater and the Performing Arts in Science Education and the Teaching of History[1]

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Over the past 15 years there has been a surge in the general field of the interaction of STEM and the arts including theatre, music dance and the visual arts leading to STEAM. There seems to be no limits to the amount of creativity and diversity of subject matter especially in areas of biography, major science events, scientific and technical innovation, the benefits and dangers of modern science, and science as metaphor. For the past 15 years, I and my colleagues have been running a science outreach series under the title Science & the Performing Arts at the Graduate Center of the City University of New York. The objective is to bring science to students and the public in ways that are engaging, instructive, and artistic and always, content-driven: the medium is the arts; the message is the joy of science. This has resulted in over 120 science and performing arts programs which have been documented on the website http://sciart.commons.gc.cuny.edu/ . The author co-taught a course titled Staging Science, http://sciart.commons.gc.cuny.edu/staging-science/outline-of-the-course-staging-science/ with Marvin Carlson, Professor of Theatre at CUNY. An excellent book, Science on Stage: From Doctor Faustus to Copenhagen by Kirsten Shepherd-Barr, can be used to develop a customized courses on Science, Theatre and History for both science and non-science majors. The book's appendix includes an annotated listing of plays on such subjects as quantum mechanics, chaos theory, evolution, genetics and morality and responsibility. The talk will include many examples how courses on science and theatre can actively engage students and enhance active participation and learning.