

ABSTRACT FOR 2014 DPS MEETING History Session

ORIGINS OF THE LUNAR AND PLANETARY LABORATORY, UNIVERSITY OF ARIZONA

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The roots of the Lunar and Planetary Laboratory (LPL) extend deep into the rich fabric of G. P. Kuiper's view of the Earth as a planet and planetary systems as expected companions to most stars, as well as the post-war emergent technology of infrared detectors suitable for astronomy. These concepts and events began with Kuiper's theoretical work at Yerkes Observatory on the origin of the Solar System, his discovery of two planetary satellites and observational work with his near-infrared spectrometer on the then-new McDonald 82-inch telescope in the mid- to late-1940s. A grant for the production of a photographic atlas of the Moon in the mid-1950s enabled him to assemble the best existing images of the Moon and acquire new photographs. This brought E. A. Whitaker and D. W. G. Arthur to Yerkes. Others who joined in the lunar work were geologist Carl S. Huzzen and grad student E. P. Moore, as well as undergrad summer students A. B. Binder and D. P. Cruikshank (both in 1958). The Atlas was published in 1959, and work began on an orthographic lunar atlas. Kuiper's view of planetary science as an interdisciplinary enterprise encompassing astronomy, geology, and atmospheric physics inspired his vision of a research institution and an academic curriculum tuned to the combination of all the scientific disciplines embraced in a comprehensive study of the planets. Arrangements were made with the University of Arizona (UA) to establish LPL in affiliation with the widely recognized Inst. of Atmospheric Physics. Kuiper moved to the UA in late 1960, taking the lunar experts, graduate student T. C. Owen (planetary atmospheres), and associate B. M. Middlehurst along. G. van Biesbroeck also joined the migration to Tucson; Binder and Cruikshank followed along as new grad students. Astronomy grad student W. K. Hartmann came into the academic program at UA and the research group at LPL in 1961. Senior faculty affiliating with LPL in the earliest years were T. Gehrels, A. B. Meinel, H. L. Johnson, and F. J. Low, each with their own grad students and associates. Work began on IR spectroscopy and a rectified lunar atlas. Kuiper and Johnson started the search for future observatory sites in N. America and Hawaii.