

FOREWORD

The annual meeting of the Fermilab Industrial Affiliates provides an opportunity for research directors and senior technical personnel from the Affiliates and other companies to visit Fermilab and see first hand the on-going work of the Laboratory.

This year's meeting focused on supercomputers with a Round Table on Supercomputer Developments in the Universities. The round table grew out of the establishment of an advanced computer program at Fermilab headed by Tom Nash. That program has studied the possible approaches to supercomputers over the last year and a half. An active seminar series has brought in many university and industrial speakers in the computer area. At the same time, there has been growing national recognition that the U. S. must continue to play a role in the development of very powerful computers in the face of determined foreign competition.

The round table was spearheaded by Dr. Ken Wilson of Cornell, the 1982 Nobel Prize winner in physics. He emphasized that universities were good prospective buyers for the first model of a computer. They can do prototype software development and undergraduates do not mind the problems associated with getting the bugs out.

Other participants included the moderator and token industrialist Dr. Burton Smith of Denelcor, Dr. Arvind of MIT, Dr. Norman Christ of Columbia, Tom Nash, Dr. Jack Schwartz of NYU, and Dr. David Wallace of Edinburgh.

In view of the wide interest in supercomputers and the outstanding success of the round table, we have decided to publish the proceedings. Particularly interesting are the panelists' responses to a very stimulating set of questions posed by Burton Smith.

In summing up the round table, Burt Smith asked where supercomputers would be by the year 2000. Most responses ranged in the region of 1000 to 10,000 times the present power but one distinguished participant stated that it was impossible to make an overestimate and guessed at a factor of a hundred trillion.

The round table was organized by Tom Nash with the help of Burton Smith and Al Brenner of Fermilab. Dick Carrigan edited the proceedings.

The annual meeting is only one facet of the Fermilab Industrial Affiliates. More information is given on page 119.

Leon M. Lederman