



# Highlight



## *On the Fast Track:*

UW A&A partners with Lamborghini to build lighter, faster cars with composite materials

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# Message From the Chair



**Adam Bruckner**

Once again it has been a busy, eventful year since our last publication. We were much in the news this year as two of our alumni (Tony Antonelli, MS '02, and Greg Johnson, BS '77) soared into space. Here on Earth, eight Lamborghinis drove up to the front of Guggenheim Hall in early October to help us celebrate the opening of Professor Feraboli's Automobili Lamborghini Advanced Composites Structures Laboratory. Our students had great successes building and flying radio-control planes and sounding rockets in national collegiate competitions. In addition, the department just launched a new composites-focused master's degree, with Professor Kuen Lin at the helm, and it has already taken off, especially among Boeing engineers. We have new faculty and staff who are already actively contributing to our mission. You can now keep up-to-date with us on Facebook, and via our newly

designed Web site, which we think is a vast improvement.

All these events and developments are described in further detail in this issue of Highlight.

This academic year will be my last one as department chair, a role in which I have served since July 1, 1998. Some time ago I agreed to serve two years beyond my second term, so the time to pass the baton is approaching. The search for my successor will begin officially in January, and the selection will be announced in spring. Because this search will be internal, whoever takes over the department's reins next July will be no stranger to us. After I step down, I will continue in my role as a professor, resuming my full-time teaching and research activities. My years at the helm of A&A have been more interesting and exciting than I had ever expected when I first accepted the job. It has truly been an honor and a pleasure to serve the department all these years and work with such wonderful faculty, staff, students and alumni.

*Adam Bruckner*

## Department News

**UW Department of Aeronautics & Astronautics** is ranked 13th best in nation for undergraduate aerospace education and 19th best for graduate aerospace education by *US News & World Report*.

Professors **Dana Dabiri** and **Kristi Morgansen** were promoted to associate professors with tenure.

Professor **Keith Holsapple** is serving on the National Academies NRC review panel to define and assess the threat and mitigation strategies for asteroid impacts on the Earth. A report will be delivered to Congress this fall. Professor Holsapple also had an asteroid named after him. Asteroid Holsapple (or 20360) is a main-belt asteroid discovered in 1998.

Professor **Mehran Mesbahi** was a featured speaker at the 2009 UW Distinguished Teaching Awards Showcase, presenting a lecture titled, "Fly Me to the Moon: Johannes Kepler and the Science of Spacecraft Orbits."

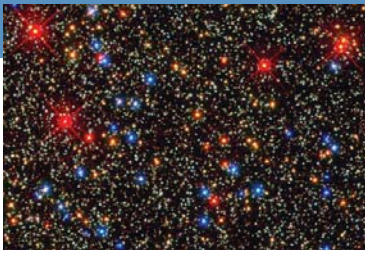
Professors **Uri Shumlak**, **Brian Nelson**, and Research Scientist **Raymond Golingo** received a patent for their "Plasma-Based EUV Light Source."



## Class of 1946

Please help us identify those in this historic photo whose names we don't know. Send information to: [highlight@aa.washington.edu](mailto:highlight@aa.washington.edu)

This picture was provided to us by John Zachary (BS '46). Other alumni and faculty we were able to identify are, L-R: 1st Row: ??, Steve Douglas, Prof. Fred Eastman, ??, ??; 2nd Row: Donald Stream, David Douglas, Prof. Victor Martin, ??, L.K.W. Hope, ??; 3rd Row: ??, Harold Froelich, Albert Porter, John Zachary, Robert Smith; 4th Row: Harry Farmer, Raymond Sullivan, Richard Fitzsimmons ('96 Distinguished Alum), George Philips, Bud Naslund, Prof. James Dwinell ('93 Distinguished Alum)



Omega Centauri from Hubble.

# A&A Alum Greg Johnson Pilots Hubble Repair Mission

**A&A** alum **Greg Johnson** (BS '77) first heard about Hubble in 1998, on his second day working at NASA. He could hardly have imagined that his first space flight would be a seat on the last Hubble servicing mission, a highly coveted assignment.

The results are stunning. One of the first images taken by the rejuvenated Hubble Space Telescope blazes with 100,000 stars residing in the crowded core of Omega Centauri, the biggest star cluster in the Milky Way. "It looks like lots of Christmas lights with red giants, young yellow stars, and cooling blue stars," said Greg, pilot on the Atlantis crew that flew the last service mission to Hubble. "I'm just ecstatic to see the new images. They are ten times better than previous ones. Astronomers are beside themselves, and the public is excited too."

The new images are the reward for accomplishing all goals on a difficult and risky mission. The seven astronauts spent 12 plus days orbiting 350 miles above the earth in a zone with more space debris than at the 220-mile altitude of the International Space Station.

Five space walks enabled the astronauts to equip Hubble with a powerful \$132 million camera, a new spectrograph, six gyroscopes, batteries, and other equipment. Hubble should be "good to go" for at least another five years, peering into the depths of the universe and beaming back images and data.

His thoughts when the auxiliary power units turned on a few minutes before liftoff on May 11? "This is not a simulation. We're going!"

No doubt about that when the engines lit up and Johnson felt "a whole lot more

shaking than in the simulator — 7.5 million pounds of thrust and high-energy physics at its best." An alarm sounding one second after launch and another 30 seconds later diverted his attention from shaking to troubleshooting, but he and mission commander Scott Altman found no major problems.

Johnson explains the pilot's role as the mission jack-of-all-trades, schedule tracker for daunting 17-hour work days, and backup to the commander. "It's co-pilot duty, but astronaut pilots don't like that title," Johnson admitted with a laugh. He handled many of the thruster burns to position Atlantis so Altman could fly it in close to Hubble, and had a brief stint at the controls after reentering the Earth's atmosphere on the flight home. He's still amazed at "having my hands on a \$2 billion space ship — big, complicated, and 250,000 pounds, but very responsive."

It's a long way from the seaplanes Johnson flew for Kenmore Air to pay his way through the UW, also helped along by a Boeing scholarship. A&A chair Adam Bruckner remembers him as a smart, attentive student who sat in the front row.

"My A&A studies taught me the value of critical thinking and making decisions based on data," Johnson said. Even among NASA's engineers and scientists he stands out as a "show me the data" guy.

After UW, Johnson entered the Navy, becoming a top aircraft carrier pilot, with



Astronaut Greg Johnson in space with UW A&A banner.

Photo courtesy of NASA

more than 500 landings and 9,000 flight hours in 50 aircraft types. He then joined NASA as a test pilot for the KC-135 microgravity plane and high-altitude WB-57. "There was only one other flying job in the universe I wanted," he said. That job provided a spectacular view, dramatic sunrises and sunsets, and a role in keeping Hubble alive to expand our knowledge of the universe.

On November 4, Greg Johnson participated in the College of Engineering's Fall Lecture Series with a presentation to more than 700 people titled, "Eye on the Universe: Final Mission to Hubble." Johnson also gave a preview seminar to A&A students and faculty. He discussed his time at the UW, his experiences as a Navy and NASA test pilot, and his selection as a NASA astronaut, as well as the Hubble servicing mission. At the end, Johnson, presented the department with the UW A&A banner he carried into space with him!

Reprinted from *The Trend in Engineering*, Autumn 2009



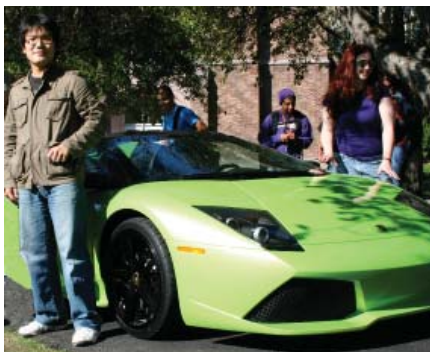
# UW and Lamborghini Partner to Build a Lighter, Faster Car With Composite Materials

A partnership between the UW and the Italian sports car company Automobili Lamborghini was formalized, as the presidents of both organizations attended the naming ceremony of the UW's Automobili Lamborghini Advanced Composite Structures Laboratory on October 6, 2009.

The UW is the first university in the country to collaborate with Lamborghini. The company has committed to provide substantial funding for lab equipment and support for UW undergraduate and graduate students.

"This partnership is a win-win situation," said Matthew O'Donnell, dean of the UW College of Engineering. "It further establishes the Pacific Northwest as a leader in composites research, it funds equipment for a UW engineering lab and it provides students with valuable research experience that's directly tied to real-world applications."

The UW and Lamborghini have worked closely during the past two years. The UW lab has hosted Lamborghini engineers for monthlong periods; UW faculty have traveled to Italy to conduct small classes on the fundamentals of composites design and certification; and the University has sent engineering graduate students for



**A&A student Casper Lei with his dream car.**



**A gleaming Lamborghini Gallardo in front of Guggenheim Hall at the naming ceremony on October 6.**

internships at Lamborghini's Bologna headquarters.

"Lamborghini remains committed to investing in its future, and advancing carbon fiber composite technologies is the key to achieving many of our goals," said Lamborghini president Stephan Winkelmann, who attended the ceremony. "The UW and its collaborations have enabled Automobili Lamborghini to proceed with confidence in the development of innovative, composite-intensive structures."

Composite materials are made up of distinct parts — plywood, fiberglass and kevlar are all composite materials. High-end industries are beginning to use materials such as carbon fiber combined with epoxy, itself a composite material, to build stronger and lighter components.

"Composites are no longer the future,

they are the present of structural materials for anything that's high-performance, whether it's aerospace or golf clubs or sports cars," said lab director **Paolo Feraboli**, A&A assistant professor. "Monolithic materials like aluminum just won't cut it anymore."

Feraboli, a native of Italy, earned his undergraduate degree in Bologna and worked at Lamborghini on composite materials in 2001 and 2002. He continued a relationship with Lamborghini while establishing the Advanced Composite Structures Laboratory in 2007.

The lab's equipment includes a lightning-strike generator for simulated lightning strikes up to 100,000 amps; a drop tower for studying damage from foreign objects; a pneumatic crash sled capable of crushing full-size vehicle prototypes; and a high-speed video camera that can take 82,000 frames per second. Research focuses on short-term, industry-driven testing of new materials in scenarios such as bird strike, lightning strike or, in this case, crashes.

Lamborghini uses carbon fiber, a strong, lightweight composite material, in its new cars. The Murcielago LP 670-4 SuperVeloce incorporates carbon composites in its floor, transmission tunnel and outer skin, for a total of roughly one-third composite materials



**A&A Grad Student Francesco Deleo in his Lamborghini lab coat.**



**Professor Paolo Feraboli and chair Adam Bruckner at the ceremony.**

by weight. Lamborghini says it plans to increase power-to-weight ratios of its cars by using composites to decrease the vehicles' overall mass, which also lowers carbon dioxide emissions.

For more than a decade, A&A aeronautical engineers have worked closely with The Boeing Company to develop and test composite parts for the 787 Dreamliner. Testing for Lamborghini means exploring different questions, as well as having the flexibility to develop prototype parts in a shorter turnaround time, Feraboli noted.

"Partnerships between the UW and industry leaders like Lamborghini give our students the advantage of working on real-world problems," said UW President Mark Emmert. "We are excited that UW researchers and Lamborghini engineers will be collaborating to bring innovative materials to the automobile industry."

*Article courtesy of Hannah Hickey, UW Science Writer*

## New degree launched Autumn 2009! Master of Aerospace Engineering in Composite Materials and Structures (MAE-CMS)

**B**eginning this autumn, students in the Department of Aeronautics & Astronautics at the University of Washington will have the opportunity to earn a Master's degree focused entirely on composite materials and their emerging applications to commercial aircraft production.

In 2004, recognizing the need for engineers with a strong composites background, Boeing partnered with the University of Washington to create a three-course certificate program in Aircraft Composites Structural Analysis and Design (ACSAD) to teach the necessary fundamentals and practical applications of these advanced materials. Since its inception, hundreds of engineers have taken the available classes, over 200 of whom have received this certification. Due to the tremendous success of the ACSAD certificate program, and the desire of participants to explore the field in more depth, the idea of a degree program in composite materials was developed, with Professor Kuen Lin at the helm, and the Master of Aerospace Engineering in Composite Materials and Structures (MAE-CMS) was born through a generous grant from the Boeing LTD organization.

The MAE-CMS is a practice-oriented degree consisting of a minimum of 45 credits. There are four required core classes: Mechanics of Composite Materials; Advanced Composites: Design and Manufacturing; Integrity of Composite Structures; and Composite



**Professors Kuen Lin and Eli Livne at the FAA Center for Excellence.**

Design Case Studies. Beyond these four classes, students have some flexibility in selecting technical, analytical, systems, and manufacturing courses that meet their needs and interests. As part of the degree, there is also an eight-credit independent or team project. The curriculum is guided and approved by an advisory committee consisting of leaders in academia and the aerospace and composites industries.

Since many of the students expected to apply for this new degree are current Boeing engineers who work full-time, the program was designed to be flexible to accommodate work and life schedules. Courses can be taken on-line through UW Educational Outreach, or can be taken on-campus, or both. Students are also welcome to attend part-time or full-time.

The MAE-CMS degree was developed to help today's engineers master new developments in the composites field, and allow them to take their career to new heights as these materials continue to increasingly dominate the industry.



## Student News

**Chris Lum**, recent A&A PhD graduate and now a post-doc, won the Best Student Paper at AIAA Aerospace Conference, April 2009. Fellow PhD grad and now post-doc **Dan Zelazo**, was also one of the three finalists.

Undergraduate **Genia Vogman** won first place in Best Undergraduate Paper at the International Astronautical Federation Congress in October 2008 for "Spectroscopic Techniques for the ZaP Z-Pinch Plasma."

The A&A Department celebrated the graduation of its 80th class on June 13, 2009 with keynote speaker and 1999 A&A Distinguished Alumna **Suzanna Darcy-Hennemann (BS '81)**. This year we proudly graduated 41 bachelor's students, 30 master's students, and 4 doctoral students, whose names and dissertation titles are listed below:

**Daniel Klein**, "Coordinated Control and Estimation for Multi-Agent Systems: Theory and Practice"

**Emmett Lalish**, "Distributed Reactive Collision Avoidance"

**Christopher Lum**, "Coordinated Searching and Target Identification Using Teams of Autonomous Agents"

**Daniel Zelazo**, "Graph-theoretic Methods for the Analysis and Synthesis of Networked Dynamic Systems"



# Student-Built Rocket Soars Two Miles in Competition

This year the UW Department of Aeronautics & Astronautics held its first hands-on graduate course focused on rocket design and construction. The course ended with a dramatic class test: a rocket launch in the Utah desert.

Students in the A&A department spent five months designing, building, and testing a research rocket. Then for the first time, UW students competed in the Intercollegiate Rocket Engineering Competition, held June 25-26, 2009 outside Green River, Utah.

The contest, now in its fourth year, is organized by the Utah-based nonprofit Experimental Sounding Rocket Association. This year the rules required that each team design a rocket to carry a 10-pound payload up to 10,000 feet, nearly two miles.

The A&A team, supervised by Professors Jim Hermanson, Adam Bruckner, and Dr. Carl Knowlen, won second place for its flight and also the award for technical excellence, bringing back two of the three awards presented this year.

Students built and tested their craft during spring quarter, but the power of the

rocket meant they could not test the launch. Instead they tested components individually. The UW rocket was named ACES, for active control energy system. It measured 11 feet and weighed 50 pounds at launch. Some 600 pounds of thrust accelerated it to nearly the speed of sound in the first three seconds of flight, and then it coasted upward. Students built air brakes to deploy and slow the rocket's flight as it neared the target altitude. After attaining the peak, a parachute deployed to slow the rocket's descent. At 1,000 feet altitude the main parachute opened to cushion the final fall.

Unfortunately, during the competition flight an electrical connection to the air brakes failed. The A&A rocket overshot, reaching a peak altitude of 12,500 feet. The winning rocket, built by California State University Long Beach, won first prize with a 8,233-foot flight, closer to the 10,000-foot target.

The A&A rocket is now on display in the Space Systems Lab in the basement of the Aerospace and Engineering Research Building.

*Article courtesy of Hannah Hickey, UW Science Writer*



A&A UW Rocket Design Class Members (L-R): Casper Lei, David Stechmann, Arthur Amende, James Craig, Greg Rixon, Ryan Trescott, Vincent Leauteaud, Robert Cerff, Derek Schmuland, Bhuvana Srinivasan (not pictured, Robert Lilly).

# Two New Faculty Members Join A&A This Year

Two talented new professors joined our department this fall:



**Assistant Professor Antonino Ferrante** received his PhD in 2004 in Mechanical and Aerospace Engineering from the

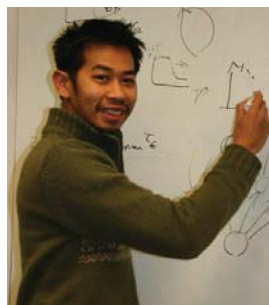
University of California, Irvine, where he continued his research as a postdoctoral scholar until 2007. From 2007 to 2009, he was a postdoctoral scholar in aeronautics at the California Institute of Technology.

Dr. Ferrante specializes in computational fluid mechanics, mainly focused on single-phase, multi-phase, and multi-species turbulent flows relevant to engineering applications. His research group develops numerical methods and algorithms for high-performance computing to perform state-of-the-art direct numerical simulations and large eddy simulations of turbulent flows.

**Assistant Professor Setthivoine You** received an MS in 1997 and then a PhD in 2002, both in physics from Imperial College, London.

Prior to joining A&A, You worked at the University of Tokyo on research sponsored by the Japanese Society for the Promotion of Science.

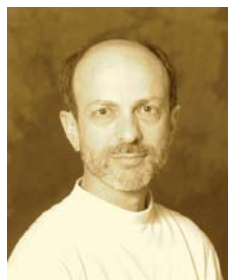
Professor You's research focuses on the plasma physics of fusion energy and space propulsion. He has worked on density limits and density control of tokamaks



**Sett You** using supersonic jet gas-puffing, the formation physics of spheromaks, and the interaction between plasma flow and magnetic topology in laboratory astrophysical jets. He is developing a spectroscopic tomographic diagnostic to measure 3D plasma velocities in closed volumes and is investigating generalized magnetic relaxation in the laboratory.

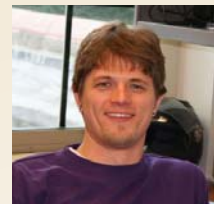
## In Memoriam: Steve Desjardins

We were saddened to lose a good friend and colleague in August 2009 when **Steve Desjardins**, our fiscal supervisor, passed away. Steve joined A&A in 1994, and it soon became evident that he was a wonderful addition to our department. Steve was much appreciated and respected by all faculty, staff and students and was repeatedly nominated for the College of Engineering's Outstanding Staff award; he received an "honorable mention" in 2002 and won



the award in 2004. Steve had an engaging personality and was always friendly and cheerful. In addition to his A&A duties, Steve worked for three years on the UW's Transactions Users Group, in which he took great pride. His file is full of notes of thanks and congratulations for his accomplishments. He leaves a lasting legacy not only for the work he did here, but because he was such a kind, generous and gentle soul. All who knew Steve will remember him fondly and miss him greatly.

## New Staff



**Josh Bean**  
Senior Computer Specialist

Josh has a degree in business from Colorado State University and moved to Seattle about four years ago. Josh and his wife live outside the city with their two horses. He is an avid snowboarder and motorcyclist, and enjoys tattoo art and going to concerts.



**Deidre Girard**  
Graduate Advisor

Deidre advises A&A grad students, in particular those who are pursuing the new MAE-CMS degree. She has a BS in geology from the University of Rhode Island, and is student in the Human-Centered Design & Engineering graduate program at UW. She loves travel, cooking, music and getting outside.



**Kim Maczko**  
Secretary

Kim moved to Seattle from Texas last year after her husband accepted an oceanography position with NOAA. She was previously employed by Texas A&M, Corpus Christi as an events coordinator. They have a 6-year-old son named Drew and recently welcomed a 20-lb Goldendoodle puppy named Cali into the family.

## Varanasi Establish New Fellowship



**Usha and S. Rao Varanasi** (both PhD '68) are passionate about education as the path to a fulfilling life.

The Varanasis met at the California Institute of Technology in the 1960's and then moved to the Northwest to pursue their doctoral degrees at the University of Washington—Rao in aeronautics and Usha in organic chemistry. Since graduating, Rao has had a rewarding and successful career at Boeing, where he is now chief engineer, In-Service Structures and Aging Fleet, for Commercial Airplanes, and a technical liaison with the FAA and European regulatory agencies.

The Varanasis want to encourage students to study the physical sciences, engineering, and math as a solid base for a successful career, so they have created endowed fellowships in both A&A and in Chemistry.

“We love the UW and this country and are so grateful for the training and support we received and the opportunities that opened up to us as a result of our education,” Rao said.

A&A chair Adam Bruckner expressed his gratitude on behalf of the department, “With the Varanasi Fellowship we can attract exceptional graduate students, which strengthens our research and educational programs. We deeply appreciate their generosity.”

# Remembering Professor Ganzer

Ask most A&A alumni from the 1940s to the 1980s and they will say the same thing about Professor Victor Ganzer – “He was the best teacher I ever had.”

**Mike Tauber (BS '58)** certainly feels this way. “His expectations were very high. In a class on supersonic wind tunnel testing, every equation in our reports had to be derived from the basic conservation laws. However, I learned so much in his classes that all the effort was well worth it in the long run. Furthermore, Prof. Ganzer was a scrupulously fair person. By setting such high standards, he tried to prepare us for the workplace. In both my undergraduate and graduate school years, he was the best teacher that I had.”

**Stan Beckelman**, also class of 1958, agrees. “Vic Ganzer was the one professor at the UW that made a significant impact on my life. He was more demanding than the others, but his stiff workload was preparing us for life as engineers. I spent more than one late night completing his assignments, but I always felt good about it in the end. I still have the airplane I designed under Prof. Ganzer's tutelage my senior year. His mentoring through that process gave me the confidence I needed to pursue a career in airplane design.”

Professor Ganzer also believed in the value of teaching future engineers the fine art of communication. **Emeritus Professor Juris Vagners**, class of 1961, remembers. “Of



**Professor Victor Ganzer**

the many contributions Vic made to my education and subsequent career, probably the most significant was his uncompromising insistence on the quality of the language used to convey lab results as well as the quality of the technical work. You quickly learned that every report had to use correct grammar and spelling just as much as correct mathematics.”

Professor Ganzer earned a BA degree in mathematics from Augustana College in Illinois in 1933. He then received a BS in aeronautical engineering from the University of Washington in 1941. During WW II, Ganzer was employed at the Ames Research Center in Mountain View, California by the National Advisory Committee for Aeronautics (NACA), the predecessor to NASA. There, he participated in the testing of full-sized airplanes, also contributing to the design of the P-38. Following the war, he worked at Boeing, contributing to the design of the B-47.

Prof. Ganzer accepted a position at the University of

Washington in 1947 and served through the academic ranks and as head of the department. During his 30 years at the UW, he taught many different courses in aerodynamics, stability and control, and flight dynamics, supervised theses on a broad range of related subjects, and educated a generation of students in the art and science of engineering and airplane design. From 1953 to 1957 Ganzer served as executive officer of the department (i.e., department chair).

It was Ganzer who initiated the department's course in engineering flight testing.

Ganzer retired from the department in 1977. He continued to teach as an emeritus professor throughout the 1980s. In 1987, the department honored him with the title of Distinguished Alumnus. Professor Ganzer passed away in 1993.

In memory of Ganzer's years of service and dedication to A&A students, Mike Tauber has established the Professor Victor Ganzer Memorial Fund in Aeronautics & Astronautics. This fund will provide an award for a student studying airplane design, to be presented at the Spring Banquet in May. The department is encouraging former students of Professor Ganzer to contribute to this fund. If you would like to make a gift, please contact Megan Kagel, associate director for advancement at: (206) 685-1378 or [mkkagel@u.washington.edu](mailto:mkkagel@u.washington.edu)



# Alumni Updates

We all enjoyed meeting **John Zachary (BS '46)** last October. John regaled us with stories about the department and faculty in the "good old days." John retired from Boeing in 1978, but is still active in professional aviation associations and Boeing groups, and is an entertaining raconteur!

A&A 1991 Distinguished Alum **Moustafa Chahine (BS '56)** was elected to the National Academy of Engineering in February. This is one of the highest professional distinctions accorded to engineers and is well deserved by Moustafa, who served as both a senior research scientist and chief scientist during nearly 30 years at NASA's Jet Propulsion Laboratory. Congratulations!

**Michael Tauber (BS '58)** organized a reunion with his classmates at the Guggenheim Hall rededication event last October. The group enjoyed meeting after many years, and after the Guggenheim event, all went to dinner to catch up and reminisce.



L to R: David Kerzie (BS '58), William McIntosh (BS '58, MS '62), Tauber, Doug Gould (BS '58, MS '64), William Lee (BS '58) and Lester McMahan (BS '58).

**Robert Hobbs (BS '60)** reports that after three years in the Air Force and 30 years with Lockheed, he is now retired and does volunteer work keeping the computers running for The Children's Village, a group home of foster children.

**William J. Koselka (MS '61)** tells us that after 40 years in space flight operations and planetary exploration, he now consults for companies seeking NASA contracts.

**James Joki (BS '65)** and A&A Visiting Committee member John Roundhill (BSME '67, MSME '73) were selected as the Museum of Flight 2009 Pathfinder Awardees, which honors individuals with ties to the Pacific Northwest who have made significant contributions to the development of aerospace. They were honored at a reception at the museum in October.

**Richard Odell (BS '65)** visited in May and shared memories of his time in the department. Richard was one of the students who helped **Professor Bob Joppa** build the replica of the 1902 Wright glider that hangs in the entry of the Museum of Flight in Seattle.

**Jim Lancaster (PhD '68)** says that he is semi-retired, but works as a consultant, supporting the Navy P-8A Poseidon program as well as other emerging ISR aircraft programs at Boeing.

**Mike Taniguchi (BS '71)** received a Pratt & Whitney Corporate Diversity and Inclusion Award, the first ever presented. Mike is process leader/manager of the Control Operations & Health Management Department of Pratt & Whitney Rocketdyne.

**Michael Ungs (BS '71)**, who also earned his MS and PhD outside the UW, is a principal scientist at Tetra Tech in Calif.

**Capt. Steve Westover, USN (Ret.) (BS '71)** is a pilot for FedEx flying international routes throughout the world.

**J. Miguel Santos (BS '78)**, who is director of International Sales, Africa and the Middle East for Boeing United Kingdom Ltd., was elected as a Fellow of the Royal Aeronautical Society in the United Kingdom.

**John Rule (BS '79, BSIE '79, MS '84)** has been the CEO of

Applied Aerospace Structures Corp (AASC) since 1999.

**Peter Benda (MS '83)** is president of PortReal, LLC. His career included seven years as an aeronautical engineer and nearly 20 years in management consulting, startups, and executive roles. Peter is married with two children and a dog, living near Richmond, VA.

**Tim Cacanindin (BS '84, MS '85)** works at Edwards AFB where he is chief of a "flight" of engineers, all of whom conduct performance and flying qualities tests for the USAF. Tim and alum **Joey Duncan (BS '07, MS '09)**, who also works at Edwards, came to A&A on a successful recruitment trip in October.

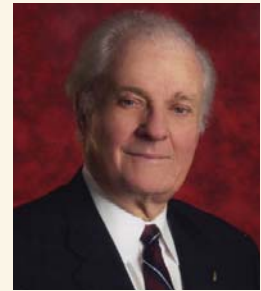
**Alek Komarnitsky (BS '84)** puts on an amazing light show each year at Halloween and Christmas. Three webcams allow people to view and control the lights and inflatables. It's also a fundraiser for Celiac Disease, which his kids have. Alek went on an amazing trip to Antarctica, Falklands, and South Georgia Islands in early 2009. See those pictures (and control his house!) at [www.komar.org](http://www.komar.org).

**Dean Matro (BS '85)** is the manager of program administration at STI Medical Systems. Dean says, "Aloha from Hawaii!" After graduation he spent seven years in the Air Force, and then received an MS in contract management from AFIT. Dean and his wife Jill have four children.

**Chris Moen (BS '87, MS '88)** is deputy to the VP of Sandia National Laboratories, California Division, working in advanced transportation technologies.

**Don Stevenson (BS '87)** is deputy director of Attitude Control Propulsion Systems at Pratt & Whitney Rocketdyne, in

## 2009 Distinguished Alumnus & Students Celebrated at Spring Banquet



Thirty-one students were awarded 22 scholarships and prizes at the annual Spring Banquet in May. Generous donations from alumni, friends, and corporations make these gifts possible and have a lasting positive impact on creating the next generation of aerospace engineers.

We also presented the 2009 Distinguished Alumnus Award to Louis "Bernie" Gratzer (BS '44, MS '51, PhD '68). Of winning this award, Bernie said, "To be accorded the singular honor of Distinguished Alumnus by the faculty of A&A is a recognition to be treasured. Surely it represents the considered judgment of one's peers regarding a special level of attainment in a discipline and profession valued by the wider community." Read about Gratzner's distinguished career and see banquet photos at: <http://www.aa.washington.edu/alumni/awards.html>

To learn more about making a gift to support students or to make a nomination for a Distinguished Alum Award, please contact Megan Kagel, Associate Director for Advancement at: (206) 685-1378 or [mkkagel@u.washington.edu](mailto:mkkagel@u.washington.edu)

# Alumni Updates

missile defense and space systems. He was previously chief engineer for the Terminal High Altitude Area Defense (THAAD) propulsion system.

**Kim Fallat Graham (BS '88)** is the owner of Evergreen Dance Academy, which she opened in 2001. Kim runs the studio and teaches ballet and Pilates.

**Venus Lusterio (BS '88)** is senior engineering specialist—lead of the stress department at Airbus North America Engineering in Mobile, Ala. Her organization works on all Airbus airplane models, including the new A350XWB, A380 and A330F.

**Neil Phelps (BS '89, MS '95)** is lead reliability engineer at Boeing Commercial Airplanes. Neil provides leadership and project management for a group of engineers who assess the reliability and safety of all subsystems related to the 747-8 airplane development program.

**Kamal Desai (BS '90, MS '91)** works at Wind River Systems in aerospace and defense education programs.

Last year, **Robert Lind (BS '90, MS '92)** accepted a position as engineering manager at TLG Aerospace in Seattle. TLG is a start-up engineering firm, focusing on loads and dynamics.

**Dennis Muilenburg (MS '90)** was named president and CEO of Boeing Integrated Defense Systems in September. He moves to his new position from Integrated Defense Systems' Global Services & Support unit, where he led the overall engineering development of Boeing's program to modernize global air traffic management systems.

**Nestor Wagner (MS '90)** stopped by the department to

visit. Nestor is the founder and director of the Southern Calif. School of Interpretation.

**Cheolkeun Ha (PhD '93)** wrote to inquire about his PhD advisors, Professors Ly and Vagners. He is a professor himself now in the Aerospace Engineering Department at the University of Ulsan in Korea.

**Amber Koch (Kemmerling) (BS '93)** is a network systems safety and certification engineer at Boeing.

**Richard Warwick (BS '94, MS '96)** has been at Lockheed Martin Astronautics since 1996, and was the Mars Phoenix systems design lead. Richard presented a seminar for A&A graduate students last December, titled "The Mars Phoenix Lander Mission: History, Systems Design, and Operations."

**Brian Capozzi (MS '96, PhD '01)** is back in the Seattle area after many years at Insitu. He is now a principal analyst for Mosiac ATM, a government contracting company.

**David Rathbun (MS '96, PhD EE '01)** came north from Bingen, WA to say hello. Dave is a senior scientist at Insitu.

**Joseph Armas (BS '98)** is the new equipment and modernization branch manager for Otis Elevator Company in California.

**Vin Lenbury (BS '98)** is first officer, flying the Boeing 777 fleet for Thai Airways International Co., Ltd. He says the background knowledge gained in A&A, and a year at Boeing were invaluable to getting him where he is now. That's what we like to hear!

**Doug MacSparran (BS '98)** is a flight test engineer at AeroTEC.

**Sutthiphong "Spot" Srigrarom (MS '98, PhD '01)** visited the department this summer while he was here to celebrate his sister's graduation from the UW.

**Shahin Afshari (BS '99)** is an engineer at Boeing in the Loads and Dynamics Division working on the 787 program.

**Ben Davenport (BS '99)** stopped by to visit last year before leaving for Shanghai, China, where he will be a 2010 Olmsted Scholar. The scholarship is designed to equip outstanding young military leaders to serve in positions of great responsibility in the US Armed Forces. Ben is in the Marines, and was recently promoted to major. He has served four tours of duty in Iraq, and was squadron department head, flying V-22 Ospreys.

**Thiemo Kier (MS '99)** came to Seattle for a conference in June and stopped by to visit and show his girlfriend the area. Thiemo is working at DLR in Munich (DLR is Germany's national research center for aeronautics and space).

**Kirsten (Carpenter) Thompson (BS '99)** and her

husband, Blair, welcomed baby Victoria Blair on November 5. Congratulations!

**Bogdan Udrea (PhD '99)** visited A&A this summer. Professor Udrea is on the faculty of Embry Riddle University in Daytona Beach, Florida.

**Apostolos "Laki" Vlachos (BS '99)** is principal systems engineer with LinQuest Corporation and is enjoying life with his wife and two sons.

**Matthew Crow (BS '00, MS '02)** moved back to Seattle after several years at Edwards Air Force Base. He is now a lead engineer at DCMA, a component of the Department of Defense. He and his wife, Katie, and their son, Nathan, are happy to be back where there's moisture in the air!

**Arti Nadkarni (BS '00)** is at Boeing, where she is involved in the development and testing of the flight controls system for Boeing's 787 Dreamliner. After

## Tony Antonelli and James Dutton to Pilot NASA Missions in 2010



**Astronauts Dutton and Antonelli**

Two more A&A alumni, Dominic Antonelli (MS '02) and James Dutton (MS '94), will pilot Space Shuttle missions in 2010.

Dutton will pilot the STS-131 mission to deliver research equipment and supplies to the International Space Station. This flight is scheduled for March 2010.

Dominic "Tony" Antonelli has been selected to pilot the STS-132 mission, scheduled for May 2010, to deliver a mini research module to the International Space Station (ISS). This past year, he was the pilot on the STS-119 mission to the ISS.



# Alumni Updates

spending four years in Tucson, working for Raytheon, she and her husband **Farshad Forouhar (BS '99)** moved back to Seattle in 2004 and are happily settled into their home in North Seattle.

**Justyn Egert (BS '01)** is head of Print on Demand at Amazon UK and is really enjoying his job, and the ease of travel around Europe. He's been to Venice, Scotland, Ireland, Munich, Frankfurt, Berlin, Morocco and a few other locales!

**John Funk (BS '01)** is the mechanical systems lead for the Navy and Marine Corps EA-6B Prowler program. He has had the opportunity to travel the world supporting the Prowler. John is married with a 2-year-old son.

**David Meller (MS '01)** and his wife, Mairah, had a beautiful baby girl, Zoey Aidyn, on July 3. David is finishing his PhD in bioengineering at Arizona State University, working in the SensoriMotor Research Group.

**Nujoud Fahoum Merancy (BS '01)** is a senior consultant for Booz Allen Hamilton, working in the NASA Orion Project Office on the Vehicle Systems Performance and Analysis Team.

**Ward Vuillemot (MS '01)** stopped by with his father to tour Guggenheim in April. After many years at Boeing, Ward accepted a position at Amazon.

**Christopher Keeler (MS '02)** is working as a risk manager in the LDCM Spacecraft division of General Dynamics Advanced Information Systems in Arizona. He and his wife, Joelle, are enjoying watching their son, Garren, grow.

**Autumn Lewis (BS '02)** came by to say hello. After several years at Lockheed Martin in Fort Worth, Tex., Autumn accepted a position at Northrop Grumman in California.

**Andrew Hooks (MS '04)** reports that his 14-month-old

son, Luca, is keeping him and his wife Megan busy and happy. Andrew is working in the 787 Autoflight Control Laws Group at Boeing.

**Steve Nielson (BS '04)** is working as a QA engineer at Lockheed Martin Space Systems Company in support of Fleet Ballistic Missiles, SWFPAC.

**Adi Salehuddin (BS '04, MS '06)** and **Chrissy Roark (MS '06)**, whose romance blossomed in A&A, were married on August 22nd. Chrissy works at Tech-X in Boulder, and Adi works at Design\_Net in Golden, Colo. Their wedding was a reunion for alums of the department.

**Clinton Travis (BS '04)** officiated, **Justin Hatcher (BS '04, MS '08)** was best man, **Richard Golob (BS '04, MS '06)** was a groomsman, **Jeffrey Boulware (BS '04, MS '06)** was an usher, and **Aliyah Ali (MS '06)** was a bridesmaid. Guests included **Colin Adams (BS '05, MS '09)**, **Tyler Downey (MS '06)**, **Michael Frostad (BS '04, MS '06)**, **Kristen Kowalczyk (nee**



Chrissy Roark and Adi Salehuddin

**Pilawsky, BS '04)**, **Jason Kowalczyk-Smith (BS '04)**, **Bhuvana Srinivasan (MS '06)**, **Garrett Teahan (BS '04)**, and **Kakani Young (BS '04)**.

**Kakani Katija Young (BS '04)**, will be receiving her PhD in bioengineering from Caltech this year. An article co-authored by Kakani was published in the July 09 issue of the journal *Nature*.



Kakani among the jellyfish

See: [www.its.caltech.edu/~kakani/Katija\\_Dabiri\\_Nature\\_2009.pdf](http://www.its.caltech.edu/~kakani/Katija_Dabiri_Nature_2009.pdf). Congratulations, Kakani!

**Olivia Dawson (MS '05)** and her husband, Doug, welcomed baby Riley William on February 25. Olivia is working at JPL in California.

**Daniel Klein (MS '05, PhD '08)** stopped by this summer to visit and show off his beautiful new baby girl, Eleanor Rose, who was born in May. Dan is a post-doc at UC Santa Barbara.

**David Adamson (BS '06)** is a flight test engineer at Boeing, where he plans and conducts propulsion, fuel, and APU ground and flight tests of the Boeing 787. David and his wife expected their first child in November.

**Yuya Aoyagi (BS '06)** took his annual vacation to the Northwest and came to visit us in Guggenheim. We always look forward to seeing Yuya.

**Joseph Giordano (MS '06)** and his wife, Jihyan, welcomed baby Jonah Young on April 20.

**Philip Weber (BS '06)** just moved to Texas to work as a flight operations engineer with Southwest Airlines. Prior to this he was at Boeing for three years, and before that at Raisbeck Engineering in Seattle.

**Angela Stickle (BS '07)** is a graduate student at Brown University.

**Aleem Wali (MS '07)** is working as an aerospace structural analysis engineer at Alliant Techsystems (ATK).

**Joe Blakely (MS '08)** stopped by on Labor Day weekend to catch up with friends, after

## In Memoriam

**Theodore Sarchin (BS '33)** passed away in October. He had nearly 40 years of experience in the field of ship design. As head of the Navy's Hydromechanics Section between 1962 and 1966, he was in charge of all hydrodynamics activities of the Preliminary Design Branch. He has many publications, was a lecturer at MIT and taught a graduate course at San Diego State University. In 1972, he earned the Navy Superior Civilian Service Award for his significant contribution to the development of cycloidal propulsion technology. In 2005, Sarchin established the Theodore H. and Marie M. Sarchin Endowed Fellowship, which also honors his wife, Marie, a 1947 graduate of Sienna College and a student at the University of Michigan. This fellowship is awarded each year to a meritorious graduate student in the Department of Aeronautics and Astronautics at the UW, and continues to honor the memory of Theodore and Marie Sarchin.

**John Richard Gintz, Sr. (BS '51)** passed away in September 2008. During WWII, Gintz fought in the Battle of the Bulge and was part of the occupying forces in Belgium and Germany. After graduation, Gintz was a Boeing engineer until his retirement in 1982, most of that time in the space division.

spending some time travelling around Europe. Joe is working as an electric propulsion test engineer at ERC, Inc., in Calif.

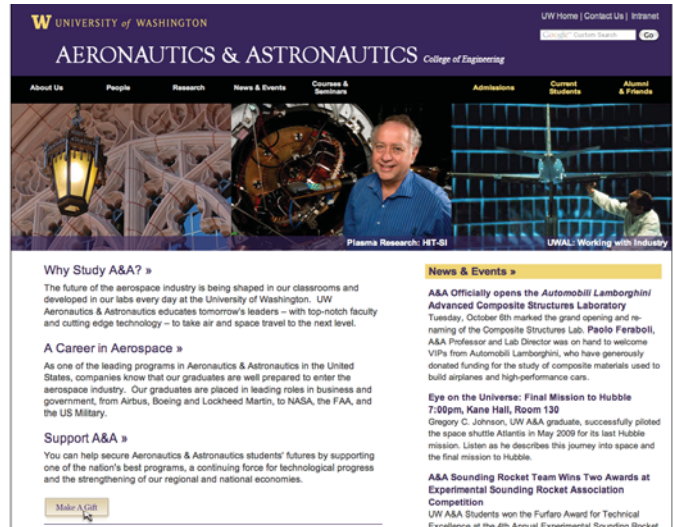
**Bei Jing Chan (MS '08)** is working in R&D at Sunner Solar in Taiwan. Sunner makes solar thin films.

**James Stoeffel (BS '08)** is a propulsion engineer at Spacedev, working on hybrid rocket propulsion systems.

# A&A Gets a Website Makeover and Joins Facebook!

During the summer, the Aeronautics & Astronautics department launched its new and improved website. Thanks to Nancy Shawn, our web designer, the department has never looked better! With easy to find information, and up-to-date news and events, you'll want to check it out.

Also, as an alum, you have the opportunity update your information on our website so that your fellow classmates can keep in touch. And speaking of keeping in touch, the department now has a fan page on Facebook, too. Visit us there to learn about events on campus, and to interact with faculty, students and alums.



## On Facebook?

Become a fan of UW Aeronautics & Astronautics. We post lots of news, events, and fun information for students, faculty, staff and alumni!

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