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The James Webb Space Telescope as “Hubble 2.0”
At ‘Imiloa Astronomy Center

Hilo, Hawai‘i – Speaking at ‘Imiloa Astronomy Center on Wednesday June 27 at 7p.m. Dr. Matt Mountain, Director of NASA’s Space Telescope Science Institute, will share the profound impact of the Hubble Space Telescope (HST) on the science of astronomy and on humanity’s perception of the universe.

For over twenty-two years the Hubble Space Telescope (HST), a centerpiece of modern astronomy, has earned its place as the most productive telescope in history. Using Hubble’s images Dr. Mountain illustrates why the New York Times described HST as having, “taught us to see the properties of a universe humans have been able, for most of their history, to probe only with their thoughts.” With the hugely successful, and final, Hubble servicing mission in May 2009, attention is now turning to HST’s successor the James Webb Space Telescope (JWST) planned for launch in 2018. Under Dr. Mountain’s leadership JWST is progressing rapidly and in his presentation he reveals how the discoveries by HST have led to the design of the audacious JWST (or some might say, “Hubble 2.0”).

According to Mountain, building JWST has confronted many tough technological challenges such as reducing the mass of JWST by two orders of magnitude compared to the largest telescope on Maunakea, launching this 6.5-meter telescope to a point about a million miles from Earth, deploying a sun-shield the size of a tennis court and cooling this telescope to minus 400 degrees Fahrenheit. Closing his talk Mountain shares what is hoped to be revealed with JWST and how JWST sets the stage for future space telescopes.

Dr. Mountain, previously director of the Gemini Observatory with headquarters here in Hilo, is now responsible for the 400-member staff at the Space Telescope Science Institute in Baltimore, Maryland. He is also a member of the Webb Science Working Group, a Professor at

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Johns Hopkins Department of Physics and Astronomy and a Visiting Professor at the University of Oxford, in the United Kingdom.

As Gemini Observatory's Director, Dr. Mountain moved to the Big Island in 1998 heading the construction and operation of the Gemini Observatory, which consists of two 8-meter telescopes, one on Maunakea, and the other on Cerro Pachón in Chile.

Dr. Mountain’s principal research interests include star formation in galaxies (including our own), advanced infrared instrumentation, and the capabilities of advanced telescopes. He has published more than 100 research papers, articles and reports. He is a fellow of the American Astronomical Society, the Royal Astronomical Society and the American Association for the Advancement of Science, and is a member of the International Society for Optical Engineering. In 2003 he was awarded the Gabriela Mistral Medal for excellence in education by the Chilean Ministry of Education for the Gemini Observatory’s Star Teachers teacher exchange program.

The presentation by Dr. Mountain will be in the ‘Imiloa planetarium, and seating is limited. Admission is free.

The Gemini Observatory is an international collaboration with two identical 8-meter telescopes. The Frederick C. Gillett Gemini Telescope is located on Mauna Kea, Hawai‘i (Gemini North) and the other telescope on Cerro Pachón in central Chile (Gemini South); together the twin telescopes provide full coverage over both hemispheres of the sky. The telescopes incorporate
technologies that allow large, relatively thin mirrors, under active control, to collect and focus both visible and infrared radiation from space.

The Gemini Observatory provides the astronomical communities in seven partner countries with state-of-the-art astronomical facilities that allocate observing time in proportion to each country's contribution. In addition to financial support, each country also contributes significant scientific and technical resources. The national research agencies that form the Gemini partnership include: the US National Science Foundation (NSF), the UK Science and Technology Facilities Council (STFC), the Canadian National Research Council (NRC), the Chilean Comisión Nacional de Investigación Científica y Tecnológica (CONICYT), the Australian Research Council (ARC), the Argentinean Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET) and the Brazilian Conselho Nacional de Desenvolvimento Científico e Tecnológico CNPq). The observatory is managed by the Association of Universities for Research in Astronomy, Inc. (AURA) under a cooperative agreement with the NSF. The NSF also serves as the executive agency for the international partnership.

‘Imiloa Astronomy Center of Hawai‘i is located at 600 ‘Imiloa Place in Hilo, off Komohana and Nowelo Streets at the UH Hilo Science and Technology Park. For more information, go to www.imiloahawaii.org, or call (808) 969-9703.

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