

MAR10-2009-004261

Abstract for an Invited Paper
for the MAR10 Meeting of
the American Physical Society

Progress and Prospect of Physics Research and Education in Taiwan

J. RAYNIEN KWO¹, President, the Physical Society of Taiwan

Started about two decades ago, the global trend of shifting industrial manufacture power from western developed countries toward developing countries in Asia has in turn become the impetus in building up physical science and research in these areas. A very good example is the remarkable progress of physical research and education in Taiwan, in terms of quantity and quality. The continuous elevation of Taiwan's high education into graduate level plus the government's strong commitment to research and development on a level of 2.62 % GDP have led to an impressive physics program with an annual budget ~32 million USD from National Science Council in supporting 568 PIs. The investigation scope encompasses high energy and astrophysics, nano and condensed matter, and semiconductor, optoelectronic physics, etc. The former is vigorously conducted via international collaborative efforts of LHC, KEK, ALMA, Pan-STARRS, etc. The latter is driven by vital Taiwan high tech industry mostly semiconductor IC and optoelectronics flourished during this period. The early trend of outflows of BS physics majors to western world for advanced studies has reversed dramatically. Nearly 80% of the BS students continue their MS and PhD degrees in Taiwan, attracted by lucrative job markets of high tech industry. In addition, healthy inflow of high-quality science manpower of well trained PhDs and senior scholars returning to homeland has strengthened the competitiveness. Overall, the physics community in Taiwan is thriving. The annual Physical Society meeting is expanding at a rate of 6%, reaching ~1800 attendants and 1200 papers, and dedicated to promotions of female physicists and students. The publication quantity of Taiwan in top journals of PRs and PRL is ranked among top 20th for all fields of physics, and ranked the 6th in APL. Clearly Taiwan has now emerged as a strong power in applied science, not limited by its population size. Concerted efforts on scientific exchanges are being taken to connect to international societies. The bright outlook of physical science and its vital power in Taiwan is anticipated to provide a stimulus to benefit South East Asia, and have far-reaching impacts on China and worldwide.

¹Department of Physics, National Tsing Hua University, Hsinchu, Taiwan