IT Eminent Lecture Series

Two Cultures: Higher Education and Science/Technology Planning in the United States and Asia

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Coates Hall 145
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Abstract:
Central planning and free enterprise broadly characterize the different approaches taken historically by Asia and the United States toward higher education and research funding in knowledge-intensive industries. Based on personal working experience in Taiwan and America, I compare and contrast the strengths and weaknesses of the two systems. I argue that some blend of Eastern and Western approaches is probably necessary to solve the larger social, economic, and environmental problems that face these two regions. While convergence toward a middle road is happening to some extent, a freer exchange of people and ideas is probably needed to bridge the two cultures and to utilize better all the available resources.

Speaker's Bio:
Professor Frank Shu is currently a distinguished professor in the Physics Department at the University of California, San Diego. Professor Frank Shu has made fundamental contributions in five areas of theoretical astrophysics: (1) the density-wave theory of spiral structure in disk galaxies, (2) the process of mass transfer in interacting binary stars, (3) the dynamics of planetary rings, (4) the formation of stars and planetary systems, and (5) the origin of chondritic meteorites and their short-lived radioactivities. Each one of these contributions has had high impact in the field, and contributions (1), (4), and (5) changed existing paradigms. In particular, the work that Shu and his students and collaborators have performed over a span of thirty years in the area of star formation has made him a world-leading authority in this subject, with a comprehensive and widely accepted theory that explains the main features of the process, beginning with the formation and collapse of molecular cloud cores, through the formation and evolution of the central star and surrounding magnetized accretion disk (from which planetesimals and planets form), and ending with the appearance of collimated jets and outflows. The implications of this theory for the science of meteoritics led Professor Shu and colleagues to predict in 1996 that comets, previously believed to form from pristine materials in the coldest regions of interplanetary space, would contain highly thermally processed rocks called chondrules and CAIs. This highly unconventional view was spectacularly confirmed in 2006 with the return of dust samples from Comet Wild.

This lecture has a reception.

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