

Two GALCIT Alumni's Vision

Graduate Aerospace Laboratories of the California Institute of Technology (GALCIT) alumni Jain-Ming (James) Wu (MS '59, PhD '65) and Ying-Chu Lin (Susan) Wu (PhD '63) wanted to honor professors who have made a significant impact in their lives. Their vision and generous gift to Caltech has established a new lecture series in Aerospace. The first of these lectures was given in honor of Dr. Frank E. Marble, Richard L. and Dorothy M. Hayman Professor of Mechanical Engineering and Professor of Jet Propulsion, Emeritus, a faculty member of GALCIT since 1949. This lecture featured Sébastien Candel (MS '69, PhD '72) from École Centrale Paris, France, who discussed new perspectives in combustion dynamics and control. The second lecture in the series was given in honor of Dr. Anatol Roshko, Theodore von Kármán Professor of Aeronautics, Emeritus, a faculty member of GALCIT since 1952. This lecture featured Garry Brown from Princeton University who discussed structure and vorticity in turbulent shear flow. For more information visit: <http://www.galcit.caltech.edu>



Left to Right: Alumni Ying-Chu Lin (Susan) Wu and Jain-Ming (James) Wu

Sustainability: The Caltech Approach

The newly formed Resnick Institute is working on game-changing solutions to challenges in the generation, storage, transmission, conversion, and conservation of energy. The Resnick Institute recently partnered with Parsons Corporation



Harry Atwater, Director of the Resnick Institute

and organized a forum to identify needs and solutions associated with sustainable energy, sustainable infrastructure, and sustainability in national programs. This forum was an opportunity for researchers, academics, technology leaders, corporate developers, nongovernmental organizations, policy makers, and investors to meet and contribute to the development and deployment of sustainable energy and infrastructure technologies. The Resnick Institute and Caltech have also formed partnership with Swinerton Builders, Pasadena Water & Power, Perpetual Energy Systems, and SUNTECH to lead the way to a carbon-free, renewable energy future by building and activating new photovoltaic arrays. As of October 2010, Caltech's total solar generation capacity is 1.3 mega-watts, which will reduce greenhouse gas emissions by 1,500 metric tons annually. To learn more about the Resnick Institute efforts and to watch in inaugural lecture by Vinod Khosla, venture capitalist, green-tech enthusiast, and co-founder of Sun Microsystems visit:

<http://www.resnick.caltech.edu>

A Think and Do Tank

The Keck Institute for Space Studies (KISS) is a “think and do tank,” with the primary purpose of bringing together scientists and engineers for sustained technical interaction aimed at developing new space mission concepts and technology.



Sergio Pellegrino, a co-leader of the KISS Large Space Structures Study

Several of the KISS studies have been led by EAS faculty including: Large Space Structures; Mission Concepts for Accessing and Sampling High-Risk Terrain; and Future Missions to Titan: Scientific and Engineering Challenges. The EAS Division has also contributed to many other studies including: Coherent Instrumentation for Cosmic Microwave Background Polarization Observations; Quantifying the Sources and Sinks of Atmospheric CO₂; and Monitoring Earth Surface Changes from Space. To learn more about the studies and other programs of KISS visit:

<http://kiss.caltech.edu>

Improving Our Understanding of Climate and Earth Systems

The engineers and scientists who are a part of the Ronald and Maxine Linde Center for Global Environmental Science are working to strengthen scientific understanding and to answer fundamental questions about climate and Earth systems. These questions include: How has Earth’s climate varied in the past? What physics governs the retreat and advance of glaciers and sea ice? How do climate and the circulation of the atmosphere affect each other? How does aerosol pollution relate to climate change? Where does carbon dioxide come from and where does it go? Through field, laboratory, and theoretical studies and close collaboration with the Jet Propulsion Laboratory, the Linde Center scientists and engineers are improving our understanding of climate and Earth systems and informing public policy. They are also engaged in building a new sustainable home for the Ronald and Maxine Linde Center for Global Environmental Science. When completed in 2011, the Linde + Robinson Laboratory will be the first laboratory in a historic building to earn “LEED platinum”—the highest Leadership in Energy and Environmental Design ranking. Learn more by visiting: <http://linde.initiatives.caltech.edu>



Paul Wennberg, Director, Ronald and Maxine Linde Center for Global Environmental Science