

October 18, 2001

Mr. Daniel M. Hull
President
Principal Investigator for STEP II
CORD
601 Lake Air Drive
Waco, TX 76710

Dear Mr. Hull:

I am pleased to offer my whole-hearted support of the NSF STEP project. Photonics technology is developing at an extremely rapid pace, and the education system has a difficult task to change fast enough to accommodate the need for new types of degrees with new requirements. The problem of developing photonics technicians is critical to our future. Highly educated scientists and engineers create many novel photonic systems as research and development projects. These photonic system creators are not knowledgeable in the maintenance and repair of these complicated systems. A talented and well-trained workforce of photonic technicians is desperately needed as we rapidly progress into the Photonics Millennium. The photonics technology community cannot continue advancing without photonics technicians. The challenge is to incorporate technicians into the photonics community. The first critical step within this challenging endeavor is to establish a solid coursework foundation for photonics technicians. An outstanding leader in developing photonics coursework is CORD. CORD has a rich history of high quality technician course materials. At present, CORD is the only source available to accomplish this vital initiative.

Photonics is becoming an ever-increasing part of our daily lives. There is a vast laser industry to mark packages with indelible and readable bar codes. These codes are then scanned in almost all stores by a photonic scanner that instantly transfers the information to the computer cash registers memory. When entering and leaving the store a photonic beam is interrupted and the door is opened automatically. Everyone makes daily phone calls on a vast and growing telecommunications network, without appreciating the complexity, reliability, and speed of this unique photonic system. Many fabrication and construction techniques incorporate photonic elements for precision fabrication. Machines have been retrofitted with digital photonic displays that are much more reliable and accurate than earlier analog displays. Even though photonic technology has developed extremely rapidly, many applications of photonic systems have become a common part of our everyday lives.

As photonic technology continues extremely rapid development, it is essential that photonic technician coursework is flexible and articulated with other courses of study. Flexibility will allow rapid modification of coursework materials to keep pace with technology development. Articulation with other courses of study will enable students to contribute to the photonics community by obtaining relevant educational experiences from multiple sources. This will ensure technicians a broad background with the ability and experience needed to adapt to changes. CORD has continually led the effort to articulate courses of study and to produce flexible coursework materials. The STEP proposal recognizes that this continuous learning and changing photonics environment is the future of our culture. It is my hope that photonics technicians can serve as prototype personnel for the future of our society. It is certain that technology will continue to develop at an ever-increasing rate and that applications of photonic technology will continue to be an ever-increasing part of our daily lives. Therefore, adaptable, flexible, continuous learning photonic technicians will be vital members of our local, regional, national and international society. The highly innovative STEP proposal provides the foundation to revitalize our technical society and progress forward into an exciting future.


Within the STEP proposal, CORD has assembled a top-notch team of world-class educators to contribute their energies to this vital project. The STEP approach is unique within the technical education community, because it advances the frontiers of education by establishing the coursework foundation for

a new breed within the photonics community, the photonics technician. The STEP project provides a mechanism for continuous change within technical education and technical society. Adaptable and flexible photonics technicians will lead the photonics community into a new era of technological change.

I look forward to contributing to the vital project as a member of the technical/industrial working group. My primary contribution will be technical guidance for new coursework materials. I hope to contribute to the development of a high power laser and laser materials interaction concentration within STEP. I will also be able to promote and market these materials to the Technical Vocational Institute (TVI) here in Albuquerque, New Mexico. Our laboratory ordinarily has several military or contractor employees attending TVI each semester. In Phase I of the STEP project, I coordinated with the PI to deliver two copies of the Fundamentals of Photonics course to TVI on a trial basis. As an advisor to the New Mexico Optics Industry Association, I promoted the Photonics Technician program to local photonics companies through TVI. I also have served as the Associate Director of the Alliance for Photonic Technology (APT) for the Air Force Research Laboratory/Directed Energy Directorate (AFRL/DE). I am willing to publicize the STEP materials through APT. However, I cannot obligate any resources of the government to support the project. I cannot contribute to the working group as a part of my duties at AFRL. It must be clear that these activities will be accomplished on my own time. I am also interested in developing an articulated program through the AFRL/DE technology transfer for education program. Currently, there are several projects for grade school, middle school, and high school students. The unique element of this system is that students at higher-grade levels serve as mentors to the lower grade levels to incorporate a strong continuity and sense of community. The next phase in this initiative should be to extend this system into technical/vocational schools and colleges. I hope that through the STEP project we can find innovative ideas to encourage students to make the difficult transition from high school to junior colleges or four-year colleges.

In summary, I am very pleased to add my name to the STEP project technical/industrial working group. I am encouraged by the strong and competent team that COD has assembled for the STEP project. And, I am motivated by the idea that we must establish the Photonic Technician Program to lead the way to a future of a rapidly changing high technology society.

Sincerely;

A handwritten signature in cursive script that reads "William P. Latham".

William P. Latham, PhD