



## DIRECTOR'S MEMORANDUM

TO: Distribution

July 15, 2000

FROM: Jonathan Dorfan

SUBJECT: **The Orion Facility**

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Advanced accelerator R&D remains a critically important part of our SLAC mission. Innovation in accelerator technology has been one of the hallmarks of the SLAC program creating new and effective directions for the world program in accelerator-based science. If high energy physics is to continue to flourish well into the 21<sup>st</sup> century, new ideas and technologies are needed. But we cannot do it all on our own - a comprehensive program of advanced accelerator R&D requires engagement from the University and user community.

Accordingly, we have taken the decision to build a facility with a programmatic approach to experiments in advanced accelerator R&D. The facility, called ORION, (see [www.slac.stanford.edu/conf/orion/orion.pdf](http://www.slac.stanford.edu/conf/orion/orion.pdf)) will use the NLCTA as its base, adding two analyzing stations, a laser station for polarized gun studies and second laser station for plasma/beam interactions. A key element for the ORION program is that it be a user-driven facility.

Experiments using ORION will be proposed for peer review in much the same way as for SPEAR or End Station A. To test the desirability of such a facility, a workshop was convened in February 2000. It was clear from the workshop that there is considerable user interest and a substantial list of potential experiments. Moving forward on ORION was endorsed by the Scientific Policy Committee at its recent meeting.

The next step is to design and build the facility, which will cost about \$4-5M. The ground rules for the building phase are that the implementation funds must be raised outside of the present SLAC budget. To reduce costs, we will seek opportunities for the reuse of existing equipment, both at SLAC and other institutions.

Bob Siemann will be in charge of building ORION. ORION will be treated as a project under the auspices of the Technical Division, with Ewan Paterson as the responsible Associate Director. We will appoint a planning and advisory group composed mainly of non-SLAC people who will assist and advise the project office, as discussed below, with the implementation and funding plan. In order to reach such a plan, some technical support is needed. Accordingly, Bob will establish a project planning office, comprising himself, a project

engineer and a lead physicist. Further enhancement of the project office or its scope require Ewan's concurrence. The implementation plan must take into account the use of the NLCTA for NLC development.

As part of establishing the implementation plan, the project office will seek unused or poorly utilized equipment at SLAC. There exist stockpiles of such equipment around the site. In addition, some equipment is tied to existing facilities which are either not currently used (e.g., the SLC final focus) or are infrequently used and may well provide the opportunity for considerably more effective utilization. Identification and reassignment of such equipment must be done with care and consultation. In some cases, there are competing needs for the same equipment. In such cases it is unreasonable to expect the proponents to agree on who should benefit. We need a process that will do two things: (1) take inventory of under-utilized equipment and (2) will arbitrate between competing potential users of the equipment. I will soon set up a process to facilitate these two goals.

Distribution: Senior Management Forum  
Burton Richter