



Keynote Address

Prof. Paul T.P. Ho, East Asian Observatory, Hilo, Hawaii, USA First Image of a Supermassive Black Hole

Abstract:

- The Event Horizon Telescope, a network of 8 radio telescopes, operating at millimeter-wavelengths, and spanning the surface of the earth, has successfully produced the first picture of a black hole. We achieved the highest angular resolution in astronomy by using the Very Long Baseline Interferometry. This Supermassive Black Hole, in the nucleus of the M87 galaxy, is the first case where we can resolve the event horizon, where even light itself cannot escape from the gravity of the black hole. This first picture also demonstrates directly Einstein's General Relativity on the distortion of space in the presence of strong gravity. In addition, we detect the glow of material swirling around the black hole in the form of an accretion disk, where material gather before falling inside the black hole.

About the Speaker:

- Paul was born in Hong Kong, and immigrated to the United States at the age of 11. He received his S.B. (1972) and Ph.D. (1977) degrees in physics at MIT. Paul was a faculty member at Harvard University before becoming SMA Project Scientist and Senior Astrophysicist at the Smithsonian Astrophysical Observatory. He has served as ASIAA Director for 10 years in Taiwan. He is currently the Director General of the East Asian Observatory. His scientific interests include star and planet formation, magnetic field structures, and supermassive black hole as the definitive probe of high gravitational fields. Paul focuses on the development of instrumentation for forefront fields in astronomy. These include the SMA, AMiBA, ALMA, GLT, TAOS, WIRCam, HSC, PFS, ERG, SPICA, and EHT. Paul is an academican of the Academia Sinica, and a Fellow of The World Academy of Sciences.

