The International Linear Collider will cost billions of dollars, paid for by taxpayers. Douglas Sarno, a consultant on public participation projects, explains that the public has a legitimate right to help shape the ILC's course. The time is now to inform the public and to build the types of relationships needed to make a large international scientific project a reality.

Is public participation compatible with good science?

Although the answer to this question is unequivocally yes, the question is actually moot. The public (either directly or through the political process) are already involved in scientific decisions. The problem is that public involvement often takes forms—politics, special-interest lobbying, media campaigns, protests, and lawsuits—that in many cases serve neither science nor the public very well. Stem cell research, genetically modified foods, and the demise of the Superconducting Super Collider (SSC) offer vivid examples of how poor public process can produce misunderstanding and fear, with serious consequences for science.

We can do better. However, engaging the public effectively in science decisions is neither obvious nor simple. The first step, and in some ways the most difficult, is acceptance by the scientific community that the public has a legitimate role in the conceptualization and application of science. The journal *Nature* articulated this view in an October 21, 2004, editorial: "On an ethical and political level, the research community has no right to reject public involvement outright. Taxpayers fund research, buying themselves the right to help shape its course." Second, scientists must recognize the potential value of public participation. Public engagement in scientific decisions, if done well, will in fact result in better decisions for science.

Let's address a common fear up front. We are not suggesting that the public be invited directly into laboratories to make day-to-day scientific decisions (although laboratory tours are a good way to help demystify the scientific process). Instead, we need to engage the public in the upfront policy and ethical parameters of science where they are fully capable of providing meaningful input.

In the end, it is the public who will decide the degree to which they are willing to support scientific research and accept its results, or to reject support for science and its results as outside their social, ethical, or moral norms (as has happened in the case of genetically modified foods). The more that the public understands and feels connected to advances in science, the more likely they are to support it and to embrace its outcomes.

Effective public engagement does not happen by itself. It requires a sincere long-term commitment by scientists and scientific organizations. *Nature* identified two important factors: "The processes must be long-term and properly funded," and "More importantly, the funding organizations must make a genuine commitment to react to the results of engagement processes."

Fermilab came to this conclusion several years ago. It decided to put conviction into practice by engaging the local public in deciding how they would be involved in decisions facing the laboratory. That's right: public participation in order to design public participation. The results confirmed the value of the process. Not only did the community provide specific and insightful input into how they would like to be involved in decision-making, they also rallied around Fermilab as a community asset and provided insights into how to improve existing community relationships.

This is a critical time for the high-energy physics community to examine its relationship with the public. Physicists have agreed that building an International Linear Collider is the logical next step in advancing the understanding of the universe. Public participation for the ILC needs serious consideration starting now. Public participation is a process, not an event. It involves a long-term commitment in time and resources not only to inform the public but to build the types of relationships needed to make a large international scientific project a reality. Points to consider:

Participation is not persuasion: The goal of public participation is not to persuade the public, but to provide the information and understanding needed for them to reach their own conclusions.

Transparency is essential: Good information is the lifeblood of any participation process. People need all the facts if they are to provide

meaningful input. The public needs reasonable access to the project so that they understand that no secret information is driving decisions.

Public participation should focus on appropriate questions: The public cannot and should not be involved in all aspects of science. How questions for public input are framed will determine the value of the input and the level of influence, as well as the public's satisfaction that they have been able to influence decisions in an effective and appropriate way.

All segments of society should be engaged: If not, only those opposed to projects will be heard. The rest will lack the information and background needed to understand the arguments being proposed, allowing fear and misunderstanding to undermine a project.

Public participation is not only compatible with good science, it is essential for a science project on the scale of the ILC. Meaningful public participation from the start will yield better results than the damage control that will inevitably result from trying to go it alone.

Douglas Sarno

Douglas Sarno is a principal at The Perspectives Group, a consulting firm in Alexandria, Virginia. In 2004, The Perspectives Group coordinated the year-long Fermilab Community Task Force on Public Participation.

Photos: Reidar Hahn, Fermilab

Members of the Fermilab Community Task Force on Public Participation met for the first time in February 2004. Top photo: Jeff Schielke, Mayor of Batavia, talks to fellow task force member Barb Zeitz, St. Charles. Bottom photo: Fermilab physicist Roger Dixon (right) listens to John Fildes, a resident of Batavia.