

JASTS Seminar 5:30pm Friday 28 April 2006

## Ethos, Ethics, and Aesthetics in High Energy Physics

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Since the 1970s most US academic research societies, research funding organizations, and universities have designed and established formal codes of ethics for research, publishing, and teaching; they also have developed and implemented sanctions for violations of those formal codes.

In my talk I will discuss informal codes of ethical action among researchers, including how those are performed in everyday settings, transmitted across generations, and altered. I also will discuss how researchers deal with violations of their informal ethical codes, as well as the weaknesses in their codes.

In addition, there are conflicts within and between researchers' various codes of conduct. I will argue that these informal codes are imbedded in the research communities' ethos and aesthetics, including their gossip, humor, and debates about research designs and solutions. Ethos and aesthetics are not added to research; they are a fundamental part of the research process. They are also a fundamental part of our own research process.

For thirty years I have conducted ethnographic and historical research in several countries among "big science" international collaborations in high energy physics based in Europe, Japan, and the US. When I began my research those collaborations normally included about 25 researchers from five universities in the same country, although individuals might have come from as many as ten countries. Nowadays, collaborations have about 1500 members from fifty research institutions in twenty countries. Similarly, 30 years ago first class research projects in that field were conducted in a dozen countries; now there are four [Germany, Japan, Switzerland, and the United States]. Soon many big science fields will have only one major research site, a global laboratory. As the scale of research increases, the role of ethical debates in research also increases.