

AeroGRAM

A newsletter for alumni & friends of the School of Aeronautics & Astronautics

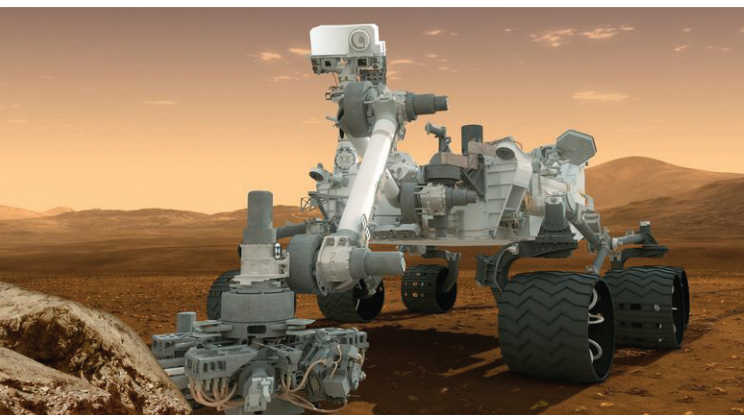
Covering the 2012-2013 academic year



CLASS OF 1943 PIONEERS SMALL STEP



ACHIEVES GIANT LEAP



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Letter from the AAE Head - Tom I-P. Shih



2012-13 was an exciting year, and it is a pleasure and a privilege to share with you some of the events and accomplishments of our faculty, staff, students, and alumni

in this *AeroGram*. At the university level, Provost Timothy Sands served as the Interim President in Fall 2012, and President Mitch Daniels joined Purdue as its 12th President in January after two terms as the Governor of our great state. At the college level, Dean Leah Jamieson with the support of the Provost, the President, and the Board of Trustees launched the strategic growth initiative with an opportunity for transformative change, where the college's faculty will grow by 30%. At the school level, 2013 marked the 70th anniversary since the first aeronautical engineering degree was awarded and 40 years since our school was named the School of Aeronautics and Astronautics (page 15).

Other notable events over the past year include the Outstanding Aerospace Engineer Award Banquet on September 28, 2012 during which eight outstanding AAE alumni were honored (page 22). On February 22, 2013, AAE alumni Mark Burgess and Richard Rivir were honored by our college's Distinguished Engineering Alumni award (page 6). The Charles Rolls and Henry Royce Memorial Lecture took place on October 10, 2012 with John Tracy, CTO of The Boeing Company, as the keynote speaker (page 27). Space Day, held on Oct. 20, 2012, had astronauts Dave Wolf, Andrew Feustel, and Scott Tingle – all Purdue alumni – inspiring our next generation on space science and exploration. On November 4-6, 2012, alumnus Jim Miller was a part of Purdue's Old Master program in engaging Purdue students across the campus.

Our school's outstanding reputation is built on the distinguished accomplishments of our alumni and on the excellence of our faculty in teaching, research, and service. A roundup of our faculty and alumni awards and activities is included in this *AeroGram*. They include Kathleen Howell and Stephen Heister along with alumni James Raisbeck and Frank Bauer being honored as a Fellow of AIAA, alumnus Bill Gerstenmaier being named as an Honorary Fellow of AIAA, Inseok Hwang being named as an Associate Fellow, and alumnus Markus Heinemann receiving the ASTM 2013 International Award of Merit and being named an ASTM Fellow. Also, Kathleen Howell became a

distinguished professor; Tim Fisher became a named professor; Greg Blaisdell was promoted to "full" professor; and Li Qiao was promoted to associate professor with tenure. Li Qiao along with alumni Pablo Zavattieri and Kivanc Ekici also won the prestigious NSF Career Award. Dominick Andrisani won this year's Bruhn Best Teaching Award; Kathleen Howell won the Gustafson Award for Outstanding Teaching; and Dan DeLaurentis won the school's C.T. Sun Excellence in Research Award. Steven Collicott became an inaugural member on the Scientific Advisory Board of the Center for the Advancement of Science in Space, a center created by Congress and NASA to operate the U.S. part of the International Space Station.

On research, Purdue was chosen as one of the lead institutions for a new FAA Center of Excellence called PEGASAS with Bill Crossley as the director and supported by Karen Marais and John Young. In October, a new research initiative with Boeing under a new Purdue/Boeing Master Agreement was kicked off. In addition, five of our faculty members won Purdue's Acorn Award, an award for receiving a grant that exceeds one million dollars per grant.

On a sad note, the world joined our collective sorrow when we lost alumnus Neil Armstrong in August 2012 (page 3). Also, we lost alumnus and Honorary Industry Professor Allen Novick in December 2012 (page 13). We thank them and their families for their wonderful work – Neil for inspiring a nation and the world with his excellence, courage, and humility and Al for being a pillar of excellence and service for the Purdue community.

At this time, I want to express our school's deepest thanks to our alumni and friends for the strong support of our school and of our endeavors. While the past few years have been difficult, your strong support has enabled us to maintain the high quality of our teaching and research programs. Thus, we are extremely grateful for the significant financial support provided by many of our alumni and friends during these times. We welcome all of our alumni and friends back to campus at any time, and we look forward to having you.

Hail Purdue!

Tom Shih
Professor and Head

On the Cover: Main Photo

Purdue's first class of aeronautical engineers (1943) at their 50th reunion (April 1993)

Left to right, back row: M. Howland, R. Herrick, P. Brink, R. Boswinkle, D. Ochiltree, J. Goldman, W. Fleming, I. Kerr.

Front row: A. Streicher, C. Hagenmaier, J. Dunn, J. Allen, R. Beebe, R. Pendley.

See page 15 for full article

Neil Armstrong: BSAE'55, DEA'67, HDR'70, OAE'99

Humble Hero, Always a Boilermaker, Always an Engineer

Neil A. Armstrong, a graduate from the School of Aeronautics and Astronautics, will forever be known as the first human to set foot on the moon. However, in a 2000 speech he humbly described himself as "a white socks, pocket-protector, nerdy engineer, born under the second law of thermodynamics, steeped in steam tables, in love with free-body diagrams, transformed by Laplace and propelled by compressible flow."

Millions of people around the world still remember July 20, 1969, when they were transfixed on the flickering black-and-white video images showing Armstrong descending a ladder from the Lunar Module (LM) at 8:17 p.m. Coordinated Universal Time (UTC). When Armstrong uttered the words, "Houston, Tranquility Base here. The Eagle has landed," a collective sigh of relief had filled the air. As he touched the lunar surface, Armstrong uttered this famous phrase: "One small step for [a] man, one giant leap for mankind."

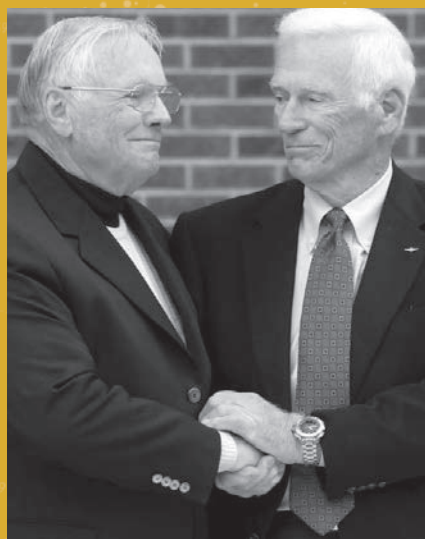
Armstrong died on Aug. 25, 2012, nearly three weeks after undergoing quadruple heart bypass surgery. He was 82.

Fascinated by aviation, he earned his pilot's license as a teenager. Armstrong came to Purdue to study aeronautical engineering and he admitted to having been a nervous 17-year-old among an overflow of 20-something former combat veterans taking classes on the G.I. Bill.

Armstrong attended Purdue on a Navy scholarship that required him to serve active duty before graduation. In his deployment, he flew 78 missions from an aircraft carrier during the Korean War and once had to parachute to safety after his plane hit a cable



The Neil Armstrong statue covered in flowers and memorabilia



Neil Armstrong and Gene Cernan at the dedication of Armstrong Hall

strung across a canyon. After his service in the Korean War, he returned to Purdue and graduated in 1955. Armstrong took part in the fledgling Boeing X-20 Dyna-Soar human space-flight program and he joined the NASA Astronaut Corps in 1962.

On October 27, 2007, Armstrong stood with 15 other Purdue alumni astronauts on stage at the dedication of the Neil Armstrong Hall of Engineering. The sculpture in front of the building depicts Armstrong as a young engineering student. "Only Purdue would put a statue of a scared freshman in front of an engineering building," he remarked.

On Aug. 27, 2012, more than 1,000 people gathered near Armstrong's statue at Neil Armstrong Hall of Engineering for a memorial service. The statue was covered in flowers and an American flag left by mourners. Leah Jamieson, the John A. Edwardson Dean of Engineering, said "He inspired us all. He would say that engineering is about 'what can be' and gave us unforgettable images of just how bold and inspiring the future can be. He was proud of being an engineer, and we have always been enormously proud that he was a Purdue engineer."

His longtime close friend, fellow moonwalker and fellow Boilermaker Gene Cernan remembers Armstrong as someone who "embodied all that is good and all that is great about America." "Fate looked down kindly when she chose Neil to venture to another world and to have the opportunity to look back from space," Cernan said. "No one . . . could have accepted the responsibility of his remarkable accomplishment with more dignity and more grace than Neil Armstrong."

The Acorn Award

Seed for Success Award

Excellence in Research Awards 2012



The Acorn Award-Seed for Success Award is given to recognize faculty members who have won a grant that exceeds one million dollars per grant as a single investigator or as a team of investigators. An award dinner was held on November 14, 2012 to celebrate the accomplishments and contributions of those faculty members to Purdue's research community.

The award was established in 2003 and each recipient receives a bronze acorn in which their name is engraved. Among the 70 investigators recognized for their accomplishments during fiscal year 2012, six awards went to faculty members and faculty by courtesy who were principal investigators or co-investigators from the School of Aeronautics and Astronautics.

Congratulations to:

Prof. Wayne Chen - who received a research grant from U.S. Army Research, Development and Engineering Command.

Prof. Dan DeLaurentis was part of a team that included Dan DeLaurentis, Saurabh Bagchi, James Dietz, Stephen Heister and Joseph Pekny. The research grant was received from the Missile Defense Agency.

Prof. Tim Fisher was part of two teams that received the 2012 *Acorn Award - Seed for Success Award*. The team included Tim Fisher and Xiulin Ruan and the research grant was received from the Air Force Office of Scientific Research.

The second team included Xianfan Xu, Tim Fisher, Minghao Qi and Peide Ye and the research grant was received from the National Science Foundation.

Prof. Stephen Heister was part of a team that included Dan DeLaurentis, Saurabh Bagchi, James Dietz, Stephen Heister and Joseph Pekny. The research grant was received from the Missile Defence Agency.

Prof. Steven Schneider received a research grant from the U.S. Department of Defense.

Past Winners include:

2009

Gregory Blaisdell
Wayne Chen
William Crossley
Dan DeLaurentis
Jay Gore
Stephen Heister
Nicole Key (AAE by Courtesy)
Robert Lucht (AAE by Courtesy)
Anastasios Lyrintzis
Charles Merkle
Scott Meyer
Byron Pipes
Timothée Pourpoint
Steven Son (AAE by Courtesy)
John Sullivan
C.T. Sun

2010

William Anderson
Gregory Blaisdell
Wayne Chen
Timothy Fisher (AAE by Courtesy)
Stephen Heister
Robert Lucht (AAE by Courtesy)
Anastasios Lyrintzis
Charles Merkle
R. Byron Pipes
Timothée Pourpoint
Tom Shih
Steven Son (AAE by Courtesy)
C.T. Sun

2011

Dan DeLaurentis
Timothy Fisher (AAE by Courtesy)
Stephen Heister
Robert Lucht
Timothée Pourpoint
Steven Son (AAE by Courtesy)



Gina Covarrubias BSAAE'02

We welcome Gina Covarrubias as AAE's Senior Academic Advisor and Report Analyst. Gina graduated with a Bachelor's degree in Aeronautical and Astronautical Engineering at Purdue in 2002 and remained on campus for an additional year to pursue her M.S. degree before accepting a job offer from ATK Thiokol in Brigham City, Utah. At ATK, Gina worked as a quality engineer and a structural analyst on the space shuttle rocket booster program and finished her M.S. degree in mechanical engineering in 2006 at the University of Utah. In 2007, she moved back to Indiana to work at the Rolls-Royce jet manufacturing facility in Indianapolis. There, she was engaged in a breadth of responsibilities, including risk management, master scheduling, project engineering, project management, and program management. Gina's passion is to work with students and looks forward to working with the faculty in advising undergraduates and prospective students.

Welcome New
AAE Faculty
and Staff
2013-2014



Dr. Timothée Pourpoint

We welcome Dr. Timothée Pourpoint as Associate Professor at Purdue. He received his bachelor's degree from ESTACA University, Paris, France, in Mechanical Engineering in 2000, his Master's from University of Alabama, Huntsville, AL in Mechanical & Aerospace Engineering in 2000 and his Ph.D. from Purdue University in Aeronautics and Astronautics in 2005. He was previously a Research Associate Professor with the School of Aeronautics and Astronautics based at the Maurice J. Zucrow Laboratories. His research interests relate to propulsion, combustion, and energy storage.

Purdue Alumni Fly the Flag in NASA's Neutral Buoyancy Laboratory



(L-R) Mark, Allissa and Stephanie

Allissa Battocletti BSAAE'11, who is a member of NASA's EVA Operations team, took the opportunity to fly the Purdue flag during her rotation as instructor for NASA's Neutral Buoyancy Laboratory (NBL).

Purdue alumni **Mark Willsey BSEE'07** and **Stephanie Johnston BSAAE'12** took the role as astronaut in the NBL while Battocletti instructed them from the control room.

In order to understand what it is like for astronauts working in a zero gravity environment, the group occasionally gets to "play astronaut." Battocletti and her coworkers step into their space boots and work together to experience what it means to be on the receiving end of their instructions.

The NBL provides a great opportunity for future astronauts to experience a completely different environment, but also provides a valuable learning opportunity for those behind the scenes.

Old Masters - James (Jim) Miller BSAAE'86 VP Worldwide Operations, Google, Inc.



AAE alumnus Jim Miller was one of nine people of influence who appeared at Purdue as part of the Old Masters Program on November 4-6, 2012. The program connects Purdue students with outstanding men and women in a vast spectrum of fields.

Jim Miller graduated with a bachelor's degree in aeronautical and astronautical engineering in 1986. He earned both a master's degree in mechanical engineering and a master's degree in management from the Massachusetts Institute of Technology in 1993.

Miller is responsible for Google's global operations, supply chain, and new product introduction for the company's global information technology infrastructure. He began his career as an avionics systems engineer in the Federal Systems division of International Business Machines Corp. Miller also has worked for Intel Corp. as a production manager, Teledesic-ICO Corp. as director for the company's user equipment alliances, and Amazon.com as vice president of its global supply chain. From 2002 to 2008, he worked for Cisco Systems, holding several vice president positions in manufacturing, supply chain development and technology development.

Prior to joining Google, Miller served as executive vice president for industrial, automotive and multimedia at Sanmina-SCI, a leading electronic manufacturing services provider. He also co-founded Sierra Crest Consulting, which provides strategic consulting services to a variety of startup businesses and industry leaders in clean tech and high technology.

The Old Masters Program was created in 1950. In sharing their dreams, goals and life experiences, Old Masters have made profound and indelible contributions, inspiring tomorrow's leaders to explore the possibilities that the future brings.

During the program, Old Masters visit classrooms and residence halls and attend dinners to meet with Purdue students. The Dean of Students sponsors the event and the student-run Old Masters Central Committee arranges the program details.

AAE New Master's Professional Program

In response to the suggestions by the AAE's Industrial Advisory Council, the School of Aeronautics and Astronautics created a Professional Master's Degree Program. It is a concentration in our M.S. degree called Aeronautics and Astronautics for Professionals, which has been approved by Purdue Graduate School. We will recruit students starting Fall 2013.

One target audience is composed of aeronautical and astronautical engineers with significant work experience. These individuals will be primarily interested in deepening their knowledge within their engineering discipline and in furthering their professional skills and competencies. The program is also open to students who intend to learn business skills in addition to the traditional core training in engineering. It is expected that students attracted to this program will be on a career path of technical and engineering leadership.

This program is designed to be completed in one calendar year. For students who intend to take the one-year engineering practice option, the program can be extended into two years. The course requirements are 6-7 core AAE and math courses and 3-4 management courses.



URSA MAJOR

Purdue Research Foundation Recognize University Researchers Who Received Patents

Dr. James L. Garrison and Dr. Stephen D. Heister were among forty-seven Purdue faculty and staff whose discoveries were patented during the 2011-12 fiscal year. They were recognized on April 3 at the Purdue Research Foundation's eighth annual Inventors Recognition Reception.

During the fiscal year July 1, 2011, to June 30, 2012, Purdue Research Foundation officials reported 356 invention disclosures, 446 patent applications worldwide, 95 issued patents worldwide and the creation of five startups from Purdue-licensed technologies.

The number of patents issued to Purdue-related discoveries has more than tripled from 31 in 2007-2008, which is a credit to the innovative faculty, staff, post-doctorate students and graduate students throughout the university's campuses.



Dr. James L. Garrison



Dr. Stephen D. Heister

Distinguished Engineering Alumni (DEA) 2013

The School of Aeronautics and Astronautics is proud to honor two AAE alumni who received the College of Engineering Distinguished Engineering Alumni Award on February 22, 2013.



Mark A. Burgess (BSAAE'78, MSAE'79, MSIA'82, OAE'10)

Chief Engineer
Engineering Operations
and Technology
The Boeing Company

In recognition of his technical and managerial leadership in the development of science and technology in the aerospace industry



Richard Byram Rivir (BSAE'60, OAE'06)

Senior Scientist, Aircraft Propulsion
Aerospace Systems Directorate
Air Force Research Laboratory

In recognition of his longstanding technical leadership in propulsion focused on the fundamental understanding of the relationship between aerodynamics and heat transfer behavior

Dr. Markus B. Heinemann - ASTM 2013 International Award of Merit

Dr. Markus B. Heinemann, (BSAAE'92, MSAE'94, Ph.D.'97)

has been selected by the Board of Directors of ASTM International to receive the 2013 International Award of Merit and its accompanying title of Fellow of ASTM International.

ASTM International, formerly known as the American Society for Testing and Materials, is a globally recognized leader in the development and delivery of international voluntary consensus standards. Today, some 12,000 ASTM standards are used around the world to improve product quality, enhance safety, facilitate market access and trade, and build consumer confidence.

Dr. Heinemann is a 2008 recipient of the School of Aeronautics and Astronautics Outstanding Aerospace Engineer Award and currently serves on the school's Industrial Advisory Council. He is very highly regarded by his fellow experts in the fatigue and fracture testing world. His contributions over nearly two decades have been considerable, of consistently high quality, and with significant impact. His extensive knowledge and commitment to excellence in standards development have had a major impact in his field and have made ASTM International a technical leader in today's global business world.

The Award of Merit was established in 1949 by the Board of Directors and is the highest award granted by the Society to an individual member for distinguished service and outstanding participation in ASTM International committee activities. This distinction represents the highest individual recognition that the Society bestows on any of its 35,000+ members from 150 countries. The award will be presented during the ASTM semi-annual standards development meeting in Jacksonville, FL on November 12, 2013.





Dr. William Ailor III, Ph.D.'74; OAE'09

September 2012 – **Dr. William Ailor III, Ph.D.'74; OAE'09** is the Principal Director, Center for Orbital

and Reentry Debris Studies – The Aerospace Corp. He received his bachelor's degree in aerospace engineering and a master's degree in mechanical engineering from North Carolina State University and a Ph.D. in aerospace engineering from Purdue, before joining The Aerospace Corp. in 1974.

He was appointed director of the El Segundo, California-based company's Center for Orbital and Reentry Debris Studies when the unit was formed in June 1997 and has helped lead development of the Re-entry Breakup Recorder (REBR).

REBR is a system that records data during the re-entry and breakup of the vehicle and returns the data for analysis. Understanding how vehicles behave during re-entry can enhance design efficiencies and safety; potentially remove the need for deorbit propulsion, which could decrease cost and complexity and increase mission life of spacecraft; and could minimize hazards to people and property if spacecraft became uncontrollable and re-entered randomly.

The departure of the third European Space Agency Automated Transfer Vehicle (ATV-3) cargo spacecraft from the International Space Station was broadcast live on NASA Television Sept. 25, 2012. The 13-ton "Edoardo Amaldi," named for the 20th-century Italian physicist regarded as one of the fathers of European spaceflight, was launched from Kourou, French Guiana, on March 23, 2012. It arrived at the space station March 28, 2012 with several tons of supplies and experiments for the station's crew.

Loaded with items no longer needed on the station, ATV-3 undocked from the aft docking port of the station's Russian Zvezda service module at 6:35 p.m., Sept. 25, 2012. The craft backed away from the orbiting laboratory to a safe distance for an engine firing that will enable it to make a planned destructive return through Earth's atmosphere. ATV-3 carried the Re-entry Breakup Recorder (REBR) as it descended into Earth's atmosphere.

During his career, he has published several articles and professional papers on space traffic control, reentry breakup, and space debris and has testified before Congress on the Leonid meteor storm's possible effects on satellites. He has been featured on NBC Nightly News, CBS Evening News, ABC News, CNN, The Discovery Channel and the Learning Channel on these topics. Ailor, a member of the International Academy of Astronautics, received a NASA Group Achievement Award in 1992 for his work in helping to understand the reentry breakup characteristics of the Space Shuttle External Tank.

Ailor is founder and president emeritus of the Palos Verdes Peninsula Land Conservancy, which preserved more than 1,000 acres of open space during his 18-year leadership. For that achievement, he was named "Citizen of the Year" by the community of Palos Verdes in 2001. He also is a clarinetist for the Peninsula Symphonic Winds.



Students designing, building experiment to fly on space station

NASA announced in July 2012 that the proposal by the team of Purdue University and North Carolina Agricultural and Technical State University (NC A&T) was selected to design, build, and operate an original experiment for the International Space Station.

Professor Steven Collicott is leading the project with John Kizito, a professor of mechanical engineering at NC A&T.

This multi-year student effort began fall 2012 and resulted in a second section of Prof. Steven Collicott's AAE418 being created for this purpose. Students will complete the project while taking his course on zero-gravity flight experiments.

The universities chosen by NASA were chosen to create an original experiment in "capillary fluid dynamics" through the space agency's National Lab Education Projects for the International Space Station.

The Fluids Education Experiment is being designed to study the physics of how surface tension-dominated liquids change shape inside tubes of air in weightlessness and is presently scheduled to launch in 2014. Additionally, it will also combine research into capillary fluid stability and motion with middle school STEM impact and outreach. The astronaut-operated experiment on capillary fluid physics and the accompanying video data are to serve as visual stimuli for the middle school student and will include efforts to inspire middle school students to pursue and enjoy topics in science, technology, engineering and math, or STEM, fields.

Primarily undergraduate engineering students at both universities are designing and building the shoebox-size experiment, developing the procedures for operation in space, training the astronauts, and afterwards will process the data and write research papers describing the results. The experiment is part of overall work to provide data that could help in the design of systems that require life-support equipment and fuel tanks for spacecraft. Findings also could apply to technologies for use on Earth such as fuel cells, medical instruments, and miniature diagnostic devices.

The effort also will include contributions from Portland State University. Other team members are professors Mark Weislogel of Portland State and Dr. Todd Kelley from Purdue, and consultant Dr. Emily CoBabe-Ammann.

About 20 Purdue undergraduate students will be involved in the project each semester over approximately three years; 10 NC A&T students per semester will be directly involved and about 20 fluid mechanics students per semester will do coursework related to the project. A kick-off meeting was held on the Purdue campus on August 24, 2012 with Purdue alumnus astronaut Charles Walker in attendance (pictured in the center of the photo).

Class Notes

Philip R. Atkinson BSAE'59 published *Rocket Men: At Work and Play*. The book can be purchased at www.amazon.com. He previously published *Strategies for Winning Contracts*.



Brian Barnett BSAAE'01, Madison, AL, works as director of Army unmanned aircraft systems for MCR LLC, Huntsville, AL.

Michael J. Corso BSAAE'71, Fort Myers, FL, has maintained Florida Bar Board Certification in civil trial law for 30 years and was also named to Florida Trend magazine's 2012 Legal Elite. (See page 10).

Scott Courtney MSAAE'93, Berlin, Germany, is Vibration Team Lead for Rolls-Royce Mechanical Test Operations Centre.

John Dixon BSAAE'09 is a Mechanical Engineer at Bigelow Aerospace in North Las Vegas. He earned his Master's degree in Aerospace Engineering from the University of Nevada, Las Vegas and is now working towards his Ph.D. in Mechanical Engineering, University of Nevada, Las Vegas.

John Major Emerson (BSAE'90) has earned the esteemed title of Associate Technical Fellow of The Boeing Company. Based on his outstanding technical contributions to the company, John has joined a distinguished group that comprises the top 4% of engineers and scientists at the company. He was awarded this designation based on exemplifying technical excellence in the areas of knowledge, innovation, leadership, experience and vision. His area of technical expertise is in composite analysis and repair, and has played a key role in the success of the 787 program.



Kristofer (Kit) Fransen BSAAE'10, La Crosse, WI started a new position as a Marketing Engineer for Ingersoll Rand/Trane on February 6, 2012.

Cristina Gordon MSAAE'07, Tucson, AZ is Supplier Quality Manager for MDA product, Raytheon.

Kimberly (Chalmers) Hicks BSAAE'06, Kent, WA, was named the Young Engineer of the Year by the Puget Sound Engineering Council (see article below).

Katie Kortum BSAAE'2010, is a Structural Analysis Engineer at The Boeing Company.

Andrew S. Krieger BSAAE '07, Ogden, UT is currently working on NASA's next generation heavy lift rocket, under the Space Launch System (SLS) program. As an Integration Design Engineer, he is currently involved with routing avionics cables/harnesses and designing brackets and feedthru panels throughout the 5-segment solid rocket boosters.

Robert Lahs BSAE'61, Manhattan Beach, CA has retired as Spacecraft Operations Manager, TRW.

Rich Link BSAAE'71, Phoenix, AZ, retired from Southwest Airlines after 22 years with the company. A senior captain, Rich logged 15,000 hours in the B737 with Southwest and 25,000 hours total over a 40-year flying career — including five years in the U.S. Air Force with a tour in Vietnam in the F4 fighter jet. He flew for eight other airlines prior to Southwest after leaving the Air Force just prior to deregulation



William March McNichols BSAAE'79 is the President of McNichols Associates, Inc.

Adam Madgziarz BSAAE'01, Indianapolis, joined E-A-R/Aero Technology as a design engineer.

Edward Morris BSAAE '71 was previously Director, Mechanical Engineering and Manufacturing - Corporate Engineering and Technology at Lockheed Martin and is now the permanent director of the National Additive Manufacturing Innovation Institute.

John Ottlinger BAAE'57, St. Charles, MO, retired from Program Management at the Boeing Company in St. Louis, MO.

Dr. Chul (Charles) Park Ph.D.'03 was named an Associate Technical Fellow at The Boeing Company.

Audrey K. Powers BSAAE'99 after working in the aerospace industry for 8 years (with United Space Alliance and Lockheed Martin), Audrey became a lawyer with clients in the aerospace and defense industries. Advice is given on international trade matters, domestic and foreign policy issues, and government and commercial contracts.

Jerry L. Ross (ME'70, MS ME'72, HDR'00), Friendswood, TX, retired from NASA after serving 32 years as an astronaut. His autobiography, titled *Spacewalker*, was released by Purdue University Press in January 2013.

Dr. David Spencer MSAAE'85, State College, PA has been promoted to full professor, Department of Aerospace Engineering, The Pennsylvania State University.

Joseph Speth BSAAE'86 is Senior Structural Design Engineer for Boeing Military Aircraft.



Purdue Alumna Named Young Engineer of the Year

Kimberly (Chalmers) Hicks BSAAE'06, Kent, WA, was named **Young Engineer of the Year** by the Puget Sound Engineering Council. She was nominated by the American Institute of Aeronautics and Astronautics (AIAA).

Kim is a systems engineer and design configurator for space and intelligence systems at the Boeing Company.

We have been delighted with the response to the Online Update Alumni Records page on the Aeronautics and Astronautics website. The web page to update your records can be found at:



<https://engineering.purdue.edu/AAE/Alumni/Update/AlumniRecords>

Dr. Leonard Srnka BSAAE'68, Bellaire, TX is Chief Research Geoscientist with ExxonMobil Upstream Research. He received his Ph.D. in Physics from the University of Newcastle at Tyne, England in 1974 where he was a Marshall Scholar. Len was a member of the Purdue chapter of Sigma Gamma Tau, and had the privilege to host astronaut Neil Armstrong on his visit to the Lafayette campus following the Gemini 8 mission in 1967. He was a postdoctoral fellow and a staff scientist at NASA's Lunar and Planetary Institute from 1974 to 1979, where he did research on the origins and evolution of lunar and planetary electromagnetism. Len joined Exxon Production Research Company in 1979, and held technical and management positions in electromagnetic methods, seismic methods, and bore-hole geophysics. He is currently Chief Research Geoscientist at EMURC, where his principal interest is integrated subsurface quantification. Len has twenty eight refereed publications, and sixteen patents issued or pending. Len is currently President of the European Association of Geoscientists and Engineers (EAGE) for 2012-13. In addition to EAGE, Len is a member of the Society of Exploration Geophysicists (SEG), the GSH, AAPG, and AGU. He was the SEG Spring 2007 Distinguished Lecturer, and received the SEG Virgil Kaufmann Gold Medal in 2007. He has served on numerous professional society committees and has also served on a number of U.S. government agency and university advisory boards, including the NSF Earth Science Directorate and Rice University's Department of Electrical and Computer Engineering.

Dr. Randy Stiles Ph.D.'80 has been named Associate Vice President for Analytic Support and Institutional Research at Grinnell College, Iowa. Stiles has taught courses at Colorado on the physics of flight. He previously served as a tenured faculty member at the U.S. Air Force Academy, where he taught courses in aeronautics and led the academy's Center for Educational Excellence. He has written articles on both pedagogy and on technical matters, and is co-author of a book on aircraft design. A fellow with the American Council on Education, Stiles is an experienced peer reviewer and a member of the board of directors of Educause, a nonprofit association that advances higher education through the use of information technology.

Stiles also has served as a team leader for the Higher Learning Commission of the North Central Association of Colleges and Schools. Stiles holds B.S and M.S. degrees in aeronautical and astronautical engineering from the University of Illinois. He earned an M.B.A. degree from Northeastern University and a Ph.D. in aeronautical engineering from Purdue.

Jeremy Tack BSAAE'95 Lake Stevens, WA is Engineer L4 for The Boeing Company.

Jeff Tyrcha BSAAE'94, Orlando FA is Vice President, Business Development and Marketing, Adacel Systems Inc.

Nicholas Walls BSAAE'10, Elk Grove Village, IL. is a Project Engineer with GE Oil and Gas.

Tied the Knot

Michael Coffey BSAAE'09 and **Laura (Duda) Coffey** BA'08 of Liberty Township, OH, were married on Nov. 5, 2011.



Becky Dale BSAAE'06 and **Leon Walters** MSAAE'04 were married June 30, 2012.

Brien Piersol BSAAE'10 and **Emily (Drott) Piersol** BSME'10, MSME'11, Fort Worth, TX, were married on Nov. 11 in Houston, TX.

Births

AAE faculty member **Dr. Alina Alexeenko** and her husband Dimitri welcomed baby son Aris Daniel Peroulis on September 22, 2012. He weighed in at 8 lbs 3 oz and was 20 inches in length.

AAE faculty member **Dr. Dan DeLaurentis** and his wife Po-Ching welcomed baby son Ambrose Andrew Chen-Guang DeLaurentis, on September 6, 2012. He weighed 7 lbs at birth and measured 20 inches in length.

Joel Falardeau BSAAE'03, MSAAE'06 and



his wife Susan, Merritt Island, FL, welcomed the birth of their son Michael Roland Falardeau born four weeks early on March 11, 2012, weighing 6 lbs 2 oz and measuring 21 1/2 inches long.

Alex Fleck BSAAE'02 and his wife welcomed their third child on July 24, 2012.

Robert Manning BSAAE'04, MSAAE'06



and his wife Jeanette welcomed their daughter, Alisha Louise, September 26, 2012. She was 6 lbs 15 oz and was 20 inches long.

George (Chip) Pollock BSAAE'05, MSAAE'07, Ph.D.'10 and his wife Amy welcomed baby Felix Parke Pollock on September 16, 2012. He is welcomed by older sister Imogen and big brother George.



Karla (Childress) and **Sam Rodkey** welcomed Hannah Jubilee Rodkey on June 19, 2013.

AEROGRAM PUBLICATION

Please contact us at aae-alumni@ecn.purdue.edu so that we can add you to our electronic mailing list. You can be assured that this mailing list is private and will not be released to a third party. Thank you for helping us think Green.



AAE alumnus Michael J. Corso BSAAE'71; OAE'11 Achieves 30 year milestone of Legal Expertise

Litigation Attorney **Michael J. Corso** BSAAE'71; OAE'11 has maintained Florida Bar Board Certification in Civil Trial Law for 30 years. Board certification evaluates attorneys' special knowledge, skills and proficiency in various areas of law and professionalism and ethics in practice.

Corso is chair of Henderson Franklin's Tort & Insurance Litigation division. He focuses his practice in matters involving product liability and the defense of non-medical professionals such as lawyers, accountants, architects, engineers and surveyors.

Corso has received much recognition throughout his legal career, including the Florida Defense Lawyers Association President's Award, the Defense Research Institute's Exceptional Performance Citation, as well as being named to *Florida Super Lawyers*® magazine, *Florida Trend* magazine's Legal Elite® and Best Lawyers in America. Corso is also AV-rated by Martindale-Hubbell. He is a member of the American Institute of Architects, Florida Engineering Society, past president of the Florida Defense Lawyers Association and he serves on the School of Aeronautics and Astronautics Industrial Advisory Committee.

His 30 years as a Board Certified Civil Trial Lawyer is a testament to both his abilities and his status within the profession.

In Memoriam

Byron L. Anderson BSAE'48, West Lafayette, IN, April 8, 2012

He is survived by his wife, Irene.

Wayne R. Anderson BSAE'73, M.S. ME'75, Farmington, MO, November 16, 2011

Neil A. Armstrong BSAE'50, HDR'70, OAE'99, Lebanon, OH, August 25, 2012

He is survived by his wife Carol (see page 19).

Melvin Alexrod BSAE'50, Port Washington, NY, September 29, 2012

He is survived by his wife, Arlene.

Richard W. Beall BSAE'51, Buckley, WA, December 12, 2011

Neil E. Beckwith BSAE'59, Ph.D. M'70, South Bend, IN, March 9, 2012

Mark Leslie Breese BSAAE'77, Auburn, WA, October 30, 2011

Charles William Bright BSAE'49, Lancaster, CA, July 4, 2012

He is survived by his wife, Donna.

Harry H. Bristol Jr. BSAE'48, Lompoc, CA, November 20, 2012

James E. Brown BSAE'61, Indianapolis, IN, August 23, 2012

Blaine R. Butler MSAE'61, Ph.D.'65, Melbourne, FL, May 29, 2012

He is survived by his wife, Ann.

Lawrence T. Cargino BSAE'48, West Lafayette, IN, January 14, 2012

He is survived by his wife Frances (see also page 13).

Patrick Carroll BSAAE'51, Centennial, CO, February 2013

M. Stuart Cavell BSAE'49, Ft. Wayne, IN, October 20, 2012

He is survived by his wife, Marjorie (HHS'49)

Claire E. Chapin BSAE'59, Ph.D.'67, Oakland, CA, March 22, 2012

John B. Chickering MSAE'50, Tucson, AZ, April 9, 2012

Paul E. Cowdin BSAE'48, Fort Myers, FL, November 4, 2012

Gary W. DeBaun BSAE'72, Crawfordsville, IN, Jan. 7

William P. DeMichieli BSAAE'61, Englewood, FL, Jan. 1

William F. Drewe BSAE'49, Tustin, CA, May 30, 2012

Professor Chuck Ehresman MSAE'51, August 22, 2012.

Chuck spent many years at Purdue as a student, as a faculty member and as an administrator. He received his master's degree working under Prof. Maurice Zucrow in 1951 and then went to AeroJet General Corporation in California before being recruited back to Purdue in 1964. From 1977 to 1981 he served as Operations Manager of the then Thermal Sciences and Propulsion Center, now known as Maurice J. Zucrow Laboratories. Chuck retired from ME in 1992.

Jerome F. Falta BSAE'52, June 21, 2011. He is survived by his wife Mary.

Bruce H. Fetz BSAE'60, MSAE'62, Middletown, NJ, November 11, 2012.

Paula Feuer Professor Emerita, November 25, 2015 aged 90.

Professor Feuer joined the faculty in 1954 as an instructor in engineering sciences before the merger with aeronautical engineering in 1960. She was promoted to assistant professor in 1955 and to associate professor in 1957 and to professor in 1965. She earned a Bachelor of Arts degree from Hunter College in 1941, followed by a master's degree and Ph.D. in physics from Purdue in 1946 and 1951. Her research was in solid state physics, and she taught courses in statistical mechanics, electromagnetic theory, and materials properties. She retired in 1987 and it is believed that Prof. Feuer was the first female professor in the engineering sciences program.

Lyle E. Genens BSAE'55, Mokena, IL, August 4, 2012

He is survived by his wife, Malvin.

Professor Joseph Genin, former Professor of Aeronautics and Astronautics, May 6, 2013 aged 82. Prof. Genin came to Purdue in 1964 after working for a year at the General Dynamics Corporation in Fort Worth, Texas, as a structural engineer. He obtained a bachelor's degree in civil engineering at the City College of New York in 1952, a master's

degree in structural engineering at the University of Arizona in 1957, and a Ph.D. in engineering mechanics at the University of Minnesota in 1963.

He was promoted in 1969 and moved to Mechanical Engineering in 1973.

Stanley L. Groover BSAE'56, Millersville, MD, July 31, 2012

Joe C. Gruber BSAE'47, Cheyenne, WY, June 23, 2012

Richard H. Haase BSAE'45, Port Saint Lucie, FL, February 5, 2012

Charles P. Hagberg BSAE'57, Redmond, VA, October 31, 2012

James F. Hall BSAE'60, Ocala, FL, October 12, 2012

Melvin A. Hiatt BSAE'46, Kenmore, WA, April 19, 2012

Charles C. Higgins BSAE'50, Redmond, VA, August 1, 2012

Russell J. Houston BSAE'47, Levittown, PA, September 1, 2011

Mark L. Jagers BSAAE'87, Louisville, KY, July 13 2012

Greg R. Johnston BSAE'54, Sun City West, AZ, August 12, 2011

Jim J. Jones BSAE'49, Hampton, VA, October 16, 2012

Fritz O. Kahl BSAE'45, Rock Hill, SC, April 24, 2012

Nathan Laskin BSAE'45, Phoenix, AZ, January 1, 2012

Oscar A. Levi BSAE'52, Lancaster, CA, July 23, 2012

Joan H. (Lowell) Johnson P'53, Kokomo, IN, January 6, 2013.

She is survived by her husband David Johnson BSAE'53.

Edward J. Luppi BSAE'49, Hamden, CT, January 24, 2012

John L. MacGregor BSAE'56, Virginia Beach, FL, July 20, 2012

He is survived by his wife, Betty.

Desco E. McKay BSAE'50, Indianapolis, IN, March 2, 2012

Jack Austin Marchand BSAE'56, West Lafayette, IN, September 1, 2012

Theofanis M. Mavromatis BSME'84, MSAAE'87, Manhattan Beach, CA, Apr. 28

James E. May MSAE'50, Auburn, CA, August 10, 2012

Robert A. Metz BSAAE'69, Baroda, MI, Nov. 30, 2012

John C. Montgomery BSAE'45, Bluffton, SC, May 17, 2011

Harold W. Narigan BSAE'48, Lancaster, PA, April 15, 2012

Richard B. Neese BSAE'54, Clermont, FL, November 2, 2011

Warren J. North BSAE'47, Glendale, AZ, April 10, 2012

Allen S. Novick BSAE'65, MSAE'67, Ph.D.'72, Indianapolis, IN, December 8, 2012

(see page 13).

James E. Randall BSAAE'61, Albuquerque, NM, Aug. 25

Kermit E. Reed BSAE'45, Madisonville, KY, March 22, 2011

James F. Ritchey BSAE'59, MS AAE'61, Noblesville, IN, Jan. 28

He is survived by his wife, Nancy.

L. Eugene Richardson BSAE'68, Renton, WA, October 30, 2012

Raynold J. Sedlak MSAE'58, Decatur, AL, October 27, 2012

John R. Simmons BSAE'54, LaFontaine, IN, June 6, 2011

Earl J. Slanker BSAE'48, Cincinnati, OH, March 28, 2012

Richard H. Spidell BSAE'51, Joplin, MO, March 3, 2012

William J. Usab Sr. BSAE'58, Jupiter, FL, November 11, 2012

Gilbert H. Vrick, Jr. BSAE'57, Shell Knob, MO, September 16, 2012

Donald E. Wert BSAE'57, Las Vegas, NV, December 16, 2011

Richard J. Wheaton BSAE'49, Carmel, IN, November 17, 2012

He is survived by his wife, Betty (HHS'43).

Thomas A. Wiley, Jr. BSAE'48, Atlanta, GA, March 19, 2012

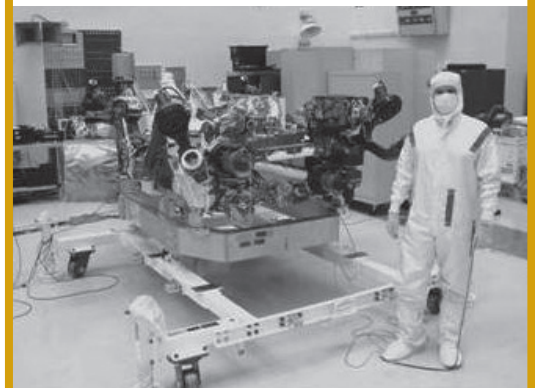
Richard M. Young BSAE'50, Pebble Beach, FL, October 16, 2012

David S. Wright BSAAE'79, Gulfport, FL, December 6, 2012

Charles L. Zergiebel BSAE'54, Nashville, TN, November 25, 2012

**Dr. Douglas
Adams BSAE'94,
MSAAE'96, Ph.D.'01**

Professor Pizza Series



Student organization Aeronautical and Astronautical Student Advisory Council (AAESAC) hosted Purdue alumnus Dr. Douglas Adams on October 5, 2012 in the Professor Pizza series of talks.

Dr. Adams is a senior member of the Spacecraft Structures and Dynamics Group at NASA's Jet Propulsion Laboratory in Pasadena, California. His background includes work in structural dynamics, mechanics of materials, fracture mechanics, composite materials, as well as spacecraft attitude dynamics and control. Most recently he served as the Parachute Cognizant Engineer for the Mars Science Laboratory which successfully landed on August 6, 2012. He is currently working as the Dynamics Modeling Lead for the Solid Moisture Active Passive rotating radar platform mission and also as a systems engineer and analyst for the Low Density Supersonic Decelerator project.

See also page 35.

AAE 2012-2013 DONOR HONOR ROLL

Your financial support leaves a lasting impact on Purdue and the School of Aeronautics and Astronautics. These gifts help us to achieve our mission in preparing students to be leaders in the aerospace field.

Our annual Donor Honor Roll covers the period July 1, 2012 – June 30, 2013 and lists our alumni and friends and corporate donors who have given generously of their financial resources to support the School of Aeronautics and Astronautics. Many thanks for your investment in us.

Thank you for your support. The Donor Honor Roll is published on the Alumni page of the School web site at: <https://engineering.purdue.edu/AAE/AboutUs/Giving/honorroll>



Dear AAE Alumni and Friends,

We have had another exciting year! I have had the pleasure of meeting many of you and hearing more about your stories and how Purdue has greatly influenced your lives. You have given back so much in terms of your time working with the students, faculty and staff, as well as your monetary donations to make this an even better school. We have been able to increase the number of scholarships for the undergraduate students and fellowships for graduate students, as well as several new endowments that will help many future students and faculty. These are things that will continue to make this school even better and will continue to improve upon an already great AAE degree. You can be very proud of the way in which Purdue continues to strive for excellence in everything that we do.

As we look towards the next school year, we welcome the opportunity to hear from you. We hope that you will be able to come back to campus and see our wonderful facilities and hear from our students about what kinds of experiences they are having and talk about those that you had while here on campus. Engaging with the students is so important, as it gives them a sense of what the future will hold for them, and it also allows you to see how truly talented these students are today. Please do let us know when you are able to make that visit, so that we can make it as meaningful as possible.

I hope that you enjoy reading about all of the activities that have happened this past year and are looking forward to all of the new events coming up this year. We are in the midst of a tremendous movement towards making Purdue University an even better place, so we hope that you will join us in supporting this great effort.

Hail Purdue!

Rita Baines



Rita Baines
Director of Development
(765) 494-9124
rbaines@purdue.edu

Professor Emeritus Larry Cargnino

Cooperative Education Hall of Fame

Professor Emeritus Larry Cargnino was posthumously inducted into Purdue University's Cooperative Education Hall of Fame on October 12, 2012. Professor Cargnino, who passed away January 2012, was committed to providing Purdue students with real-life work experiences as both the founder and coordinator of the Co-op Program in the School of Aeronautics and Astronautics.

In 1964, Larry developed the **Cooperative Engineering Education Program** between the School of Aeronautical and Engineering Sciences and major Aerospace companies. In that first year, seven students were placed in five different companies. The successful Co-op program continues to this day with numerous alumni having taken part in the Co-op program.

During Cargnino's retirement in 1995, he co-authored a book titled: "One Small Step – a History of the First 50 Years of the School of Aeronautics and Astronautics at Purdue" with Professor Emeritus 'Gus' Gustafson and Professor Skip Grandt. He has impacted the lives of thousands of students during his tenure at Purdue with the School of Aeronautics and Astronautics.



Frances Cargnino with daughter and son-in-law Marilyn and Tom Bruce with Professor Emeritus Gus and Mrs. Sally Gustafson, Prof. Skip Grandt, Prof. Wayne Chen, Professor Emeritus George and Mrs. Patricia Palmer and head of school Dr. Tom Shih

We are seeking your assistance to help us honor the late *Professor Emeritus Larry Cargnino.*

In recognition of Prof. Cargnino's many contributions and tireless dedication, The LAWRENCE T. CARGNINO COOPERATIVE SCHOLARSHIP, has been created in his honor by his wife Frances and their family and friends. The undergraduate scholarship is designed for in-state students enrolled in the School of Aeronautics and Astronautics Cooperative Program in the College of Engineering.

For more information, please visit <https://engineering.purdue.edu/AAE/AboutUs/Giving>.

Dr. Allen S. Novick BSAE'65; MSAE'67; Ph.D.'72; DEA'06; OAE'06

September 16, 1942 – December 8, 2012



Dr. Al Novick, AAE's distinguished alumnus and our school's honorary industry professor, passed away on Dec. 8, 2012.

He brought honor to Purdue through his distinguished accomplishments at Rolls-Royce (retired as a VP) and the gas-turbine industry. Dr. Novick was a passionate Boilermaker and has contributed greatly to help

Purdue move forward through his thoughtful advice, guidance, and support.

For his accomplishments, Dr. Novick was recognized by the Outstanding Aerospace Engineer Award in 2006, our department's highest award, and by the Distinguished Engineering Alumni Award in 2006, our college's highest award. The School of Aeronautics and Astronautics will miss his input and guidance.

Dr. Allen Novick Scholarship Fund

Dr. Novick's family has requested that the best way to honor their father is through a scholarship in his name for Purdue University students. To contribute to this scholarship, please send check to Purdue Foundation with a note on the check, stating that it is for the *Allen Novick Scholarship Fund.*

The mailing address is: Purdue University, Dauch Alumni Center, 403 W. Wood Street, W. Lafayette, IN 47907. Further information can be obtained from AAE's Director of Development. *Thank you in advance for your support.*

Pratt and Whitney Rocketdyne, Inc

A check for undergraduate and graduate scholarships was presented on behalf of Pratt and Whitney Rocketdyne by Dr. Munir M. Sindir, Director of Engineering Technical Disciplines and a member of the Steering Advisory Committee (SAC) to Dr. Tom Shih, professor and head of School of Aeronautics and Astronautics.

The School of Aeronautics and Astronautics is grateful to generous alumni, friends of the School, and industrial partners that provide support for scholarships and student support.

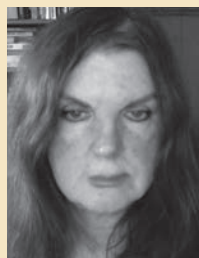


(L-R) Dr. Munir Sindir, Dr. Tom Shih, Rita Baines

The Jim and Holly Longuski Astrodynamics and Space Applications Fund

An endowment has been created by AAE Professor Jim Longuski and his wife Holly. *The Jim and Holly Longuski Astrodynamics and Space Applications Fund* will support tenure-track and tenured faculty members working in Astrodynamics and Space Applications at Purdue's School of Aeronautics and Astronautics.

The endowment will create an annual unrestricted fund to be used at the discretion of tenure-track and tenured faculty working in the area of Astrodynamics and Space Applications beyond Earth Orbit. The faculty recipient would be able to use the funds for travel, summer salary, research assistant support, and similar projects and expenditure.



Holly Longuski



Jim Longuski



U.S. News & World Report Graduate Rankings – AAE is ranked #6

U.S. News & World Report published their annual rankings of graduate programs in March 2013. Purdue's College of Engineering was ranked #8 in the country.

All Purdue engineering disciplines have top-25 rankings with eight ranked in the top 10. AAE retains its ranking at #6.

U.S. News & World Report Undergraduate Rankings – AAE is ranked #4

U.S. News & World Report published their annual rankings of undergraduate rankings in September 2012. Purdue is #10 among engineering programs at doctoral-granting universities, tied with Princeton and UT-Austin. AAE retains its ranking at #4.

Purdue's International Student Population Ranks 2nd for Public Schools

Purdue University continues to have the second-largest international student population among U.S. public universities and is fourth overall, according to a report released Monday (Nov. 12) by the Institute of International Education.

The 2012 Open Doors report is based on the 2011-12 academic year, and it reports Purdue had 8,563 international students. This number is larger than Purdue's reported 7,934 for Fall 2011 because the institute includes recent graduates who are still affiliated with their universities. According to Open Doors, international students contributed \$22.7 billion to the U.S. economy.

PURDUE
UNIVERSITY

Pioneers Small Step, Achieves Giant Leap

CLASS OF 1943

*If I have seen further, it is by
standing on the shoulders of giants*
— Isaac Newton

As we look forward to the future, we celebrate our past and trace our roots back to the pioneers of the Class of 1943 who took the first degree in aeronautical engineering in the School of Mechanical and Aeronautical Engineering.

In the fall of 1940, the first undergraduates entered Purdue to take the newly created aeronautical degree under the new ME/Aero program. Due to WWII, the university had gone on an accelerated three-semester-per-year schedule and the first 32 graduates were ready to receive their diploma in August 1943. These pioneers set the university on a path toward becoming a major influence in the aerospace world and set the academic standards for subsequent generations of students.

For the last 70 years since 1943, Purdue's aeronautical engineering graduates have made significant contributions to the aerospace field and have held positions of high responsibility in government and private industry. Twenty-three graduates of Purdue have become astronauts, and of these, fourteen have been graduates of the School of Aeronautics and Astronautics.

The information below can be found in 'One Small Step The History of Aerospace Engineering at Purdue University' on page 288 (2nd Edition) and is edited from a booklet prepared in 1993 by **James R. Dunn BSAE'43** to commemorate the 50th anniversary of his class's graduation. Part of that preface of that booklet is reproduced below.

Several members of the class did not graduate until after their military service, but nevertheless participated in the creation of the aero school. Most of the class contributed in one way or another in building the wind tunnel, setting up the engine test labs at the airport, helping edit Professor Bruhn's structures book and in general, test, and form the curriculum for a B.S. in aero engineering.



Purdue's first class of aeronautical engineers (1943) at their 50th reunion (April 1993)
Left to right, back row: M. Howland, R. Herrick, P. Brink, R. Boswinkle, D. Ochiltree, J. Goldman, W. Fleming, I. Kerr. Front row: A. Streicher, C. Hagenmaier, J. Dunn, J. Allen, R. Beebe, R. Pendley

Over the 50 years, (1943 – 1993) members of the class of '43 have led or contributed to the rapid development of the aerospace industry and some astonishing achievements undreamed of in 1943. Then no one had flown an aircraft through the sonic barrier, and space flight was only accomplished by Buck Rogers in the comics. In fact, air travel was in its infancy. The new DC-3 landing at Purdue's airport was an exciting event. Airplanes were not pressurized for high altitude so that flying through weather was always uncomfortable. Speed and payload were limited by propulsion with reciprocating internal combustion engines and by propeller tip speed. Professor Wood made the point that "if you had enough power, you could fly a brick."

Since then, the members of the class have participated in the broad range of technical evolution, which has revolutionized travel and virtually every aspect of living in the 1990s. Our graduates have helped engineer the major developments in aircraft jet engines, rocket engines, and their accessories. They have done research and design in aerodynamics and structures, which have produced the finest military and civilian aircraft in the world and space achievements of greater breadth and depth than all the others of the world. Other members of the class have used their engineering in other fields with great success and several have made teaching their careers.

2013-2014 will be a year of continued academic success and world renowned research while staying true to our roots. As we celebrate 70 years since our first aeronautical engineering degree, our school reflects on an eventful past and looks forward to an exciting future.

School of Aeronautics and Astronautics – 40 Years and Counting...

Our school has gone through significant changes since we became an independent school in 1945. We merged with the Division of Engineering Science in 1960 and our name became the School of Aeronautical and Engineering Sciences. This name continued until 1972 and the present name of the School of Aeronautics and Astronautics was adopted in 1973.

Further details of the history of the Purdue School of Aeronautics and Astronautics are described in *One Small Step: The History of Aerospace Engineering at Purdue University*. *One Small Step* is sold by the Purdue University Press.

The School of Aeronautics and Astronautics will be at Homecoming 2013 on September 28th. Before the game, come visit our booth on the Engineering Mall. Further details can be found on our website <https://engineering.purdue.edu/AAE>

First Joint Meeting of the Industrial Advisory Council (IAC) and Steering Advisory Council (SAC)

The School of Aeronautics and Astronautics hosted the first joint Industrial Advisory Council (IAC) and Steering Advisory Council (SAC) meeting on April 18-19, 2013.

The Industrial Advisory Council (IAC) serves an important role in the School of Aeronautics & Astronautics. The success of our programs depends on strong support from industry, and the IAC serves as a link between industry and the university. The IAC meets twice a year in the fall and spring and reviews a large variety of topics related to our current operations and future goals.

The Steering Advisory Council (SAC) was formed on December 1, 2009 and advises and helps our school in exploring and creating major opportunities in the aerospace arena that are timely and important at the national level, and where the School of Aeronautics and Astronautics can take a leadership role.

We sincerely appreciate the efforts of the members of the IAC and the SAC to take time from their busy schedules to assist us in our programs and to give us valuable advice, help and support.

The full list of the IAC and SAC members are listed below.

Industrial Advisory Council 2012-2013

Mr. Frank H. Bauer (BSAAE'79, MSAAE'80)

Vice President for Strategic Programs • Emergent Space Technologies

Mr. Bradley Duane Belcher (BSAAE'82)

Research & Technology Program Executive • Rolls-Royce Corporation

Dr. Paul M. Bevilaqua (MSAAE'68, Ph.D.'73)

Professor • Department of Mechanical and Aerospace Engineering • University of Miami

Col. (Ret.) Mark N. Brown (BSAAE'73) Aerospace Consultant • Mark Brown Consulting, LLC

Ms. Andrea M. Chavez (BSAAE'88) Director • Manufacturing & Test Operations • Ball Aerospace & Technologies Corp.

Mr. Michael J. Corso (BSAAE'71)

Department Chair • Tort and Insurance Litigation Department • Henderson, Franklin, Starnes & Holt, P.A.

Mr. Daniel F. Devitt (BSAAE'75) Sr. Director of Engineering/Chief Engineer • American Eurocopter

Mr. Michael P. Dreessen (BSAAE'83) Vice President • Ducommun—Miltec

Dr. Markus B. Heinemann (BSAAE'92, MSAAE'94, Ph.D.'97) Technology Manager • Aerospace, Alcoa, Inc

Mr. Andrew H. Kasowski (BSAAE'72) Retired Vice President • Engineering Product Development • Cessna Aircraft Company

Dr. Andrew M. King (MSME'84, Ph.D.'88) Director, S & IS Mission Assurance • Boeing Defense, Space and Security • The Boeing Company

Mr. Stephen S. Kress (BSAAE'75) Group Technical Staff, Integrated and Programs • Lockheed Martin Missiles, and Fire Control • Lockheed Martin Corporation

Ms. Mary Kriebel (BSAAE'85) Propulsion Systems Manager • Northrop Grumman Corp.

Mr. Thomas L. Maxwell (BSAAE'69) Consultant • GE Aviation • Retired General Manager • GE Aircraft Engines

Mr. David K. McGrath (BSAAE'83, MSAAE'84) Director, Systems Engineer • Tactical Propulsion and Controls • ATK Elkton Operations

Mr. Leon McKinney (BSAAE'81, MSAAE'82) President • McKinney Associates

Mr. Gary E. Mitchell (BSAE'60) Retired — Vice President • Boeing Integrated Defense System

Mr. Gary E. Payton (MSAAE'72) Distinguished Visiting Professor in the Erdle Chair in Engineering

Sciences; U.S. Air Force Academy Retired Deputy Under Secretary for Space • U.S. Air Force

Ms. Erika J. Pearson (BSAAE'93) Business Director/Deputy VP Asia Pacific Sales & India Sales • Boeing Commercial Airplanes

Mr. James P. Renna (BSAAE'86) Vice President, Engineering Safety, Test and Evaluation • Sikorsky Aircraft

Dr. Richard Byram Rivir (BSAE'60) Chief Scientist, Propulsion Directorate • United States Air Force, U.S. Department of Defense Liaison for Purdue

Mr. Charles Robert Saff (BSAAE'71) Retired, Boeing Technical Fellow—Structures • Boeing Research and Technology

Mr. Randal E. Secor (BSAAE'76) Director • Deputy IPT Lead • MAMS UAS • Northrop Grumman Corporation

Dr. Robert L. Strickler (BSAE'60, MSAE'62, Ph.D. ME'68) Private Consultant

Retired Vice President/General Manager for Space and Missile Systems • Energy and Environmental Systems • TRW

Dr. Anthony L. Thornton (Ph.D.'92) Deputy to Vice President for Technology & Programs • Sandia National Laboratories

Mr. William "Ted" Torgerson (BSAAE'83) Director — Program Manager • Phantom Works • Boeing Company

Mr. John J. Walsh (BSAAE'82) President • Sypris Electronics LLC

Mr. Glenn Weissinger (BSAAE'77, MSIA'78) Vice President — Strategic Planning • Lockheed Martin Aeronautics



Front Row (L-R)
 Douglas Bowers,
 Dennis Warner,
 Glenn Weissinger,
 Stephen Kress,
 Alton Romig

Middle Row front (L-R)
 Natalie Crawford

Middle Row back (L-R)
 Markus Heinemann,
 Robert Strickler, Gary
 (Bud) Mitchell, Frank
 Bauer, Andrea Chavez,
 Brad Belcher, Charles Saff

Back Row (L-R)
 Richard Rivir, Andrew
 Kasowski, Matt Szolwinski,
 Munir Sindir, Daniel
 Devitt, Jamie Renna,
 David McGrath

Paul R. Adams

Senior Vice President of Engineering & Technology • Pratt & Whitney
 Guest Member

Douglas L. Bowers (BSAAE'72)

Director, Propulsion Directorate • AFRL/RZ •
 United States Air Force Research Laboratory U.S. Department of Defense Liaison for Purdue

Natalie W. Crawford

Senior Fellow • RAND Corporation

Darryl W. Davis (BSAAE'78)

President • Phantom Works • Boeing Integrated Defense Systems

William H. Gerstenmaier (BSAAE'77)

Associate Administrator • Human Exploration and Operations • NASA

Thomas L. Maxwell (BSAAE'69)

General Manager • Military Systems and Design Integration • GE Aircraft Engines

Alton D. Romig, Jr.

Vice President and General Manager • Skunk Works • Lockheed Martin Aeronautics Company

Munir Sindir

Director of Engineering Technical Disciplines • United Technologies Corporation • Pratt & Whitney Rocketdyne

Matt Szolwinski (BSAAE'93, MSAAE'95, Ph.D.'98)

Manager • GENx Systems Engineering • GE Aviation

Tom Vice (B.S.'86) Corporate VP and President • Northrop Grumman Aerospace Systems • Northrop Grumman Corporation

Dennis Warner (B.S.'73, MSME'76)

President and CEO • Rolls-Royce North American Inc. • Aero Engine Control, North America
 Sigmar Wittig Professor • Karlsruhe Institute of Technology Member of the Board of Presidents • The Technical University
 System of the State of Niederachse — Association of Universities of Hannover, Braunschweig, and Clausthal

**Steering Advisory Council
 2012-2013**

Thank You!



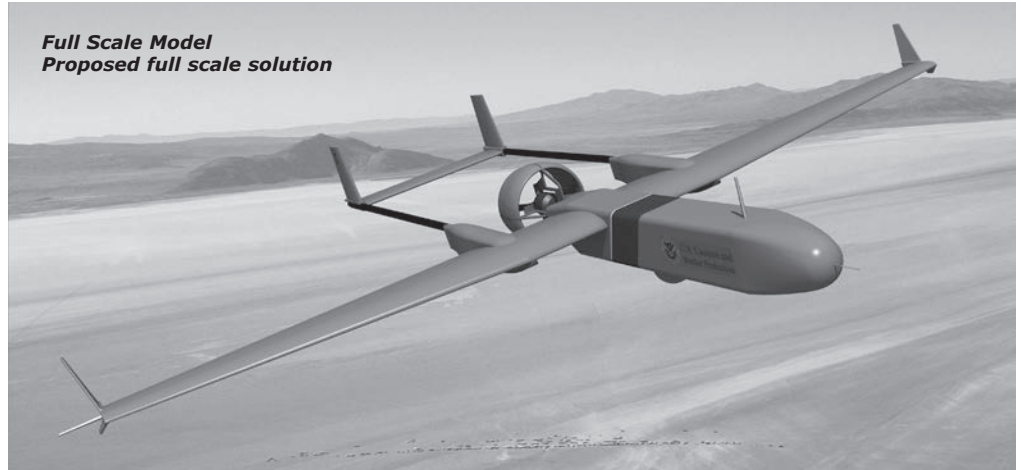
President Mitch Daniels co-chairs human spaceflight meetings

Purdue University President Mitch Daniels was asked to co-chair a National Research Council committee to review and make recommendations on the future of the U.S. human spaceflight program. The appointment to the Committee on Human Spaceflight runs through June 30, 2014. He was in Washington, D.C., on April 22-24 to take part in the first meetings since he was asked to join the committee in February 2013.

As a part of the NASA Authorization Act of 2010, Congress requested NASA to fund the research and the National Research Council to oversee it. The Committee is tasked with providing recommendations that could guide future goals and planning for U.S. human spaceflight exploration.

The National Research Council is part of the National Academies, an organization that produces reports to guide policies, to inform on public opinions, and to advance science, engineering, and medicine. The National Academies consist of the National Academy of Engineering, the National Academy of Sciences, and the Institute of Medicine.

Student Team Selected as Semi-Finalists in a Small Unmanned Aircraft System (SUAS) Design Competition Sponsored by the Department of Homeland Security



Full Scale Model
Proposed full scale solution

Dr. John Sullivan and the Fall 2012 AAE 590 Design-Build-Test class designed and proposed a Small Unmanned Aircraft System (SUAS) to the BORDERS SUAS design competition. The team's proposal has been selected for funding and was awarded a \$30,000 grant to continue researching and developing a solution.

The SUAS competition was held through The National Center for Border Security and Immigration (BORDERS), a Department of Homeland Security (DHS) Center of Excellence led by The University of Arizona.

In order to provide proof of concept, the team designed, built, and flight tested two scaled prototypes: a twin boom configuration and a Vertical Take-off and Landing configuration. Some of the technologies that these models utilized include: an on board auto pilot system, ducted fan propulsion units, fiberglass structures, and sectional modularity for rapid deployment. These two platforms proved to be exceptional solutions to the original specifications in the DHS's request for proposal.

In addition to the technologies on the scaled prototypes, the final product will feature: a ducted fan propulsion unit with acoustic stealth, carbon fiber structures, retractable landing gear, an Electro-Optical/Infra-Red sensor with a live video feed, diesel hybrid-electric system, beyond line of sight capabilities, ground control station capable of first-person flight or map-based waypoint control, and integration into the National Aerospace System using Automatic Dependent Surveillance Broadcast.

Flight Test

Design - Build - Fly team at the flight test of the UAV prototypes

(L-R) Philip Baldwin, Finu Lukose, Eric Maglio, Lloyd Strohl, Dr. John Sullivan, Nicolaus Caniza, Stephen Bachhuber, Michael Munizzi, Adam Loesch, and Haogong Wei.

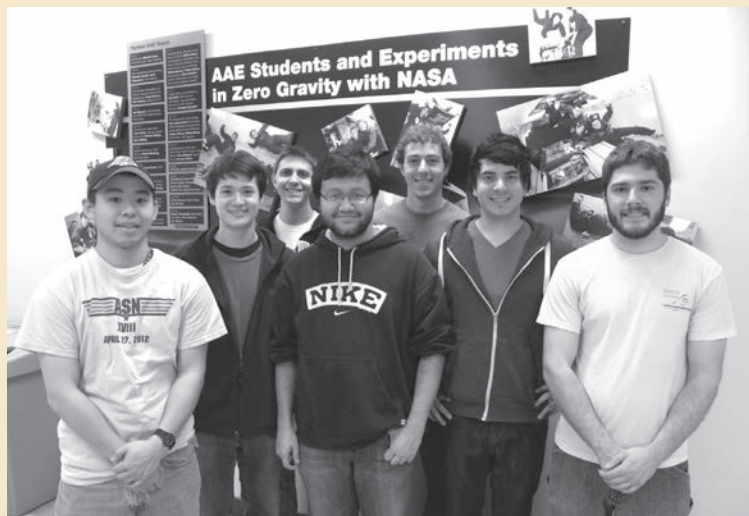
Not Pictured: Rubin Cholera, Michael Dziuba, Christopher Menchaca, Li Pan, Weixiao Shang, Nickolas Sinopoli, Cody Tyler, Saagar Unadkat, Nikhil Varma, Christian Vuong, and Andy Yu.



AAE's 35th & Purdue's 47th student team to fly on NASA's "Vomit Comet"

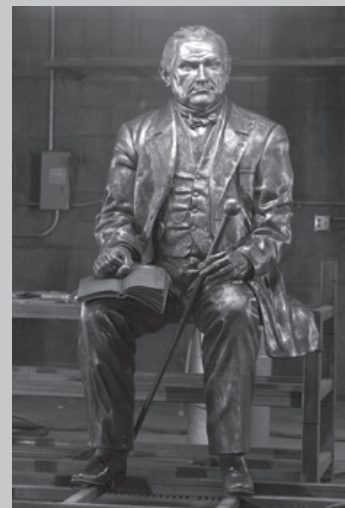
AAE's 35th & Purdue's 47th team was selected to fly in summer 2013 in NASA's Reduced Gravity Student Flight Opportunities Program, or RGSFOP. They are part of Prof. Steven Collicott's unique design-build-test class AAE418 - Zero-Gravity Flight Experiment class. The team's proposal led by Joe Fakler is "Water Removal in Proton Exchange Membrane Fuel Cells." The team worked since August 2012 in experiment design, fuel cell operational details, K-12 outreach, proposal writing, and fabrication of prototypes to show the feasibility of the unique parts of the proposed experiment construction techniques.

NASA's Flight program, also affectionately known as the Vomit Comet provides periods



(L-R) Chris Yamamoto (alternate), Joshua Wolf (flyer), John Yerant (reserve), Sagar Thapa (flyer), Brent Justice (flyer), Patrick J. Griffin (flyer), Joe Fakler (team leader and flyer)

of weightlessness lasting about 25 seconds during a 'parabola' giving students little time to perform their science research. Purdue has had one or more teams every year selected since the program began in 1996.



John Purdue Statue Dedication

A bronze statue of Purdue's benefactor and namesake was dedicated April 14 depicting John Purdue on a bench at a site near University Hall where it is said the man himself sat almost 140 years ago.

The statue of John Purdue on a bench with a regal cane and an open book is located east of University Hall and south of Memorial Fountain and John Purdue's grave. The inscription on the bench reads: "For John Purdue, education was the flame that lit the world," a quote from his biography.

John Purdue, the university's primary benefactor, lived from 1802-1876. He was a prominent businessman in Lafayette and was known for taking special interest in students - even paying for the education of those he thought held promise.

The statue was made possible through support from Purdue alumni and friends, the Order of Iron Key Class of 2012, and the university.

Carol Armstrong visits the School of Aeronautics and Astronautics

Mrs. Carol Armstrong, widow of Neil A. Armstrong, made an impromptu visit to the School of Aeronautics and Astronautics on April 13, 2013.

AAE senior Becky Cutting gave Mrs. Armstrong and granddaughter Piper a tour of Armstrong Hall and emphasized the importance of Neil's influence on both Purdue in general and our school in particular.

On this tour, students who were studying in ARMS 2106 computer lab were excited to meet with Mrs. Armstrong and Piper.

For Becky, it was a delight and pleasure to be able to show Mrs. Armstrong the many uses of the Neil Armstrong Hall of Engineering.



(L-R) Victor Gandarillas, Becky Cutting, Mrs. Armstrong with Piper in front, Colleen Mahoney, Sarah Marx, Andrew Cox and Tom Rich

College of Engineering

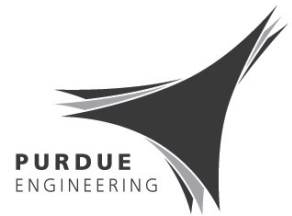
Strategic Growth Initiative

Purdue's College of Engineering continues on a period of remarkable growth. Under the leadership of Leah Jamieson, the John A. Edwardson Dean of Engineering, and with the support of the Provost and Board of Trustees, the size of the CoE faculty is to be increased by as much as 30% and the CoE staff by 28%. Growth on this scale is an opportunity for transformational change.

Strategic growth will now complement, leverage, and intertwine with the College's ongoing strategic plan, "Extraordinary People, Global Impact." Going forward, the themes of strategic growth and strategic plan will combine to form the new framework for "Extraordinary People, Extraordinary Growth, Extraordinary Impact." Over the coming year, we will develop the plans that will shape the future of the College. On an even greater scale, "We will be known for our impact on the world."



**Leah Jamieson, the John A. Edwardson
Dean of Engineering**



"Extraordinary People, Extraordinary Growth, Extraordinary Impact."

FUTURE IMPORTANT DATES 2013-2014

August 9, 2013	Purdue Day at the State Fair
August 19, 2013	Fall classes begin
September 6-7, 2013	Maurice J. Zucrow Laboratories Alumni Reunion
September 7, 2013	Band Day – Purdue vs. Indiana State
September 13, 2013	Industrial Advisory Council Meeting
September 13, 2013	Outstanding Aerospace Engineer Award Banquet – Four Points by Sheraton, West Lafayette, IN
September 14, 2013	Purdue vs. Notre Dame (Gold and Black Game)
September 27-29, 2013	Alumni Weekend/Homecoming/Family Day Purdue vs. Northern Illinois
October 1, 2013	William E. Boeing Distinguished Lecture
October 7-8, 2013	Purdue Fall Break
October 11-12, 2013	President's Council Annual Weekend – Purdue vs. Nebraska
October 15, 2013	Apollo 11 astronaut Buzz Aldrin Book Tour "Mission to Mars – My Vision for Space Exploration" Time and location TBD
October 26, 2013	Purdue Space Day Grades 3-8 with astronaut alumnus Dr. Roy D. Bridges Jr.
November 2, 2013	Purdue vs. Ohio State
November 9, 2013	Military Appreciation Day – Purdue vs. Iowa
November 23, 2013	Purdue vs. Illinois
December 15, 2013	Winter Commencement
January 13, 2014	Spring classes begin
March 17-22, 2014	Purdue Spring Break
May 3, 2014	Classes end

Celebrating 70 Years!



The video of the Astronauts' exciting and informative presentation is available at www.purduespaceday.com

Space Day 2012

The School of Aeronautics and Astronautics celebrated its 17th annual Purdue Space Day (PSD) on October 20, 2012. This year, the Space Day team was honored to have Purdue alumni **Dr. David Wolf**, **Andrew Feustel**, and **Scott Tingle** as this year's guest VIPs.

In honor of the AAE alumnus Neil Armstrong BSAE'55, DEA'67, HDR'70, OAE'99 and the Apollo manned missions to the Moon, this year's theme was "One Small Step." PSD celebrated the 40th anniversary of the last manned mission to the Moon with Apollo 17 in 1972 and tipping our hats or helmets to those "Small Steps" that have now grown so big.

Wolf earned his bachelor's degree in Electrical Engineering from Purdue in 1978. Feustel received his bachelor in Solid Earth Sciences, and his master's in Geophysics both from Purdue. Tingle earned his master's in Mechanical Engineering with a specialty in fluid mechanics and propulsion from Purdue in 1988.

PSD provided over 600 students in grades 3-8 the opportunity to learn about science, technology, engineering, and math (STEM) by participating in three age-appropriate and space themed activity sessions throughout the day. Wolf, Feustel, and Tingle started off their day with a rocket launch grand entrance and joined in some of the activities throughout the day. Feustel and Tingle also gave a public presentation the evening before PSD to a very enthusiastic and receptive audience.

Purdue Space Day was supported by the **Indiana Space Grant Consortium** and the **School of Aeronautics and Astronautics**.

Purdue Space Day 2013 will take place on Saturday October 26, with Purdue alumnus astronaut Roy D. Bridges Jr. as VIP guest.



2012 Outstanding Aerospace Engineer Awards

Eight graduates of the School of Aeronautics and Astronautics were honored with the School's highest honor at the 13th annual Outstanding Aerospace Engineer Award Banquet on September 28, 2012 at the Four Points by Sheraton, West Lafayette, IN.

"The Purdue University designation, Outstanding Aerospace Engineer, recognizes the professional contributions of graduates from the School of Aeronautics and Astronautics and thanks them for the recognition that their success brings to Purdue and the School," said Tom Shih, School head.



Photos (L-R)

Front row - Carl Gran, Glen Weissinger, Professor Alten Grandt – received on behalf of Terry Saunder, Professor Emeritus George Palmer, John Walsh, Erica Pearson, Ted Torgerson, Professor Emeritus Gus Gustafson

Back row – Professor Tom Shih, Frank Bauer OAE'08, John Rich OAE'01, Robert Strickler OAE'99, Michael Corso OAE'11, Thomas Maxwell OAE'09, Andrew Kasowski OAE'07, Thomas Hauteur OAE'12, Richard Rivir OAE'06, Robert Sattler OAE'12, Charles Saff OAE'11, Jamie Renna OAE'10, Richard Taylor OAE'99, Brad Belcher, Al Novick OAE'06, John L. Hudson OAE'03, Gary Payton OAE'99



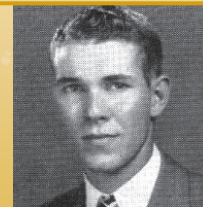
CARL S. GRAN
Principal Director
Vehicle Performance Subdivision
The Aerospace Company



THOMAS E. HAUETER
Director Office of Aviation Safety
National Transportation Safety Board
(Retired)



ERIKA J. PEARSON
Business Director/Deputy
Vice President of Asia Pacific
and India Sales
Boeing Commercial Airplanes



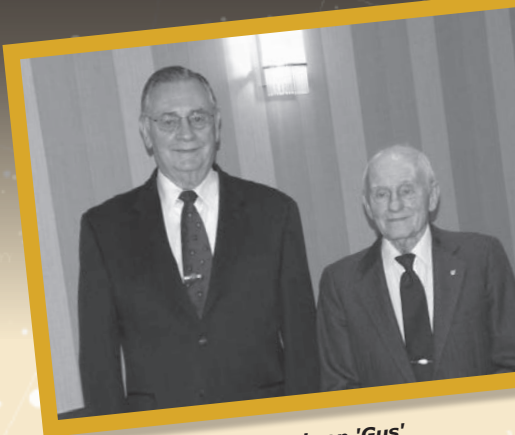
ROBERT I. SATTLER
President
LaSalle Machine Tools Inc.
(Retired)



**Master of Ceremonies
Christopher Trickle
and Sarah St. Clair**



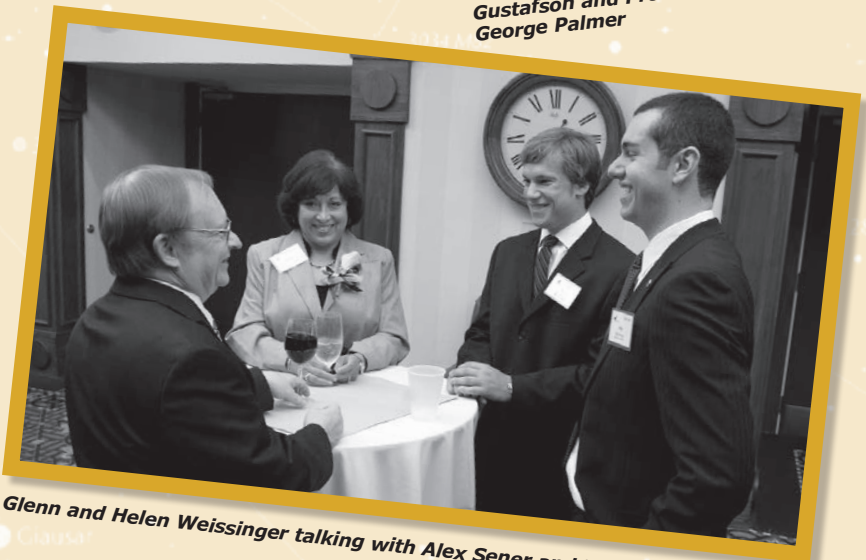
Linda Flack pins a boutonniere onto Erika Pearson



**Professor Emeritus Winthrop 'Gus'
Gustafson and Professor Emeritus
George Palmer**



Mrs. John Walsh



Glenn and Helen Weissinger talking with Alex Sener and Mike Munizzi



Dr. C.T. Sun and Charles Saff



**Terry Saunder
OAE'12 receives
his award in
Australia**



Dublin



TERRY SAUNDER
Director General of Technical
Airworthiness
Australian Defence Force



WILLIAM TED TORGERSON
Director/Program Manager
Proprietary Programs
The Boeing Company



JOHN J. WALSH
President
Sypris Electronics



GLENN WEISSINGER
Vice President
Strategic Planning
Lockheed Martin Aeronautics Company

PURDUE
UNIVERSITY



15TH ANNUAL

Outstanding Aerospace Engineer Awards

THE FACULTY OF THE SCHOOL OF AERONAUTICS AND ASTRONAUTICS

Invites you to attend

**The Awards Dinner and Ceremony
to honor the recipients of the
2013 Outstanding Aerospace Engineer Awards**

Friday, September 13, 2013

RECEPTION AT 6:30 P.M.

DINNER AT 7:30 P.M.

Four Points By Sheraton

(PREVIOUSLY UNIVERSITY PLAZA HOTEL)

1600 CUMBERLAND AVENUE

WEST LAFAYETTE, IN 47906

Adult Meal \$40

Student Meal \$30

Seating is limited. Reservations must be received by August 28, 2013.

If you would like to attend, then please complete the online form
and mail in your check with the total amount due.

RECIPIENTS OF THE

2013 Outstanding Aerospace Engineer Awards

Gene Porter Bridwell BSAE'58

Jeffrey D. Deckelbaum BSAAE'77

Ed A. Morris BSAAE'71

George Palmer BSAE'45

Jeff Tyrcha BSAAE'93

15TH ANNUAL

Outstanding Aerospace Engineer Awards Friday, September 13, 2013

If you plan to attend, please complete and mail this form along with a check for the total amount due to:

**Purdue University
Attn: OAE
School of Aeronautics
and Astronautics
701 W. Stadium Avenue
West Lafayette, IN
47907-2045**

Make checks payable to:
Purdue Foundation

**Sorry no phone
reservations accepted.
Email staci@purdue.edu**

Seating is limited.

**Reservations must
be made by
August 28, 2013.**

____ ADULTS @ \$40 each

____ STUDENTS @ \$30 each

I am interested in sponsoring ____ students @ \$30 each

Name _____

Guest Name _____

Degree/Year _____

Address _____

City _____ State _____ Zip _____

Phone _____

E-Mail _____

Vegetarian or special meal request – please specify _____

Industrial Affiliates Program

The Industrial Affiliates Program at the School of Aeronautics and Astronautics was established in 1982. Its purpose is to promote positive, open communication between the School and aerospace-oriented industries. Industry support of the IAP provides the School with unrestricted funds that are used for maintaining state-of-the-art computer hardware and software, teaching laboratories, student support, and the professional development of faculty members.

AeroJet

We welcome AeroJet as our latest member to the IAP. AeroJet is a world-recognized aerospace and defense leader providing propulsion and energetics to the space, missile defense, and strategic, tactical missile and armaments areas in support of domestic and international markets.

Purdue University has been designated as a 'Partner' University where they will recruit employees and work with Purdue on near term projects that are connected to their strategic goals.



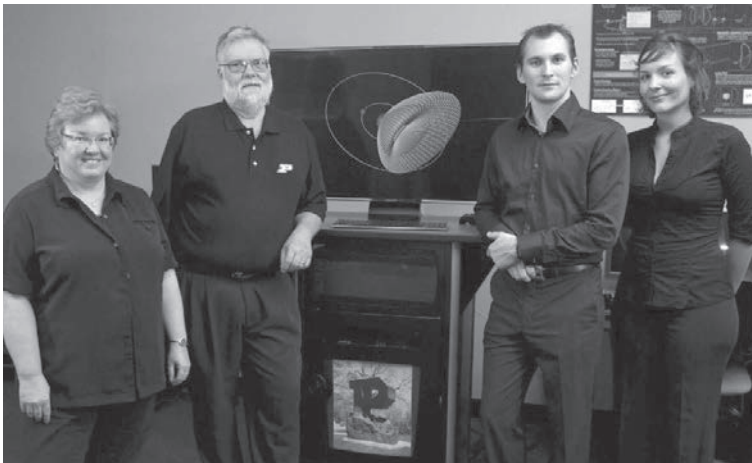
AAE alum and Executive Director, Advanced Programs Engineering, Joe Cassidy presents a check to head of school Dr. Tom Shih in August 2012.

Scientists Evaluate Martian Moon Sample to Detect Possibility of Life on Red Planet

Dr. Jay Melosh (AAE by Courtesy) led a team chosen by NASA's Planetary Protection Office to evaluate if a sample from Phobos could contain enough recent material from Mars to include viable Martian organisms.

The study was commissioned to prepare for the 2011 Russian Phobos-Grunt mission. Although the mission failed, there is continued international interest in a Phobos mission. It will likely be a recurring topic as NASA reformulates its Mars Exploration Program.

Melosh collaborated with **Kathleen Howell**, the Hsu Lo Distinguished Professor of Aeronautics and Astronautics, and graduate students **Loic Chappaz** and **Mar Vaquero** on the project.



(L-R) Prof. Kathleen Howell, Prof. Jay Melosh, Loic Chappaz and Mar Vaquero

PURDUE
UNIVERSITY

ENGINEERING PROFESSIONAL EDUCATION

AAE Distance Graduate Education

The School of Aeronautics and Astronautics offers online master's-level engineering courses designed for working professional engineers, providing an opportunity to earn non-thesis online MSAE degrees via distance learning.

The distance courses from Purdue's School of Aeronautics and Astronautics are administered by Engineering Professional Education.

One of the more unique features specific to Purdue is that distance students take the same courses as on-campus students. The non-thesis degree for distance students is the same degree as for on-campus students.

More details of available classes can be found at the web site:

<https://engineering.purdue.edu/AAE/Academics/Grad/DistanceGradEd>

<https://engineering.purdue.edu/ProEd/>

Solar System Sculpture Honors Former Astronaut

Janice Voss B.S. E.Sc'75, OAE'99; DEA'12

An interactive sculpture of the planetary system, about a football field in length, will crown a new mall at the south end of Purdue's Discovery Park. Purdue student from EPICS, a service-learning class, designed the sculpture — **Visiting Our Solar System, VOSS** — and named it in honor of the late

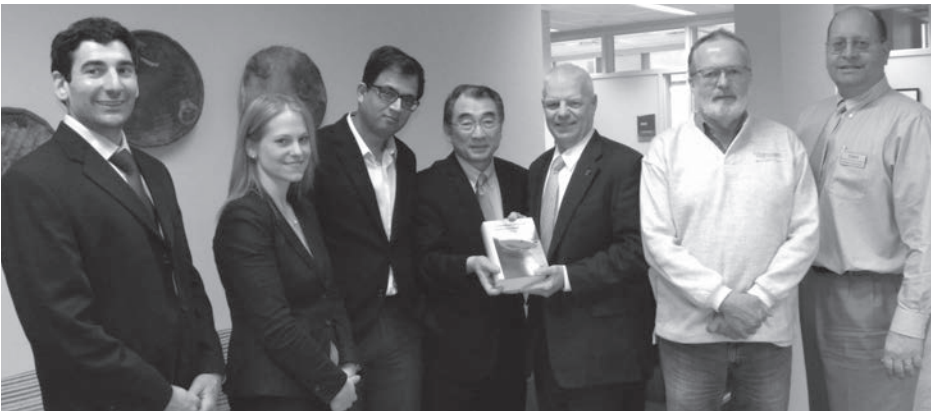


Janet Voss, a graduate from the School of Aeronautics and Astronautics who flew on five shuttle missions.

Planning began in 2009 and completion of the mall, between the Discovery Learning Resource Center and Terry Courts west of Martin Jischke Drive, is expected in 2013. VOSS will be added in 2014 with spiral walkways and a model of the sun standing as much as 30 feet in diameter, while Saturn will be 4 feet and Earth 6 inches. Each planet will be lighted and suspended from 6-foot-high curved walls.

Former President France Córdova and Leah Jamieson, John A. Edwardson Dean of Engineering at the unveiling of the VOSS model

Lockheed Martin Skunk Works Donates Text Books to the School of Aeronautics and Astronautics



(L-R) AAE faculty Dr. Michael Sangid, Dr. Sally Bane, Dr. Vikas Tomar, Head of School Dr. Tom Shih, Chief Skunk Dr. Alton D. Romig Jr., Dr. Martin Corless, and Dr. Steven Collicott.

On behalf of the Lockheed Martin Skunk Works, **Dr. Alton D. Romig, Jr.** presented five copies of *Fundamentals of Aircraft and Airship Design Volume II* to the School of Aeronautics and Astronautics at the first joint Industrial Affiliates Council (IAC) and Steering Advisory Council (SAC) meeting on April 19, 2013.

In April 2010, IAC member Dr. Paul M. Bevilacqua MSAAE'68; Ph.D.'73 presented five copies of *'Fundamentals of Aircraft and Airship Design' – Volume 1* to the School of Aeronautics and Astronautics on behalf of the Lockheed Martin Skunk Works.

Volume II has recently been published and at the first joint Industrial Affiliates Council (IAC) and Steering Advisory Council (SAC) meeting on April 19, 2013 SAC member and Vice President and General Manager of Lockheed Martin Skunk Works Dr. Alton D. Romig, Jr. kindly presented five copies of *'Airship Design and Case Studies - Volume II'* to the School.



Rolls-Royce

Charles Rolls and Henry Royce Purdue Memorial Lecture Series

The 2012 Charles Rolls and Henry Royce Purdue Memorial Lecture **"Propulsion in Aviation – The Power That Drives Our Technical Achievement"** took place on October



12, 2012 and featured **Dr. John Tracy, Chief Technology Officer, Boeing.**

During his visit, Dr. Tracy also met Dr. Stephen Heister and Dr. Bill Anderson at

the Zucrow lab and had a tour of the Aerospace Sciences lab by Dr. Steven Schneider and Dr. John Sullivan.

Leah Jamieson, John A. Edwardson Dean of Engineering introduced Dr. Tracy at the start of the lecture and Dr. Tracy had an opportunity to meet with students at a reception following the presentation.

Find us on Facebook

The School of Aeronautics and Astronautics enjoy utilizing **Facebook** and we now have over 1600 people who follow us.

You do not need to join Facebook to view the page, just follow the link on the AAE web page <https://engineering.purdue.edu/AAE>.

We aim to keep alumni, faculty, students, staff and friends of AAE up-to-date on all relevant events!



Find us on
Facebook

AAE Faculty Roster

Aerodynamics

A. Alexeenko

Associate Professor;
Ph.D., Penn State, 2003

S. Bane

Assistant Professor;
Ph.D., Caltech, 2010

G. A. Blaisdell

Professor; Ph.D., Stanford, 1991

S. H. Collicott

Professor; Ph.D., Stanford, 1991

M. C. Jischke

President Emeritus; Ph.D.,
MIT, 1968

A. S. Lyrintzis

Adjunct Professor; Ph.D.,
Cornell, 1988

S. P. Schneider

Professor; Ph.D., Caltech, 1989

T. I-P. Shih

Professor and AAE Head;
Ph.D., Michigan, 1981

J. P. Sullivan

Professor; Sc.D., MIT, 1973

M. H. Williams

Professor and Associate Head;
Ph.D., Princeton, 1975

Aerospace Systems

D. Andrisani II

Associate Professor; Ph.D.,
SUNY at Buffalo, 1979

B. S. Caldwell (By Courtesy)

Professor of Industrial Engineering;
Ph.D., UC Davis, 1990

W. A. Crossley

Professor; Ph.D., Arizona State, 1995

D. A. DeLaurentis

Associate Professor: Ph.D.,
Georgia Tech, 1998

M. Grant

Assistant Professor; Ph.D.,
Georgia Tech, 2012

I. Hwang

Associate Professor; Ph.D.,
Stanford, 2004

K. Marais

Assistant Professor; Ph.D. MIT, 2005

J. P. Sullivan

Professor Sc.D., MIT, 1973

D. Sun

Assistant Professor; Ph.D.,
UC Berkeley, 2008

Astrodynamics and Space Applications

D. L. Filmer

Adjunct Professor; Ph.D.,
Wisconsin, 1961

J. L. Garrison

Associate Professor; Ph.D., University
of Colorado at Boulder, 1997

M. Grant

Assistant Professor; Ph.D.,
Georgia Tech, 2012

K. C. Howell

Hsu Lo Distinguished Professor of
Aeronautics and Astronautics;
Ph.D., Stanford, 1983

J. M. Longuski

Professor, Ph.D., Michigan, 1979

B. G. Marchand

Adjunct Associate Professor,
Ph.D. Purdue, 2007

H. J. Melosh (By Courtesy)

Distinguished Professor EAS/Physics,
Ph.D. Caltech 1972

Dynamics and Control

D. Andrisani II

Associate Professor; Ph.D.,
SUNY at Buffalo, 1979

M. J. Corless

Professor; Ph.D., UC Berkeley, 1984

D. A. DeLaurentis

Associate Professor: Ph.D.,
Georgia Tech, 1998

D. L. Filmer

Adjunct Professor; Ph.D.,
Wisconsin, 1961

A. E. Frazho

Professor; Ph.D., Michigan, 1977

M. Grant

Assistant Professor; Ph.D., Georgia
Institute of Technology, 2012

I. Hwang

Associate Professor; Ph.D.,
Stanford, 2004

D. Sun

Assistant Professor; Ph.D.,
UC Berkeley, 2008

Propulsion

W. E. Anderson

Professor; Director of Global Engineering
Program: Ph.D., The Pennsylvania State
University, 1996

J. P. Gore (By Courtesy)

Vincent P. Reilly Professor of Mechanical
Engineering; Ph.D., The Pennsylvania
State University, 1986

S. D. Heister

Raisbeck Engineering Distinguished
Professor for Engineering and
Technology Integration: Director,
Maurice J. Zucrow Laboratories
Ph.D., UCLA, 1988

N. Key (By Courtesy)

Associate Professor of Mechanical
Engineering; Ph.D., Purdue, 2007

R. Lucht (By Courtesy)

Ralph and Bettye Bailey Professor of
Combustion in Mechanical Engineering;
Ph.D., Purdue 1981

T. L. Pourpoint

Research Associate Professor,
Ph.D., Purdue, 2005

L. Qiao

Associate Professor; Ph.D.,
Michigan, 2007

S. F. Son (By Courtesy)

Associate Professor of Mechanical
Engineering; Ph.D., Illinois, 1993

H. Wang

Assistant Professor;
Ph.D. Cornell, 2010

Structures & Materials

**W. Chen (Joint appointment
with Materials Engineering)**

Professor and Associate Head;
Ph.D., Cal Tech, 1995

W. A. Crossley

Professor; Ph.D., Arizona State, 1995

J. F. Doyle

Professor; Ph.D., Illinois, 1977

A. F. Grandt

Former Raisbeck Engineering
Distinguished Professor for Engineering
and Technology Integration; Ph.D.,
Illinois, 1971

P. K. Imbrie (By Courtesy)

Adjunct Associate Professor;
Ph.D., Texas A & M, 2000

R. B. Pipes

John L. Bray Distinguished Professor
of Engineering; Ph.D., University of
Texas, 1972; Joint appointment with
Chemical Engineering and Materials
Engineering

M. Sangid

Assistant Professor; Ph.D. Illinois, 2010

C. T. Sun

Neil A. Armstrong Distinguished
Professor; Ph.D., Northwestern, 1967

V. Tomar

Associate Professor; Ph.D.,
Georgia Tech, 2005

AIAA Top Honors 2013

Honorary American Institute of Aeronautics and Astronautics Fellow



AAE alumnus **William H. Gerstenmaier**, Associate Administrator Human Exploration and Operations, has been honored with the title of Honorary Fellow of the American Institute of Aeronautics and Astronautics (AIAA). The Honorary Fellow is the highest distinction conferred by AIAA, and is granted to preeminent individuals who have had long and highly contributory careers in aerospace, and who embody the highest possible standards in aeronautics and astronautics.

Fellow American Institute of Aeronautics and Astronautics (AIAA)

AAE Professors, Dr. Stephen D. Heister and Dr. Kathleen Howell and AAE alumni Frank H. Bauer and James D. Raisbeck have been honored as Fellow of the American Institute of Aeronautics and Astronautics (AIAA). This prestigious award is only given to the most influential and inspiring individuals in aerospace, whose outstanding contributions merit the highest accolades.



Dr. Stephen D. Heister is the Raisbeck Engineering Distinguished Professor for Engineering and Technology Integration and Director, Maurice J. Zucrow Laboratories. He received his Ph.D. from the University of California at Los Angeles in 1988.



Dr. Kathleen C. Howell is Hsu Lo Distinguished Professor of Aeronautics and Astronautics and received her Ph.D. from Stanford University in 1983. She had been a member of the Purdue faculty since 1982.



Frank H. Bauer BSAE'79, MSAE'80, OAE'08 is currently Vice President for Strategic Programs; Emergent Space Technologies and a member of our School's Industrial Advisory Council. Among other honors, NASA has awarded three high honors to Frank – the Outstanding Leadership Medal, the Exceptional Achievement Medal and the Exceptional

Service Medal – as well as the Silver Snoopy Human Spaceflight Awareness award.



James D. Raisbeck BSAE'61, DEA'79, OAE'99 is Chairman of Raisbeck Engineering, Inc. and its subsidiary corporation Raisbeck Commercial Air Group, Inc. In 2001 James and his wife Sherry established The Raisbeck Engineering Distinguished Professorship for Engineering and Technology

Integration, a faculty position that will help bring together students from the School of Technology and the School of Aeronautical and Astronautical Engineering. Such cooperation will allow the students to work together to formulate, build, and test actual products and solutions, giving them practical experience in addition to theoretical understanding. Dr. Alten F. Grandt was the first appointment to the position with Dr. Stephen Heister being ratified to the position in October 2010.

The distinction of Fellow is conferred by AIAA upon outstanding members of the Institute who have made notable and valuable contributions to the arts, sciences, or technology of aeronautics or astronautics. AIAA President Michael Griffin stated: "Being named a Fellow of AIAA is among the highest honors that can be bestowed upon an aerospace professional, and represents recognition from colleagues and peers for significant and longstanding contributions to our community. And beyond that, recognition as an AIAA Honorary Fellow elevates one to the very pinnacle of our profession. This year's selection committee has done an outstanding job of identifying those who meet these standards. I congratulate each member of this year's class of Fellows and Honorary Fellows."

AIAA is the world's largest technical society dedicated to the global aerospace profession. With more than 35,000 individual members worldwide, and 90 corporate members, AIAA brings together industry, academia, and government to advance engineering and science in aviation, space, and defense. In 1933, Orville Wright became AIAA's first Honorary Fellow. Today, AIAA Honorary Fellows and AIAA Fellows are the most respected names in the aerospace industry.

Professor Steven H. Collicott



was asked to testify before the Senate Subcommittee on Science and Space on Thursday May 16 about the merits of private-sector space enterprise, particularly suborbital research.

He has extensive zero-gravity research experience, with dozens of experiments on NASA aircraft and several suborbital rocket experiments, he designed a major portion of an experiment that flew on the International Space Station in 2006 and 2007, and is Principal Investigator on the Fluids Education Experiment scheduled to launch to the International Space Station in 2014.

He testified about the positive impacts of suborbital research during a hearing entitled "Partnerships to Advance the Business of Space" and the hearing examined the growth of the space industry, including the potential economic and scientific benefits of private sector space transportation, as well as the federal and private sector roles.

Prof. Collicott serves on the Sub-orbital Applications Researchers Group of the Commercial Spaceflight Federation. He also serves on the Scientific Advisory Board for the Center for the Advancement of Science in Space, the organization created by Congress and NASA to run the U.S. portion of the International Space Station as a National Laboratory.



Professor Steven Collicott became an inaugural member of the Scientific Advisory Board for the Center for the Advancement of Science in Space, CASIS in April 2013. CASIS was formed by NASA and Congress to operate much of the US part of the International Space Station as a National Laboratory.

Professor Steven Collicott succeeded Dr. Alan Stern, Principal Investigator of the New Horizons mission to Pluto on July 1, 2013, as Head of the Sub-Orbital Applications Researchers Group, SARG, of the Commercial Spaceflight Federation. The goals of SARG are to increase awareness of commercial sub-orbital vehicles in the science, Research and Development, and education communities, work with policymakers to ensure that payloads can have easy access to these vehicles and generate new ideas for uses of these vehicles for science, engineering, and education missions.

Professor Tim Fisher



(AAE by Courtesy) and a team of four other researchers may be close to a breakthrough in glucose testing. They have created a sensor able to detect glucose in fluids like tears and saliva.

Fisher said they've tested the sensor in fluids using interference that resemble what would be found in the body, and the sensor has responded successfully. The research is being conducted at the Birk Nanotechnology Lab.

Professor Tim Fisher (AAE by Courtesy) was recognized with the Mentoring Award at the **Annual Awards of Excellence** for Engineering Faculty on April 5, 2013.

Professor James Longuski



was recognized for 25 years of service with the School of Aeronautics and Astronautics at the Spring 2013 Faculty Awards Convocation.

Professor Robert P. Lucht



(AAE by Courtesy) was recognized with the Research Award at the Annual Awards of Excellence for Engineering Faculty on April 5, 2013.

Professor Michael D. Sangid



was one of four recipients chosen for the 2013 The Minerals, Metals & Materials Society (TMS), Structural Materials Division (SMD) Young Professional Development Award. He

received his Ph.D. from the University of Illinois, Urbana – Champaign in 2010 and joined our School in 2011.

This award was created to enhance the professional development of dynamic young people from TMS' five technical divisions by helping them participate in Society activities, become better acquainted, make important contacts with TMS leaders, and network with prominent Society members.

Professor Michael Sangid was invited to Seminars at the University of Lyon, France and the Imperial College, U.K during Summer 2013.

Professor C.T. Sun



was recognized for 45 years of service with the School of Aeronautics and Astronautics at the Spring 2013 Faculty Awards Convocation.

Professor Wayne Chen Elected as Fellow - Society for Experimental Mechanics (SEM)

Prof. Wayne Chen has been elected as Fellow in the Society for Experimental Mechanics. The SEM Executive Board affirmed the nomination of the SEM Fellows Committee on June 21, 2013.

The Society for Experimental Mechanics is an international network of experimentalists, development, design, and test engineers and technicians, and research and development scientists from industry and educational institutions.

Designation as an SEM Fellow is reserved to a select group of individuals that have made notable contributions to the Society and to the field of Experimental Mechanics and nomination is made for the Fellow grade by these same individuals. The Fellows award will be presented at the 2014 SEM Conference.



National Science Foundation Top Honors NSF CAREER Award

Dr. Li Qiao has been awarded an NSF CAREER Award for her proposal "*Understanding the Spontaneous Ignition and Combustion of Hydrogen and Oxygen in Water Nanobubbles.*"

The CAREER Award is the NSF's most prestigious honor for young researchers. It is intended to aid the early career-development activities of those teacher-scholars who most effectively integrate research and education. The winner's research plan must incorporate strategies to promote participation of undergraduate students in the research, integrate the research results in the undergraduate and graduate curriculum, and provide the graduate students involved with opportunities to interact with industrial partners. Awardees are chosen because they exemplify the role of teacher-scholars through outstanding research, excellent education and the integration of education and research within the context of the mission of their organizations. Previous AAE faculty award winners include:

- Dr. Alina Alexeenko
- Dr. Steven Collicott
- Dr. Martin Corless
- Dr. Tim Fisher (AAE by courtesy)
- Dr. Jay Gore (AAE by courtesy)
- Dr. Kathleen Howell and
- Dr. Inseok Hwang

Two AAE alumni were also granted the NSF CAREER Award 2012-2013

AAE alumnus **Dr. Kivanc Ekici Ph.D.'01** received an NSF CAREER Award for his proposal entitled "*CAREER: A Multidisciplinary Framework for Innovative Design of Wind Turbines.*" Dr. Ekici is an Assistant Professor in the Department of Mechanical, Aerospace and Biomedical Engineering at the University of Tennessee, Knoxville. He received his Ph.D. from the School of Aeronautics and Astronautics at Purdue in 2001 and his advisor at Purdue was **Dr. Tasos Lyrantzis**.

AAE alumnus **Dr. Pablo Zavattieri '00** received a NSF CAREER Award for his proposal "*Multiscale Investigation and Mimicry of Naturally-Occurring Ultra-High Performance Composite Materials.*" Dr. Zavattieri is an Assistant Professor in the School of Civil Engineering at Purdue University. He received his Ph.D. from the School of Aeronautics and Astronautics at Purdue in 2000 and his advisor was **Dr. Horacio Espinosa**.



Dr. Li Qiao



Dr. Kivanc Ekici



Dr. Pablo Zavattieri

Purdue – NASA JSC Modeling & Simulation AAE 490 Professor Kathleen Howell



Prof. Kathleen Howell's AAE 490 2012-2013 class required students to both train and conduct research on spacecraft modeling and simulation (M & S) and then make a final presentation to the engineers at NASA's Johnson Space Center.

During the fall semester and with the assistance of TA **Rohan Sood**, the students took part in weekly training seminars which included UNIX and C Programming, Trick Executive for Real-Time Simulation Development and Software Version Control.

The spring semester resulted in Real-Time simulations, 3D Modeling & Immersive Visualization and Advanced concepts on M & S with the students making full use of the **Eliassen Visualization Laboratory**.

The students were able to network with NASA engineers and contractors and the class was financially supported by Johnson Space Center.

The general description of the mission was that there were two spacecraft in relatively low Earth orbit. The spacecraft are in neighboring orbits such that, they will be able to rendezvous – arriving together in correct orientation and without collision.

The Green Team members were: Randy Eckman, Anurag Nandi, Alex Van Anderlecht, Sarah St. Clair and Jessica Powell.

The Red Team members were: Darren Shandler, Ryan Tedjasukmana, Nicoletta Fala, Frederik Bossaerts and Curtis Langlois.

The Blue Team members were: Mitch Sangalis, Daniel Zhou, Collin York, Nick Kowalczyk and Victor Gandarillas.

Purdue PEGASAS Kickoff

Purdue University was chosen on September 27, 2012 as one of the lead institutions for a new Federal Aviation Administration (FAA) Air Transportation Center of Excellence for general aviation.

The kick-off meeting was hosted by Purdue on November 6-7, 2012 to launch the *Partnership to Enhance General Aviation Safety, Accessibility and Sustainability* (PEGASAS).

The PEGASAS research and development efforts will cover a broad spectrum of general aviation issues, including airport technology, propulsion and structures, airworthiness, flight safety, fire safety, human factors, system safety management and weather and will engage both graduate-level and undergraduate students in its research work.

The Purdue team is led by Purdue professor of aeronautics and astronautics and director of the PEGASAS center **William Crossley**. He will be supported by **Karen Marais**, assistant professor of aeronautics and astronautics who will work on effective communication among the researchers, and **John Young**, a professor of aviation technology, who will organize PEGASAS education and technology transfer activities.

Leading PEGASAS along with Purdue will be Ohio State University and Georgia Institute of Technology. The core team also will include Florida Institute of Technology and Iowa State

and Texas A&M universities. Affiliate members include Arizona State, Florida A&M, Hampton, Kent State, North Carolina A&T State, Oklahoma State, Southern Illinois (Carbondale), Tufts, and Western Michigan universities and University of Minnesota, Duluth.

The kick-off meeting was the first opportunity for the representatives of the core universities in PEGASAS to meet with their FAA colleagues to coordinate capabilities, understand the FAA's expectations and processes, and to further relationships between the researchers and FAA counterparts. John Wiley, Aviation Research Division Manager at the FAA and primary research sponsor of the PEGASAS Center of Excellence, briefed the meeting on the FAA's commitment to general aviation and its unique and challenging research needs. Each of the six core universities described their facilities and research activities, a kickoff ceremony was held, and participants toured facilities in both Engineering and Technology which enabled them to observe capability available at Purdue to support the FAA's research needs for General Aviation.

Additionally, several industry and organizational partners have indicated their desire to be a partner along with the university members of PEGASAS; these partners cover a broad range of general aviation activities and include the following:



PEGASAS Industry and Organizational Partners

INDUSTRY

Airframe: Cessna, Cirrus, Embraer, Gulfstream, Piper

Propulsion: GE Aviation, Rolls-Royce

Operators: Jet Aviva, NetJets Inc.

Aircraft/Aviation Systems:

Guardian Mobility, Harris Corporation, Raytheon, Rockwell Collins, Woolpert

Research/Consulting: Battelle Memorial Institute, Flight Safety Foundation, NextGen Aerosciences, Nelson Consulting, The Spectrum Group

AIRPORTS

Columbus Regional Airports, South Bend Airport, Fort Wayne Airport

GOVERNMENT AGENCIES

Florida, Georgia, Indiana and Iowa Departments of Transportation; NASA Flight Deck Display Research Laboratory

STAKEHOLDER ORGANIZATIONS

Take Flight Solutions, National Business Aviation Association, National Intercollegiate Flying Association, Ohio Aerospace Institute

Study Abroad University of Bristol, U.K.

Prof. Bill Anderson's class in Jet Propulsion took part in Study Abroad to the University of Bristol, UK, in May 2013.

They were hosted by the Mr David Line of the International Office and Professor Ian Bond of the Department of Aerospace Engineering at Bristol. In addition to attending lectures at Bristol, the group visited laboratories used for research and teaching in composites and aerodynamics.





PEGASAS Kickoff Meeting Participants

Peter Sparacino, FAA, COE Program Manager
Pat Watts, FAA, Director of COEs
John Wiley, FAA, GA COE Sponsor
Steve Cusick, FIT Chair, Graduate Programs
Tristan Fiedler, FIT, Associate VP for Research
Ken Stackpoole, FIT, VP Aviation Programs and Dean College of Aeronautics
Hernando Jimenez, Georgia Tech, Research Engineer, Aerospace Engineering
Dmitri Mavris, Georgia Tech, Boeing Professor of Advanced Aerospace Systems Analysis
Stephen Holland, Iowa State, Associate Professor, Aerospace Engineering
Hui Hu, Iowa State, Associate Professor, Aerospace Engineering
Julienne Krennrich, Iowa State, Assistant Director of Research Initiatives
Shashi Nambisan, Iowa State, Professor of Civil Engineering
Rich Wlezien, Iowa State, Professor and Vance and Arlene Coffman Endowed Department Chair in Aerospace Engineering
Randy Moses, OSU, Assoc Dean for Research
Shawn Pruchnicki, OSU, Faculty member, Department of Aviation
Seth Young, OSU, Director of The Ohio State University's Center for Aviation Studies
Gary Bertoline, Purdue, Dean, College of Technology
Brent Bowen, Purdue, Head of Aviation Technology
Melba Crawford, Purdue, Associate Dean for Research
Bill Crossley, Purdue, Professor, Aeronautics and Astronautics
Frank Dooley, Purdue, Associate Vice Provost for Undergraduate Academic Affairs
Ned Howell, Purdue, Center Launch Manager, OVPR
Mary Johnson, Purdue, Associate Professor, Aviation Technology
Denver Lopp, Purdue, Professor, Aviation Technology
Chien Lu, Purdue, Associate Professor, Aviation Technology
Karen Marais, Purdue, Assistant Professor, Aeronautics and Astronautics
John Young, Purdue, Professor, Aviation Technology
Jon Rogers, Texas A&M, Assistant Professor, Aerospace Engineering

The Air Force Office of Scientific Research - Young Investigator Research Program



Professor Li Qiao was named as a recipient of a grant from the prestigious Air Force Office of Scientific Research (AFOSR) through its Young Investigator Research Program (YIP).

The Air Force Office of Scientific Research will award approximately \$15 million in grants to 40 scientists and engineers who submitted winning research proposals through the program.

The YIP is open to scientists and engineers at research institutions across the United States who received Ph.D. or equivalent degrees in the last five years and show exceptional ability and promise for conducting basic research.

The objective of this program is to foster creative basic research in science and engineering, enhance early career development of outstanding young investigators, and increase opportunities for the young investigators to recognize the Air Force mission and the related challenges in science and engineering.

This year AFOSR received 192 proposals in response to the AFOSR broad agency announcement solicitation in major areas of interest to the Air Force. These areas include: aerospace, chemical and material sciences; physics and electronics; and mathematics, information and life sciences. AFOSR officials select proposals based on the evaluation criteria listed in the broad agency announcement.

Prof. Qiao will receive about \$360K for three years for her proposed research "Combustion Chemistry and Dynamics in Nanoscale Confined Environments." This research will examine the new physics of combustion in a nanoscale environment, a combustion regime that has rarely been explored. It has the potential to open a new door to decades of future scientific discovery and technological innovations in nanoscale combustion.

Prof. Qiao received her B.S. and M.S. degrees in Engineering Mechanics from Tsinghua University and her Ph.D. in Aerospace Engineering from the University of Michigan. She was a recipient of the Army Research Office Young Investigator Award in 2010.



The group also toured Rolls-Royce and GKN, a major supplier to the aerospace industry. They also took cultural excursions to the cities of Bath and London.

The group pictured at the historic Clifton Suspension Bridge in Bristol.

(L-R) Benjamin Fishman, Daniel Kerstie, Daniel Goldberg, Alexis Turner, Theresa Kaufman, Elvyn Griffiths and Naomi Mckay (both from Bristol), Ade Dillon, Joseph Morgan, and Sadie Holbert

The Elmer F. Bruhn Award 2013



Congratulations to **Professor Dominick Andrisani** who is the 2013 winner of the Bruhn Best Teaching Award.

Presented annually to an Outstanding Teacher in the Purdue University School of Aeronautics and Astronautics, selected by the undergraduate student body for excellence in teaching and made possible by the interest and generosity of friends and alumni of the school.

The top five candidates for the Bruhn Award were:

- Prof. Dominick Andrisani
- Prof. John Sullivan
- Prof. Greg Blaisdell
- Prof. Kathleen Howell
- Prof. Karen Marais

Professors Crossley and Heister, the winners of this award during the past two years, were not eligible. Congratulations to all for this recognition of their dedication to teaching and their efforts to provide the best possible education for our students.

The C. T. Sun School of Aeronautics & Astronautics Excellence in Research Award 2012

Congratulations to **Professor Dan DeLaurentis** who was the recipient of the 2012 C.T. Sun School of Aeronautics and Astronautics Research Award.

This prestigious award is presented annually to a faculty member in the School of Aeronautics and Astronautics to recognize high quality contributions in science and engineering.



Dr. Tom Shih presents the C.T. Sun Research award to Dr. Dan DeLaurentis

The W. A. Gustafson Teaching Award



Congratulations to **Professor Kathleen C. Howell** who is the winner of the prestigious 2012 W.A. Gustafson Award for Outstanding Teaching.

The recipient of this award is selected by the juniors and seniors of the AAE student body. It is made possible by the interest and generosity of friends and alumni of the school.

Boeing – Purdue Kick off Meeting

October 2012 – The Boeing Company – represented by Wayne S. Tygert (BSAAE'85, OAE'11) and Mark A. Sleppy (BSAAE'85) attended a kickoff meeting for a project started under the "Boeing/Purdue Master Agreement."

The project is titled "*The Merging of Aerodynamic Data: Experimental and Simulation*" and is pursuing approaches that will support processes within Boeing Commercial Airplanes Flight Sciences, Loads & Dynamics.

The project involves four Purdue faculty members, four Purdue students and one Purdue research scientist, where there is strong collaboration between the Purdue team and colleagues at Boeing from BCA Flight Sciences, Loads & Dynamics and Boeing Research & Technology Mathematics and Computing Technology.



(L-R) Dr. Tom Shih, Dr. Dan DeLaurentis, Ron Chow, Dr. Geanie Umberger, Aaron Rosen, Mounia Belmouss, Wayne Tygert, Mark Sleppy, Jacob Haderlie, Dr. Sally Bane, Dr. Bill Crossley and Dr. Greg Blaisdell

IMPACT – Instruction Matters: Purdue Academic Course Transformation

Instruction Matters: Purdue Academic Course Transformation also known as IMPACT is a program that works to redesign key foundational courses to create more interaction between the instructors and the students. AEE faculty **Dr. Karen Marais** and **Dr. Vikas Tomar** were selected in June 2012 as IMPACT Faculty Fellows and participated in the Fall 2012 cohort of IMPACT. The mission is to improve student competency and confidence through redesign of courses by using research findings on sound student-centered teaching and learning.

IMPACT targets classes that serve as key introductory courses, especially those with high enrollments. IMPACT fellows are provided with a fellowship and learn about course redesign options by working with a team of instructional, technology, and assessment specialists.

Dr. Marais is redesigning AAE 251 - Introduction to Aerospace Design, which is the first exposure AAE students get to the world of aircraft and spacecraft design. Dr. Tomar is redesigning AAE 352 - Structural Analysis 1, where students develop concepts needed to analyze and design aerospace structures.

The program, which is also partnering with the Discovery Learning Research Center, targets ten courses each semester and will be of value to faculty, students, and the Purdue campus and to academic units.



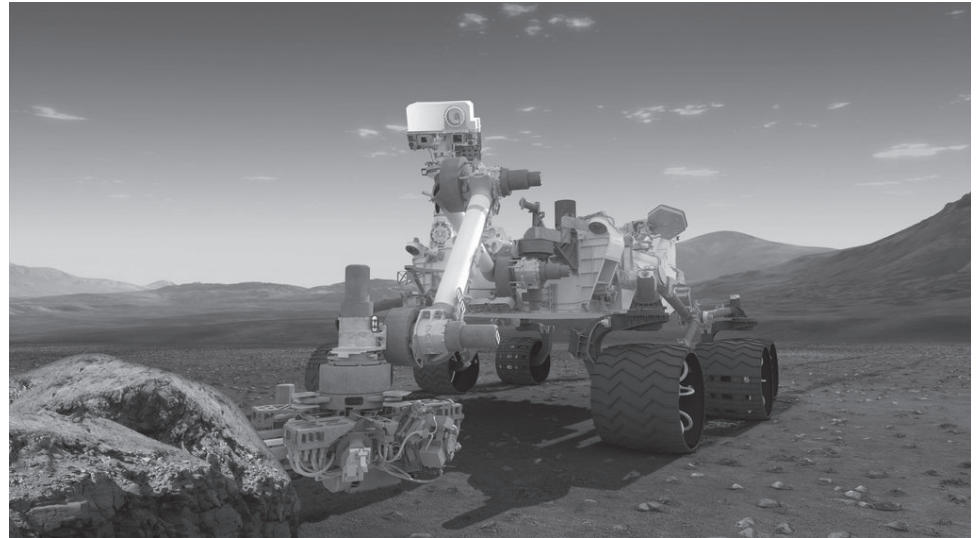
'Curiosity' brings Purdue Professor and alumni into Mars Mission

Three Purdue University alumni and an AAE professor are part of NASA's Mars Science Laboratory (MSL) mission, which early August 6, 2012 landed the Curiosity Rover on the planet's surface.

Prof. Steven Schneider evaluated the heat shield that protected the MSL spacecraft when it entered the Martian atmosphere. The heat shield is the largest ever built for a Mars mission. Schneider was on a review board for the thermal protection system. Input from the review led to a change in the heat shield material, he said.

Purdue alumnus **Douglas Adams BSAE'94, MSAE'96, Ph.D.'01** NASA's Mars Science Laboratory parachute cognizant engineer, helped design, build, test and deliver the parachute decelerator system on the MSL spacecraft. The parachute was designed to generate up to 65,000 pounds of drag force, according to NASA's Jet Propulsion Laboratory. Adams also helped develop the mortar deployment system, which he describes as basically enormous cannon that shot out the parachute.

Purdue alumnus **Eugene Bonfiglio**, a NASA mission design engineer in the entry, descent and landing guidance and control system group, helped test and prepare the on-orbit contingency plan for the MSL that would have been enacted if a launch failure left the spacecraft orbiting

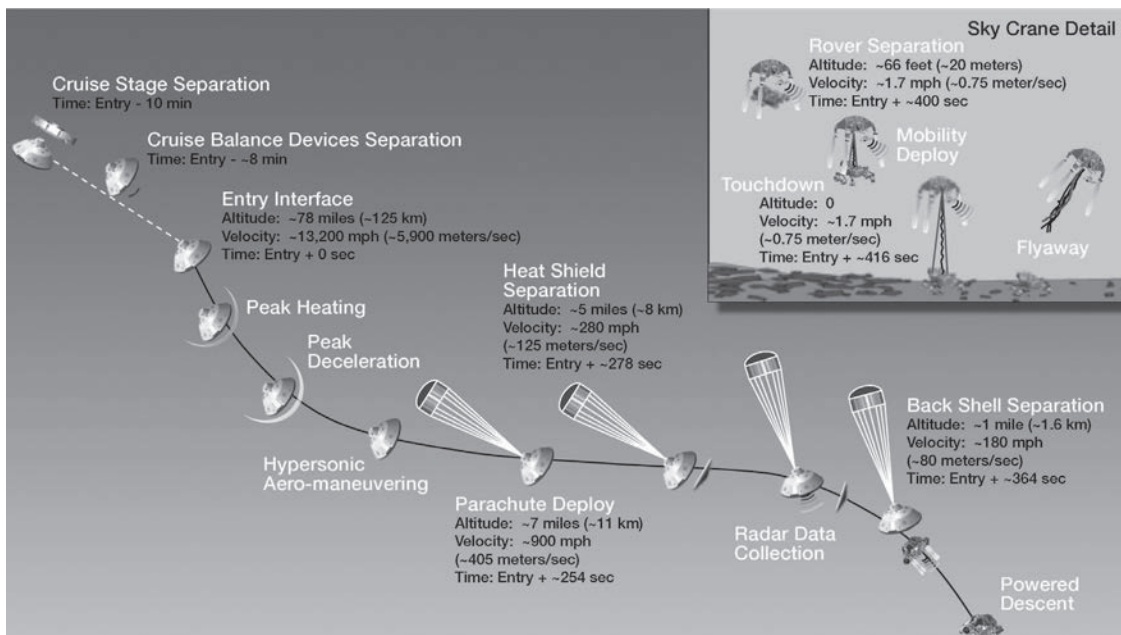


Artist's concept of NASA's Mars Science Laboratory Curiosity Rover (NASA/JPL-Caltech)

Earth. Bonfiglio helped determine ways to control the spacecraft's fall back to Earth so that it would have landed safely in the Pacific Ocean. He also was involved in performing system tests that helped fine tune the software used to control the spacecraft during its entry, descent and landing.

Prior to this mission, most of Bonfiglio's work was related to trajectory and navigation and involved computer simulations. Bonfiglio earned his bachelor's and master's degrees from Purdue in 1997 and 1999, respectively.

Another Purdue alumnus, JPL senior technologist **Dr. Behcet Acikmese**, was responsible for developing and delivering algorithms vital for the flight guidance, navigation and control system's "fly-away phase" of the landing, where the sky crane was diverted from the rover after it touched down. He earned a master's degree in mechanical engineering in 1996 and a doctoral degree in 2002 in aeronautics and astronautics, both from Purdue.



Artist's conception of Mars Science Laboratory entry, descent and landing (NASA/JPL-Caltech)

Maurice J. Zucrow Laboratories Alumni Reunion

The Rocket Lab, a.k.a Thermal Sciences and Propulsion Center (now called the Maurice J. Zucrow Laboratories), are holding an alumni reunion on Friday and Saturday, September 6th and 7th, 2013.

More information can be obtained from their web site: <https://engineering.purdue.edu/Zucrow/index.html>

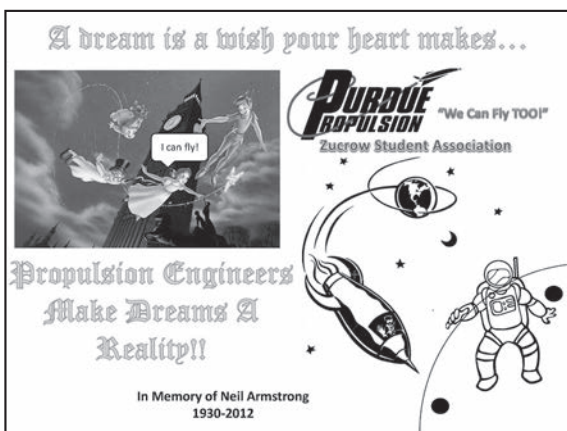


Maurice J. Zucrow Laboratories (MJZL) Receives Inaugural Presidential Safety Award

Maurice J. Zucrow Laboratories (MJZL) under the leadership of Professor Stephen Heister received the Inaugural Presidential Safety Award from President Mitch Daniels at the 2013 annual Safety Chair Meeting.

The award was granted because of the lab's commitment to safety and the outstanding way in which an event was handled to ensure safety.

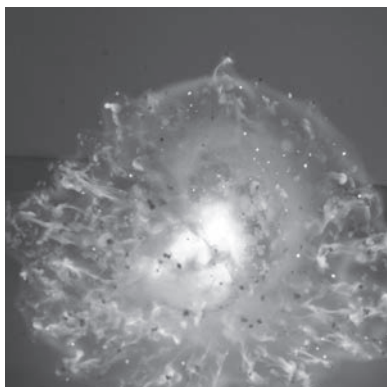
Managing Director Scott Meyer receives the award on behalf of the labs from Purdue President Mitch Daniels



Zucrow Student Association Wins First Place in Homecoming Competition

The Zucrow Student Association (ZSA) participated in a window painting competition and won First place for their decoration for Homecoming 2012.

The theme for this year was fairy-tales and their design was painted on a window of the University bookstore on State St. Clare Fineman (ME), Teandra Pfeil (ME), and Mario Rubio (AAE) and non-student Amy Risinger worked on the design and painting.



Central States Section – The Combustion Institute - 2013 Combustion Art Competition

Faculty and students from the Maurice J. Zucrow Laboratories received an *Honorable Mention* in the 2013 Combustion Art Competition from The Combustion Institute.

"Hypergolic Ignition of Various Compounds with Nitric Acid" shows the hypergolic ignition of a solid borane compound with concentrated nitric acid. Reaction is completed within 10 ms of contact. The green color indicates the presence of boron. The borane compound is a powder (particles of which are visible close to the ignition site). It was ignited with a drop of white fuming nitric acid.

Congratulations to Prof. Stephen Heister, Prof. Tim Pourpoint, Prof. Steven Son, Mark Pfeil, Jacob Dennis, and P. Ramachandran.

AAE Faculty Honored with Distinguished and Named Professorship and Promotions

Named Professor



Professor Kathleen Howell was named as the **Hsu Lo Distinguished Professor of Aeronautics and Astronautics** at the Board of Trustees meeting Friday, May 10, 2013. The Distinguished Professorship is

the highest designation the university can bestow upon a faculty member.

Prof. Howell has been a member of the faculty at Purdue since 1982. She received her B.S. in Aerospace Engineering from Iowa State University in 1973. Her M.S. (1977) and Ph.D. (1983) degrees in Aeronautical and Astronautical Sciences are from the Department of Aeronautics and Astronautics in the School of Engineering at Stanford University.



Professor Timothy Fisher (AAE by Courtesy) was named as the James G. Dwyer Professor in Mechanical Engineering at the Board of Trustees meeting Friday, May 10, 2013. He received his Ph.D. from Cornell University in 1998 and his

research interests include Nanoscale energy transport and conversion, Synthesis of nanomaterials, Cooling of microelectronics and Microfluidics.

Promotion



Professor Gregory Blaisdell was promoted from Associate Professor to Professor on April 5, 2013. He received his Ph.D. from Stanford University in 1991 and his areas of interest include Computational fluid mechanics and Transition and turbulence.



Professor Nicole Key (AAE by Courtesy) was promoted from Assistant Professor to Associate Professor with tenure on April 5, 2013.

Prof. Key is an alumna of the School of Aeronautics and Astronautics and received her bachelor's degree in 2000, her master's in 2002 and her Ph.D. in 2007. Her research interests include Aerothermal aspects of turbomachinery,

Axial and radial compressor performance and Experimental methods in fluid mechanics and is on the faculty of the School of Mechanical Engineering.

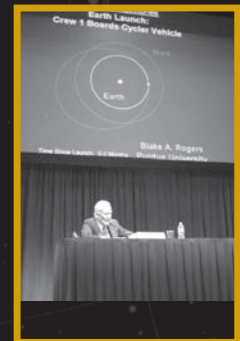
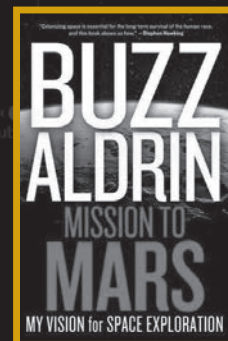


Professor Li Qiao was promoted from Assistant Professor to Associate Professor with tenure on April 5, 2013.

Prof. Qiao received her Ph.D. from University of Michigan in 2007 and her area of interests are High-performance fuels for high-speed propulsion systems, alternative and synthetic fuels, fuel synthesis by coal/biomass gasification, endothermic fuels, nanoscale energetic materials, laser

diagnostics, experimental fluid dynamics, supersonic and hypersonic combustion, and advanced propellant and propulsion concepts.

Buzz Aldrin's Case for a 'Mission to Mars'



Apollo 11 astronaut Dr. Buzz Aldrin has long been an advocate for future space exploration and in his latest book published May 7, 2013, *Mission to Mars: My Vision for Space Exploration*, he says that he believes that humans could arrive and settle on Mars between 2035-2040.

Contained within his new book, on page 35 Dr. Aldrin references work done over the years by AAE **Professor James M. Longuski** and his students. On page 195, Buzz Aldrin writes "I have long admired and worked with James Longuski, professor of aeronautics and astronautics at Purdue University. Along with his colleagues, we have forged ways to launch a substantial large vehicle that would provide radiation shielding and spacious quarters in order to guarantee the safety and comfort of outbound-to-Mars and inbound-to-Earth astronaut crews."

Aldrin spoke at the Humans2Mars Summit May 6-8, 2013 at George Washington University where he referenced the work of **Prof. James M. Longuski** and AAE alumni **Dr. Damon F. Landau** who is now with NASA's Jet Propulsion Laboratory. Aldrin also discussed figures and movies developed by AAE doctoral student **Mr. Blake Rogers**. In addition to the live audience at the summit, the event was also viewed by thousands of people all over the world via webcast.

Dr. Aldrin presented Dr. Landau's slides at this conference and at numerous venues on his book signing tour. Buzz Aldrin will be making an appearance at Purdue on Tuesday October 15, 2013 to discuss his book. Time and location TBD.

Congratulations to Our Graduates 2012-2013

Ph.D. degrees

AUGUST 2012

Venkattraman
Ayyaswamy
Katya Casper
Warren Lamont
Ki Sun Park
Brian Pomeroy
Andrew Schlueter

DECEMBER 2012

Rosemary Huang
Amanda Knutson
Weiyi Liu
Raoul Rausch
Bradley Wheaton

MAY 2013

Yi Cao
Chandra Sekhar
Martha
Girish Modgil
Jaime Ocampo
Thomas Pavlak
Peng Wei
Yu-Ming Yang

August 2012

B.S.

John H. Black
Kyle M. Foote
Di Huang
Christopher W. Schwall
Christoforos Skourides
E-Jieh The

M.S.

Brittany Fey
David Gutierrez
William Hallum
Matthew Hockemeyer
David Kittell
Derek Lucero
Kevin McCutcheon
Niranjan Parab
Satadru Roy
Unai Usatorre
Adam Weaver

December 2012

B.S.

Alaina J. Austin
David T. Berry
Michael J. Croak
Kevin J. Ellis
Daniel T. Engle
Jarrod B. Felton
Andrew S. Gibson
Kelley M. Jones
Sameer Khan
Cameron S. Kingsbury
Corbin D. Krenk
Eileen M. Lapeta
Stephen R. Lyman
Nicholas G. Makarowski
Matthew J. Moskal
Matthew W. Olker
William J. O'Neill
Devin T. Overstreet
Benjamin E. Paredes
Matthew T. Parssinen
Deep S. Patel
Corey J. Pearce
Ryan A. Pennington
Monica C. Pires
Joseph D. Rideout
Bhavini Singh
Nickolas J. Sinopoli
Ryan E. Tatro
Ye Nearn Teoh
Gregory W. Tesch
Robert J. Wallace

M.S.

Michael Bedard
Natasha Bosanac
Ronald Chow
Salvador Cruz
Nitin Dhamankar
Jeremy Edwards
Kevin Fernandes
Ryan Foley
Jessie Garrett
Abishek Gopal
Nicholas Husen
Graham Johnson
Patrick LaPetina
Joel Lau
Sarah Lau
Tzu Chuan Lee
Ryan Luersen
Ryan Miller
Marissa Moehring
Carlos Molina Gonzalez

Alex Mondal
Kushal Moolchandi
Collin Morgan
Brendan Mueller
Kartavya Neema
Carol Nin
Mack Pasqual
Hugo Pelaez
Paulina Rabczak
Jessica Rebold
Jacob Rieth
Hyun Shim
Rohan Sood
Chandrasekar
Sureshkumar
Li Tan
Devendra Verma
Liam Weibler
William Westbrook
Michael Wipperman

May 2013

B.S.

Taylor S. Adolphson
Ammar Ahmad
Sarah R. Arnac
Stephen P. Bachhuber
Philip R. Baldwin
Charles C. Beacham
Derek R. Berg
Christian M. Biarnesen
David E. Bitter
Matthew J. Block
Rachel M. Bodien
Daniel P. Brooks
Michael J. Bruno
Nicolaus Caniza
Ching Hao Chua
Zachary A. Clarke
Christian S. Coakley
Kilian T. Cooley
Rebecca A. Cutting
Corey A. Davis
Jase D. Deffibaugh
Michael R. Dehnbostel
Aaron M. Driver
Benjamin T. Dunajeski
Randy A. Eckman
Nicholas A. Edwards
Joseph D. Fakler
Siwei Fan
Braxton L. Felts
Monica P. Fernandez
Stephanie A.
Firehammer

Roy A. Fisher
Katherine J. Gilbert
Ki Ryung Go
Patrick J. Griffin
Steven J. Harmon
Drake J. Harnen
Trevor M. Holloway
Yu Huang
Simon L. Hufnagel
Jay D. Jasper
Aaron M. Johnson
Kathryn R. Juskevics
Thomas Z. Just
Jun Sik Kang
Nicholas R. Kowalczyk
Hannah L. Kraus
David W. Kun
Jeremy A. Lakoskey
Curtis J. Langlois
Zachary R. Lapetina
Jong Seo Lee
Ser Keong Lim
Sai Mun Kenneth Loo
Christina L. Malinowski
Elizabeth A. Marandola
Wayne L. Masteller
Non Meeboon
Eric J. Meier
Hadley R. Miller
Michael A. Munizzi
Anurag Nandi
Trym E. Nielsen
Kent P. O'Neill
Stephen A. Outcalt
Jessica M. Powell
Bruno Prentice-Webb
Kaizad V. Raimalwala
Anirudh Rajeswar
Gage M. Ricketts
Graham M. Rose
Kenneth R. Roush
John F. Sabol
Nathaniel G. Saideh
Mitchell W. Sangalis
Matthew R. Schenk
David A. Schulz
John B. Scott
Alexander M. Sener
Stuart C. Shippee
Robert C. Shoemaker
Allison R. Shultz
Theodore W. Sieffert
David C. Silberberg
Sarah J. St Clair
Matthew W. Steiner

John K. Stevens
Steven J. Stoot
Jeffrey J. Straub
Cassandra L. Strode
Lloyd D. Strohl
Andrew D. Strongrich
Raymond P. Strychalski
Andrew P. Sullivan
Ryan J. Tedjasukmana
Sagar Thapa
Megha Tiwari
Seth M. Trey
Christopher M. Trickle
Cody A. Tyler
David C. Valentino
Andrew P. Verhamme
An T. Vu
Curtis A. Wassum
Logan W. White
Jared D. Willits
Leah E. Wise
Itanza N. Wright
Jennifer Wu
Jia Hao Xie
Chris D. Yamamoto
John S. Yerant
Collin E. York
Megan A. Youngs
Andy Yu
Thomas M. Zettel
Shiwen Zhang
Yuming Zou

M.S.

Fnu Adarsh Viji Elango
Patrick Ball
Justin Bass
Vaibhav Bhutoria
Aaron Lok-Young
Cheung
Patrick Christensen
Ashlie Christian
Robert Falck
Thomas Feldman
Kelly Fitzpatrick
John Gantt
Rosalie Geeck
Hans Govertsen
Parithi Govindaraju
Jeffrey Graham
Tyler Hall
Jinu Idicula
Brandon Kan
Elijah Krawciw
Sai Krovvidi

During the 2012-2013 school year the School of Aeronautics and Astronautics awarded 155 BSAE degrees, 86 M.S. degrees, and 18 Ph.D. degrees.

Graduates stand in line to have their photos taken with the statue of AAE alumnus Neil A. Armstrong

Jason Liu
Evan Morrison
Irsha Pardeshi
Plamen Peshev
Mark Pototschnik
Ashwin Rai
Kimberly Riggle
Vincent Sciandra
Andrew Shull
Clifford Skelton
Dustin Souza
Nithya Subramanian
Siva Sashank Tholeti
Wei Wei
Yi Zhang
Yu Zheng



CONGRATULATIONS TO ALL OF OUR GRADUATES.

STUDENT *awards*

AAE General Scholarship

Catherine Courchaine,
Eric Maglio, Alexander Sener

Andrea Chavez Scholarship

Jessica Powell

Andrew Kasowski Scholarship

David Sotirovski

Arthur S. Remson Memorial Scholarship

Corey Gerrish

Baxter Young Investigator Award 2012

Arnab Ganguly

Bilsland Dissertation Fellowship

Jian Xu

The Bob and Elly Hostetler Scholarship in Aeronautics and Astronautics

Samuel Ferdon

Bruce A. Reese Aeronautics and Astronautics Scholarship

Christopher Jacobus,
Andrew Strongrich

David L. Filmer Scholarship

Shiwen Zhang

David O. and Linda Schimmel Swain Scholarship

Jani Dominguez, Gibson Heckert,
Nicholas Sierra, Alexis Turner

Donald C. and Marion E. Currier Scholarship

Stephanie Firehammer,
Kenneth Roush

Future Purdue Scholarship

Ade Dillon, Reese Johnson,
Cole Tribbett

George & Patricia Palmer Scholarship

Scott Schwenker, Dalan Talsma

Graduate Teaching Excellence Award

Anthony Cofer

Harold DeGroff Scholarship Certificate in Entrepreneurship and Innovation

Aaron Johnson

Herbert F. Rogers Award

Sarah Arnac

The John Gleiter – Engineering Perseverance Scholarship

Nicole Vaughan

John and Linda Hayhurst Scholarships in Aeronautics and Astronautics

Ellis Sepkovich

John and Patricia Rich Scholarship

Andrew Cox, Roshan Jobanputra,
Eric Meier, Shawn Olsavsky,
Bennett Olson, Logan White

Lynn Fellowship

Tony Favaloro

Magoon Excellence in Teaching Award

Anthony Cofer, Michael Fruhnert,
Oscar Garibaldi, Arjun Rao

Marc Christopher Weaver Memorial Scholarship

Sarah Arnac, Randy Eckman

NASA Environmentally Responsible Aviation (ERA) Project 2012

John Black, Alex Byers, Daniel Engle,
Andrew Hacha, Lauren Henning,
Joseph Kubinski, Erich Lohmann,
Craig Price and Tara Yeager.

NASA Group Achievement Award

Sarah Arnac

National Science Foundation Graduate Research Fellowship

Stephanie Firehammer, Devon Parkos

National Science Foundation Fellowship

Tony Favaloro, Ming Gan,
Hongsuk Lee, Devendra Verma,
Tao Qu, Yang Zhang

The Office of Interdisciplinary Graduate Program (OIGP) Certificate of Excellence Award

Natasha Bosanac

Orrin Arthur Austin Memorial Scholarship

Timothy Machin

Outstanding Service Award

Amanda Haapala

Peter Mueller Memorial Scholarship

Seth Trey

PGSG Graduate Student Excellence Award 2013

Mar Vaquero, Devendra Verma

Purdue Forever Fellowships 2012

Jonathan E. Goodsell, Mario Roa
and Isaac Tetzloff

SEM XII International Congress & Exposition on Experimental and Applied Mechanics – 1st place International Student Paper

Matt Hudspeth

Sigma Xi Poster Competition - Engineering Sciences Section

Amanda Haapala placed 1st
Irsha Ashok Pardeshi placed 2nd

Society of Women Engineers Awards:

Sarah Arnac - *Zimmerman Family Award*

Sarah St. Clair - *Women in in Engineering Program Award*

Arika Armstrong - *Roberta Banaszak Gleiter/GIFTE Scholarship Award*

Jessica Powell - *Outstanding Senior, Corning, Inc*

Summer Research Grants

Christabelle Bosson, Shao-Huan Cheng, and Christopher Spreen

Swenson Aeromodeler Scholarship

Ade Dillon

Warren G. Koerner Scholarship

Ade Dillon, Nicoletta Fala,
Spenser Guerin, Yu Huang,
Shyngys Karimov, Ryan Kobert,
David Kun, My-Mustapha Lemcherfi,
Kenneth Loo, Joseph Lorenzetti,
Colleen Mahoney, Nicholas McGregor,
Kevin Porter, Brandon Puccio,
Kaizad Raimalwala, Scott Schwenker,
Drew Sommer, Amit Soni,
Saagar Unadkat, Christian Vuong,
Takaai Wakazono, Logan White,
Shiwen Zhang

William & Sally Dunton Scholarship

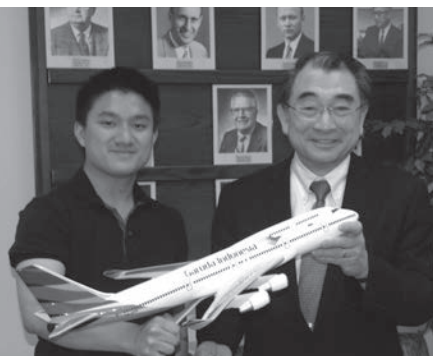
Ade Dillon

Zonta International Amelia Earhart Fellowship

Amanda Haapala, Natalie Smith,
Payuna Uday



Congratulations to AAE senior **Stuart Shippek** who was elected as Homecoming King 2012.



Graduating Senior Presents Model Plane to AAE

AAE graduating senior **Ryan Jason Tedjasukmana** wanted to leave a presence for his time at the School of Aeronautics and Astronautics and also highlight his home country of Indonesia.

Ryan hails from Jakarta and presented a model of Boeing 747-400 from Garuda Indonesia Airlines to head of school Dr. Tom Shih on the last day of class. Ryan now works for Cenit North America in Michigan and will be starting his master's degree through Distance Learning hosted by Engineering Professional Education.

AAE Graduating Senior Reception CLASS OF 2012-2013

To congratulate our graduating seniors, the School of Aeronautics and Astronautics held an inaugural **AAE Senior Graduating Reception for the Class of 2012-2013** on Thursday April 18, 2013.

Members of the school's Industrial Advisory Council (IAC) and the Steering Advisory Council (SAC) held their first joint meeting on that day, and so were able to attend the reception along with the AAE faculty and staff to help our students celebrate.



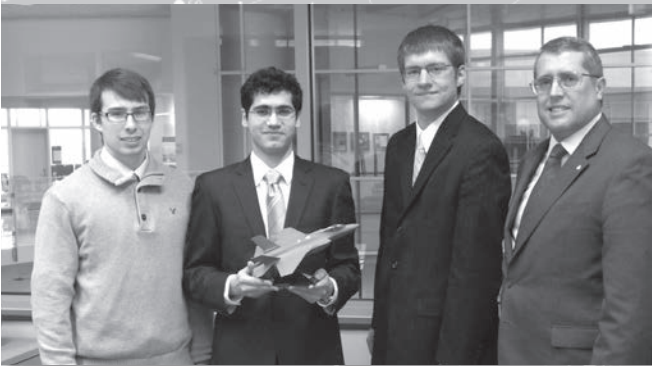
STUDENT *awards*



American Institute of Aeronautics and Astronautics (AIAA) – Bowling with the Professors

The Purdue Chapter of AIAA held a “Bowling with the Professors” event in November 2012. Bowling with Professors Night is an annual event hosted by Purdue’s chapter of American Institute of Aeronautics and Astronautics (AIAA) to help AAE students and faculty network outside of the classroom.

Winners of the ATK Thiokol Propulsion S.P.A.C.E Award



ATK 251 Spring 2012 Aircraft Vehicle Design 1st Place – Mach 4

Gary Cheung
Dan St. Pierre
Brandon Puccio
Saagar Unadkat

Pictured with David McGrath
Technical Director,
ATK Elkton LLC

ATK Spring 2012 Spacecraft Mission Design 1st Place – S2-SASS

Justin Guastaferro
Zach Harman
Rebecca Hughes
Theresa Kaufman
Yiwei Lee

Not pictured



ATK 251 Fall 2012 Aircraft Vehicle Design 1st Place – Spazio Systems

Aaron Chandran
Gavin Lachesky
Tim Madzey
Eric Walsh
Drake Wisser

Pictured with David McGrath
Technical Director,
ATK Elkton LLC

Yuri's Night Fosters International Friendship

Yuri's Night – April 12 – the World Space Party held to commemorate the day the first human flight in space by Russian cosmonaut Yuri Gagarin in 1961, was celebrated in West Lafayette by AAE student organization AIAA who hosted speaker Professor Rafael Lang who discussed Dark Matter.

A group from the Kaluga Region of Russia were visiting West Lafayette, and they attended the Yuri's Night reception in the Kurz Atrium of Armstrong Hall. Dr. Alina Alexeenko welcomed all at the reception who then heard a welcome via You Tube from astronaut Dr. David Wolf who greeted all in Russian. The attendees' also received a welcome to Yuri's Night from the-then Commander of the International Space Station – Chris Hadfield. Russia's State Museum of the History of Cosmonautics is based in the Kaluga Region.

The Russian guests were also greeted by West Lafayette Mayor John Dennis. They were here to learn about social services, particularly those involving foster and orphaned children. They were also going to experience American culture, take a sightseeing trip to Chicago and experience Purdue's Spring Fest.

Once the group returned to Russia, they sent the photo with the following message:

"A HUGE hello from Kaluga, the cradle of cosmonautics, to all our new friends in Purdue University and the city of Lafayette - We are thinking of you and missing you a lot!"

Yuri's night also marks 20 years to the day, April 12, 1981 that Space Shuttle Mission STS-1 lifted off, beginning a new era in space.



Research Symposium Series 2013

The Research Symposium Series is a department sponsored forum for graduate students and advanced level undergraduates to present their research to a general audience.



(L-R) Dr. Tom Shih, Matt Steiner, Prof. Tim Pourpoint, Blake Rogers, Prof. James Longuski, Prof. Bill Crossley, Nithya Subramanian, Prof. Kathleen Howell, Natasha Bosanac and Amanda Haapala

Congratulations to:

Best Presentation

Nithya Subramanian – Advisor Prof. Bill Crossley
Parallel Genetic Algorithm with Population-Based Sampling Approach to Discrete Optimization Under Uncertainty

Second Place Presentation

Natasha Bosanac – Advisor Prof. Kathleen Howell
Exploring the Impact of an Additional Three-Body Interaction in the Restricted Three-Body Problem

Third Place Presentation

Amanda Haapala - Advisor Prof. Kathleen Howell
Trajectory Design in the Spatial Circular Restricted Three-Body Problem

Best Abstract

Blake Rogers – Advisor Prof. James Longuski
Design of Cycling Trajectories for Human Missions to Mars

Best Undergraduate Presentation

Matt Steiner – Advisor Prof. Tim Pourpoint
The Design and Blowdown Test of the 900 lbf Purdue Hybrid Rocket

AeroGRAM

School of Aeronautics & Astronautics

Purdue University

Neil Armstrong Hall of Engineering

701 W. Stadium Ave.

West Lafayette, IN 47907-2045

News About You

There are many ways for you to stay involved with our school. Please keep us posted on where you are and what you are doing using the Update Alumni Records page from our Alumni section of our web site at: <https://engineering.purdue.edu/AAE/AboutUs/Alumni/Update/AlumniRecords>

Alternatively, you can jot down personal news that you want to appear in the next edition of AeroGram or our E-newsletter the Aeroliner and either email it or send to the address below.

Our goal is to keep you abreast of the activities in the School of Aeronautics & Astronautics and across Purdue University. We hope that you find this information useful and relevant. We want to keep in touch with all our alumni and friends. Information provided by you is used to deliver up-to-date news and other information. We will not share your information with any other person or organization.

We can be contacted at the following email address: aae@purdue.edu

Or by mail at:

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School of Aeronautics & Astronautics
Neil Armstrong Hall of Engineering
701 W. Stadium Ave.
West Lafayette, IN 47907-2045



AeroGRAM

A newsletter published for the alumni and friends of the School of Aeronautics & Astronautics

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Dawn Minns, Uppercase Design

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