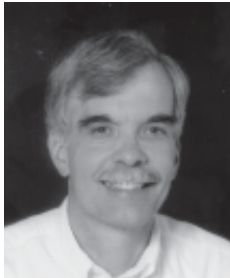


Musings From Mission Control

by Adam Bruckner, Department Chair



It has been more than five months since the terrible events of September 11, but the memory of that infamous day still lingers in all of us. As you can well imagine, the attack on our country cast a pall over the beginning of our school year. What was particularly troublesome to many of us is that the tools used by the terrorists in their dastardly act were commercial airliners that so many of our alumni had helped design, and which have done so much to make the world a smaller place.

However, it's heartening to know that aerospace engineers, among them many A&A graduates, have also been involved in the development of the aircraft and high-tech systems which have been used so successfully against the forces of terrorism. A number of our students and alumni are also serving in the military, and some are on active duty. In addition, faculty and students are contributing to this country's security efforts through their research in defense and energy related areas.

Despite the upheaval of September, the downturn in the U.S. economy, and budget cuts at the UW, there are bright spots for which we are thankful. In our previous newsletters we described some of the impending changes, particularly in the realm of departmental personnel. Well, change has taken flight, so to speak. We have hired five new faculty, an unprecedented number in such a short time. Rolf Rysdyk, our newest controls faculty member, joined us in September and Dana Dabiri, our newest fluids/aerodynamics professor, arrived for the start of winter quarter in January. You can read more about them inside. Three additional new faculty, in the areas of controls, space systems, and gas dynamics and combustion, will arrive between late May and early July. Our new colleagues have begun to inject new energy into our department, so keep your eyes peeled for great accomplishments by this fresh crop of young faculty.

Last year we were subjected to two major reviews of our programs; the first was the 10-year review by the Graduate School of both our undergraduate and graduate programs, which all departments must undergo. The second review, which occurred last November, was the ABET accreditation review of all undergraduate programs in the College of Engineering. I am happy to report that we did very well in both. See Pg. 4 for more information about these reviews.

As many of you know, our state is facing a very serious budget deficit. Shortfalls seem to mount weekly and the funding picture for the UW looks grim. As this issue was going to press in late February, the Governor had just ordered a hiring freeze and suggested a salary freeze, in addition to cuts he had proposed earlier. The Legislature is struggling to come up with a viable budget, but all state agencies, including colleges and universities, will be seriously impacted. How we will emerge from all this remains to be seen, but you can be assured that we will try our very best to maintain the quality of our department at the highest possible level.

Joseph Sutter

Alumnus Summa Laude Dignatus

Joseph Sutter (BS 43) was honored as the UW Alumnus Summa Laude Dignatus, an award given for distinguished service and achievement since graduation. This award is the highest honor the UW bestows on any graduate.

After graduation from the A&A department in 1943, Joe served in the Navy in World War II. When he returned to Seattle, he

took what he thought was a temporary job at Boeing. He stayed 40 years, retiring in 1986 as



executive vice president, and is still serving as a consultant to Boeing Commercial Airplane Group. He is best known as the "father" of the Boeing 747. He also contributed to space travel by serving on the President's Commission on the Challenger Disaster.

Joe has received numerous awards, including the AIAA Aircraft Design Award (for the 747), the Guggenheim Medal, the Wright Brothers Memorial Trophy, and the U.S. Medal of Technology. He was elected both a Fellow and an Honorary Fellow of the

AIAA, and was also elected to the National Academy of Engineering. He received the A&A Distinguished Alumnus Award in 1985. With the UW's top award, Joe again brings pride and honor to the Department of Aeronautics and Astronautics.

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New Faculty Members

Rolf Rysdyk joined the faculty in Autumn Quarter 2001. Originally from the Netherlands, Rolf graduated from Delft University with an MS in Aerospace Engineering, then moved to the Southern United States where he worked as a commercial pilot. Rolf received his doctorate from Georgia Tech, worked as a post-doc there, then moved to Kansas as Director of Flight Control Research at the National Institute for Aviation Research at Wichita State University. Then, he fulfilled a long-held desire by moving to the UW.



Rolf Rysdyk

Last summer Rolf, his significant other, Shelly and her two-year-old daughter Micah moved to Madison Park. Shelly, a psychologist, plans to establish a practice in Seattle.

Rolf loves Seattle with its coffee on every corner and its flying tradition. He would like to take up flying seaplanes. Aside from airplanes and coffee, his other passions include working on his old Land Rover. Getting his hands dirty seems to compensate for all the esoteric computer work he does here at the University.

Rolf's research interests include nonlinear adaptive control, robust fault tolerant flight control, and flight dynamics and simulation.

Dana Dabiri, our newest assistant professor, joined the department in January, 2002 and is currently instructing his first undergraduate course, Aerodynamics II.



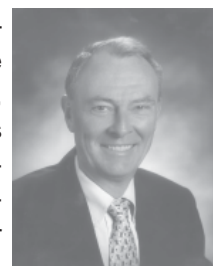
Dana Dabiri

Dana grew up in Iran and came to the United States when he was fourteen. He attended college in California, and received both his BS and PhD from the University of California, San Diego. His MS was from the University of California, Berkeley. Before coming to the Uni-

2001 Distinguished Alum

Dr. **Randall Peeters**, last year's Distinguished Alumnus, was honored at the department's annual Spring Banquet. Randy dedicated the award to Professor Emeritus Reid Parmeter, his faculty advisor, without whom, he says, he would not be where he is today. He also thanked Professors Gordon Oates, Keith Holsapple and Reiner Decher.

Randy became Chief Scientist at Ocean Power in December 2000, where he directs development of platelet hot-end devices for Stirling engines. Before joining Ocean Power, Randy was the Chief Scientist for GenCorp Aerojet. His primary responsibility was to ensure that Aerojet remained technically viable in a constantly changing, demanding, and competitive marketplace. He also served as Aerojet's Manager of Aging and Surveillance, Manager of Advanced Technology, Director of Chemical Research and Development, Director of Chemical and Material Operations, Director of Research and Development, Director of Advanced Development Engineering, and Vice President of Engineering.



Randy Peeters

Prior to being recruited by Aerojet, Dr. Peeters worked at the Eastman Kodak Company, the Xerox Corporation, the Los Alamos National Laboratory, the Air Force Phillips Laboratory and the Boeing Company.

Randy received both his MS (1969) and PhD (1973) degrees from the University of Washington in Aeronautics and Astronautics and his BS degree in Aerospace Engineering from the California State Polytechnic University. Randy is an Associate Fellow of the American Institute of Aeronautics and Astronautics, a member of Tau Beta Pi, is on the board of directors for the California Engineering Foundation and the Software Productivity Consortium, and serves on the Advisory Boards for the Highly Filled Materials Institute at the Stevens Institute of Technology and the California State Polytechnic University, and is a member of the A&A department's Visiting Committee.

Faculty Updates

Last summer, Professor **Todd Anderson** spent three months working with researchers at the NASA Langley Research Center in Hampton, VA. Accepted for an ASEE / NASA Faculty Fellowship, Prof. Anderson teamed with colleagues in the Mechanics and Durability Branch on the development of multifunctional membrane structures for future advanced spacecraft. These membranes, reinforced with carbon nanotube structures, will be both structurally efficient and electrically conductive, thereby creating new possibilities for health and usage monitoring. Last Spring Quarter, Todd received the highest teaching ranking ever given by students in the department!

Professor and Chair **Adam Bruckner** gave a presentation at the "Building for Space Travel Lecture Series" in January 2002 at the Museum of Flight. In his two-part lecture, titled, "Ram-Jetting into Space and Drinking Water on Mars," Professor Bruckner discussed the UW-invented "ram accelerator," as well as his work on in-situ resource utilization for future human exploration of Mars. In January, he also presented an invited paper titled, "The Ram Accelerator: A Technology Overview" at



Department News

the 40th AIAA Aerospace Sciences meeting in Reno, NV.

Professor **Scott Eberhardt** has been appointed to the national AIAA pre-college and outreach committee.

A University of Washington group, comprised of Prof. **Brian Nelson** and Dr. **Roger Raman**, and led by Professor **Tom Jarboe**, has achieved 0.4 MA of sustainable toroidal plasma current on NSTX, a magnetic controlled fusion device, at the Princeton Plasma Physics Laboratory. Fusion is the energy source of the sun and controlled fusion on earth has the promise of virtually unlimited clean energy. The most successful controlled fusion has been done in a doughnut shaped magnetic confinement geometry. A pulse of current is driven around the doughnut, which confines the 100 million degree fusion fuel. To make economical fusion, the current must be sustained indefinitely by an efficient method. Such a method has been developed at UW and, recently, successfully demonstrated at Princeton.

Recent results obtained on the Helicity Injected Torus (HIT-II) experiment were presented at the American Physical Society Plasma Physics conference in Long Beach, CA last October. Dr. **Roger Smith** gave an overview of the operation of the HIT experiment and presented a new interferometer system that allows the measurement of density distributions. Professor **Brian Nelson** presented experiments showing evidence for plasma confinement in the HIT-II device and Princeton's NSTX device using Coaxial Helicity Injection, which is the main thrust for the HIT program. In addition, he presented work by Dr. **Aaron Redd** elucidating the current drive mechanism for the HIT plasmas. Aaron was unable to attend because he and his wife, Lisa, were busy welcoming son Kenneth Thomas into the world (Kenneth was born on Oct. 26th, weighed 6 lbs., 14 ozs. and was 19 1/4 inches long).

Professor **Keith Holsapple** is on the Scientific Organizing Committee of "Scientific Requirements for Mitigation of Hazardous Comets and Asteroids" and will give an invited talk at a conference sponsored by NASA this September. The presentation will be based on his research of hypervelocity impacts and nuclear and conventional explosive effects. He also made several other presentations last year. The first, titled, "Equilibrium shapes of rubble-pile asteroids" was at the "Lunar and Planetary Science XXXIII" conference in Houston in March. The second, "Shape limits for Rock-Pile asteroids" was at "Asteroids 2001" in Palermo, Sicily in June. In addition, Prof. Holsapple was the invited lead author on a chapter titled, "Asteroid Impacts: Experiments and Scaling" to be included in the book "Asteroids III," which will be published this year.

Professor **Kuen Lin** was named Professor of the Year by the 2001 graduating seniors for his innovative teaching style, and his caring concern for the students. He gets to keep the "bent propeller" for a year, and has his name engraved on a plaque affixed to it. This is the second time in four years that Professor Lin has received this honor.

The A&A department has several new post-doctoral appointees. We welcome Drs. **James Grossnickle** (MS 97, PhD 01), **Ken Miller** (MS 96, PhD 01), **David Rathbun** (MS 96, PhD 01) and **Bogdan Udrea** (PhD 99). Dr. **Aaron Redd** has been in the department since 1998 working with Professor Tom Jarboe. We also welcome Dr. **Shin'ichiro Higashino**, visiting scientist from Kyushu University in Japan, who is working with Professor **Uy-Loi Ly**.

New Faculty Members (cont'd)

versity of Washington, Dana was a research scientist at CalTech where he worked on free surface flow problems.

The University of Washington appealed to Dana quite simply because, "it is a great place." He says that Seattle is not only a nice city, but the environment is very friendly, the faculty are supportive and the department is very conducive to research. Dana's recent research interests include experimental aero/fluid dynamics and the development of new diagnostic methods.

In August, Dana got married to Yu-Chi Chu. They moved to Seattle in December and currently live in Fremont. Yu-Chi recently received a job offer from the UW Bioengineering Department in therapeutic ultrasound.

When Dana has time, he enjoys sports and martial arts.



CELT

The Center for Engineering Learning and Teaching (CELT) received a grant from Boeing to work with A&A faculty as a pilot group to develop their discipline-centered approach to instructional growth. A&A was considered an ideal place to implement this pilot project because the department and faculty are committed to developing a student-centered, hands-on curriculum, one that provides students experience with the questions and problems that they will encounter in industrial and research contexts.

Faculty are invited to attend bi-weekly workshops covering topics such as how to encourage classroom participation, how to bring real-life engineering problems into the classroom, and how to train teaching assistants. Boeing will benefit as well, by being able to recruit A&A graduates with well-rounded skills who will be able to contribute quickly to their engineering teams.



Retirements

After thirty-four years of working in the Aeronautics and Astronautics department, **Reiner Decher** retired in June 2001.

After receiving his PhD in 1967 from MIT, Reiner joined the A&A faculty. He twice received Fullbright Research Fellowships, in 1981 to the University of Karlsruhe in West Germany, and in 1998 to the Tech. University of Berlin. In addition, he served as visiting professor at both MIT and Ecole Polytechnique Federale de Lausanne, Switzerland.



Reiner Decher

Reiner's favorite aspect of the A&A department was the people: the faculty, staff and students. He says he'll never forget when—35 years ago—he walked into his very first lecture and one of the students asked incredulously "Are *you* the professor?" He also enjoyed the nature of his work, propulsion. Although Reiner misses the University, he loves being retired.

Now that he's not teaching, Reiner spends most of his time converting an old dairy farm into an event horse training ground. He enjoys working on the farm, driving his tractor and doing his favorite thing—building. In addition to building this farm for his daughter and her husband, he has also started a major house remodel. Sounds like retirement won't find Reiner any less busy!

Nancy Mattick retired after 30 years at the UW, nearly all of that time in the A&A department. She started as a secretary in A&A and was promoted to program assistant, then administrative assistant. She accepted a position as a program coordinator in the office of the Dean of Engineering, working for Dr.



Nancy Mattick

Ed Stear who started the Washington Technol-

Wings Over the World Dedication

George Snyder (BS 31) and his late wife Anita donated a unique totem pole, which he calls, "Wings Over the World," to the A&A Department. The totem pole was crafted nearly 60 years ago, and sat atop Ye Olde Curiosity Shop on the Seattle waterfront until George purchased it. It now hangs in the entrance of Guggenheim Hall.

A dedication ceremony, held on December 4th, was attended by George's son, Robert, his grandson, Patrick, and his great niece Alissa, along with A&A students, staff, faculty, and representatives from the College of Engineering. Associate Dean for New Initiatives, Mary Lidstrom, thanked George for his generosity with this gift and the endowed fellowship and stipends he has given to the department, which will provide opportunities for students. A&A Chairman Adam Bruckner told the audience about George's many personal and professional accomplishments, including being selected as the A&A Distinguished Alumnus in 1997, and receiving the 1994-95 College of Engineering Alumni Achievement Award. George then read a moving poem he had written, titled, "Heroes" which included several lines inspired by the events of September 11th. George dedicated the totem to the Class of '31 and to heroes, "past, present, and future." Guests then enjoyed a reception, and were able to visit with George and thank him for his generosity. Wings Over the World will be enjoyed by present and future department members and visitors for generations to come.



George Snyder & Adam Bruckner

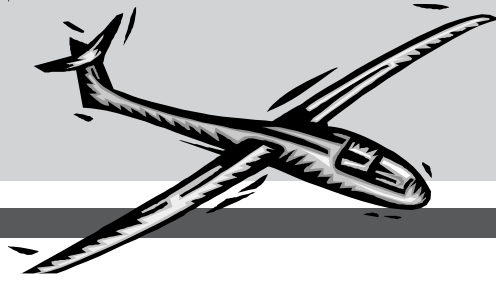
Departmental Review

In the Fall of 2001, A&A was reviewed for accreditation by the Accreditation Board for Engineering and Technology (ABET). We passed with flying colors! An important criterion for accreditation focuses on processes for continuous improvement. Because of our ongoing contact with alumni, we are able to make continuous improvements to help students of the future. This did not go unnoticed, and A&A was touted as a model for the rest of the College of Engineering. The accreditation is good for the next six years.

Special thanks for the tireless work of **Marlo Anderson**, undergraduate program manager, and Professors **Uri Shumlak** and **Scott Eberhardt** for making the 2001 accreditation so successful. The rest of the faculty and staff deserve credit for their work as well. We also wish to thank three important constituents, without whose continual feedback we would never have been so successful: our students, our alumni and our industry colleagues.

If you'd like to see our ABET self-study report, you can visit the Website at: www.aa.washington.edu/degree_programs/abet/

In addition to the successful review of our undergraduate program, we received the final report from the Ten Year Review of our programs by the UW Graduate School. Here, too, we received high praise from the review team.



Staff News

Last year was a productive one for a few of our staff. **Will deJong**, UWAL operations manager, and his wife, Lisa, had a lovely baby girl on March 7th. Kristy was 20-inches long, weighing in at 7 lbs, 3 oz. Will reports that now she is very independent and "running all over."



Will, Lisa & Kristy deJong

Engineering technician **Robert Gordon** and his wife, Karen, had a baby girl on December 28th. Baby Rebeka was 8 pounds 6 oz. and 19 inches long. Robert wins the prize for the most clever baby announcement. He handed out chocolate bars in a familiar dark brown wrapper, but with a deceptively unique label.



Rob, Karen, Kristopher & Rebeka Gordon



For the third year in a row, a member of the A&A staff won the College of Engineering Outstanding Staff Award. Last year's winner was **Scott Kimball**, engineering technician supervisor, from our Redmond Plasma Physics Laboratory (RPPL), where he is in charge of all general laboratory maintenance and construction. He has taken computer programming courses and has also learned high vacuum technology and engineering design and now routinely designs most of the experimental modifications and instrumentation. As an example of his resourcefulness and creativity, he designed and built a sophisticated plasma probe for a large Translation Confinement and Sustainment (TCS) device. Scott was presented with an engraved trophy and a check for \$1,000 at an awards ceremony held in May. Congratulations, Scott!



Scott Kimball

Former staff member, **Jane Lybecker**, A&A's graduate program coordinator from 1988 to 1995, has had a tough few months. Jane was hospitalized in September for pulmonary fibrosis. After several trips back to the hospital for recurring problems, Jane is now at home recuperating. She is on leave from her job as administrator of the Materials Science and Engineering Department at the UW. Jane says she appreciates all the positive thoughts being sent her way.

Kirsten Wind Tunnel (UWAL)

The UW Aeronautical Laboratory (UWAL or Kirsten Wind Tunnel) had an eventful year in 2001. Testing in the Tunnel included:

- The 2002 U.S. Olympic Speed Skating team, in order to help skaters with aerodynamics and develop clothing to be worn by the team
- A model of the Sonic Cruiser, a new airplane from the Boeing Company
- A model of a new sport-jet from the Aviation Technology Group
- Passenger cars from Honda and Volvo
- 20% Models of Kenworth and Peterbilt heavy duty trucks
- America's Cup racing sailboat keels

To see photos and video galleries for UWAL, check out their Webpage at www.aa.washington.edu/uwal/uwal.htm

Retirements (cont'd)

ogy Center. However, when Dr. Stear left the University in 1986, Professor Abe Hertzberg recruited Nancy to work with him in the Aerospace and Energetics Research Program (AERP). Nancy became the manager of AERP, a position she held until her retirement in August of last year. As manager, Nancy had to respond to many different demands for her time and attention. She did this very well, even under difficult circumstances. Her attention to detail was a major asset in facilitating the management of AERP's research grants and contracts over the years. Nancy was well liked by the faculty, staff and students in the A&A department. Although she's missed by everyone here, we wish her the best in her retirement.

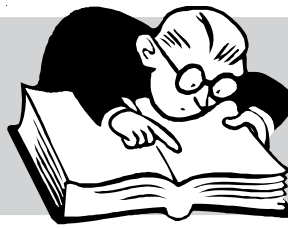
Dr. **Ed Crawford** retired from the UW in December. Ed, who received his PhD from the University of Colorado, worked with Professor Alan Hoffman's plasma group at MSNW/STI for nearly 20 years before joining him as a research scientist at the Redmond Plasma Physics Laboratory (RPPL) in 1997.



Ed Crawford

While at RPPL, Ed helped develop a series of diagnostic instruments. Professor Hoffman says that he is an excellent diagnostician. Ed built a sophisticated two-color CO₂/HeNe interferometer, which is a principal diagnostic tool, now run by graduate student, George Votroubek. He helped another graduate student, Max Peter, purchase and set up a spectrometer with a gated, intensified CCD array. These are two of the Redmond Lab's most important diagnostics. In addition to his work at RPPL, Ed helped Professor Uri Shumlak in developing spectroscopic and interferometric diagnostics for the ZaP experiment.

Now that he's retired, Ed will spend winters at his home in New Mexico, and summers in Seattle. Sounds like a perfect retirement!



Student News

In July, a team of four undergraduates sponsored by A&A will be flying aboard NASA's famous "Vomit Comet" with an experiment they designed. The team (**Graylan Vincent**—A&A senior, **Holly Devlin**—pre-A&A junior, Karen Kennell—Astronomy senior, and David Young—pre-ME sophomore) is one of 54 from across the country selected to participate in NASA's Reduced Gravity Student Flight Opportunities.

The team has designed an experiment that involves flying a small computer numerically controlled (CNC) milling machine in microgravity to study milling in different gravitational environments. Their hypothesis is that the surface roughness of the cuts made in microgravity will be of lower quality than the cuts made in a gravitational environment due to the lack of gravity-induced chip removal.

Another goal is to demonstrate that the machine process is practical, and would be beneficial to have aboard the International Space Station. The UW team and their "CAMPING" project (Continuous Automated Machining Process In Numerous Gravities) will be traveling to Houston's Johnson Space Center July 17th-27th.

With the assistance of Professor Todd Anderson, the team is refining the project and looking for sponsors; Washington Space Grant will match any funds that are contributed. For more information, a classroom demonstration, or to make a donation, contact: Graylan Vincent (gvincent@aa.washington.edu) or Todd Anderson (tanders@aa.washington.edu). You can also check out the team webpage at www.aa.washington.edu/research/student_projects/camping/ and the program Webpage: <http://microgravityuniversity.jsc.nasa.gov>

The A&A UAV team comprised of undergraduate student **Luke Dubord**, and graduate students **Paul Christensen**, **Takahiro Ishige** and **Lawrence Doan**, visiting scholar Professor Shin'ichiro Higashino, and Professors Uy-Loi Ly and Rolf Rysdyk

have renovated the Senior Telemaster vehicle for research and instructional use. The vehicle, which was originally built by **David Bogue** (MS 92), took off on its first flight the morning of November 3rd. It is currently used as a flying workhorse for the development and testing of advanced flight avionics (ADC, IMU, GPS) and control technologies (TECS, adaptive control) as they apply to unmanned air vehicles (UAV).



Takahiro Ishige, Lawrence Doan, Shin'ichiro Higashino, Luke Dubord, Uy-Loi Ly, and Paul Christensen

Graduate student **Josh Sementi** presented a paper titled, "Jet Exhaust and Wing Flap Interaction," at the 40th AIAA Aerospace Sciences meeting in Reno this year. This was the paper for which he won second place at last year's Region VI AIAA Student Conference.

Juniors **Frankie Bremer** and **Amanda Stephens** were the recipients of a NSF/CSEMS Success in Computer Science, Engineering and Math Scholarship for the 2001- 2002 academic year. Congratulations Frankie and Amanda!

Several graduate students attended the American Physical Society Plasma Physics conference in Long Beach, CA in October. In the poster sessions, graduate student **Peimin Gu** presented new results on the magnitude and distribution of ion

flows in the HIT plasma and **Will Hamp** presented electron temperature measurements. **Paul Sieck** presented a poster on the design and engineering of the new HIT-SI machine while **Valerie Izzo** presented a poster on the numerical modeling results of the HIT-SI plasma using the NIMROD MHD code. **Ray Golingo**, **Stuart Jackson**, **Justin Bright**, and Professor Uri Shumlak presented experimental results from the ZaP Flow Z-Pinch project including spectroscopic velocity profiles, holographic interferometer density profiles, and neural network based magnetic mode determination. **Max Peter** and **George Votroubek**, graduate students who work with Professor Alan Hoffman at the Redmond Plasma Physics Laboratory, presented a paper on ion spin-up measurements in rotating-magnetic-field-driven field-reversed configurations.

Graduate Student **Paul Sieck** was married on April 7th. Best wishes to Paul and his wife, Lisa!

Graduate student **Jessy Jones** and his wife Kelli had a baby girl on August 17th. Savannah weighed 7 lbs, 7 ozs, and was 19 1/2 inches long. Congratulations Jessy and Kelli!

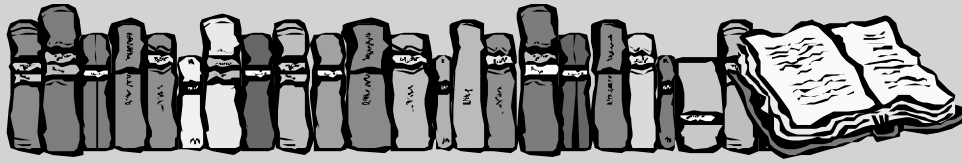


Jessy and Savannah Jones

Co-Ops

Senior **Valerie Stanley** was at NASA JPL for six months last year, working with the Cassini Instrument Operations group. She planned and coordinated seminars presented by instrument team leads on the Cassini Mission. People throughout JPL attended the seminars, and Valerie received a \$100 recognition award for her efforts. In addition to planning the seminars, she worked with Cassini Radio Science and on-line tutorials for "gap reports."

Adam Wuerl was at NASA's Johnson Space Center working in the Advanced Mission Design branch of the Aerospace and Flight Mechanics Division. His project was related to the Mars sample return mission. Adam worked on a computer program to optimize low-thrust trajectories and designed a GUI for the tool. The



new algorithm to the code improved the time and effort required to obtain solutions and provided optimal answers. He is preparing his results for submission to a technical journal. Adam was selected to receive a "co-op special achievement award" in recognition of his exemplary work there.

A&A Graduation Celebration

The A&A Graduation celebration took place in Guggenheim Hall on June 9th with more than 300 students, family and friends filling the large lecture hall in Guggenheim.



Professor **Kuen Lin** was named the 2001 Professor of the Year (see Pg. 3), and Professor **Juris Vagners** was the honorary speaker. Graduates received certificates from Professor **Dave Russell**, undergraduate advisor, and Professor **Tom Mattick**, graduate advisor.

The graduating PhD students' thesis titles and advisors were:

Greg Balle: "Stationary vortices and persistent turbulence." Professor Breidenthal

Chris Bundy: "Effects of unsteady flow and real gas equations of state on high pressure ram accelerator operation." Professor Bruckner

Brian Capozzi: "Evolution-based path planning and management for autonomous vehicles." Professor Vagners

Frode Engelsen: "Design-oriented gust stress constraints for aeroservoelastic design synthesis." Professor Livne

Jim Grossnickle: "Deep fueling of large tokamaks by field-reversed configuration injection." Professor Hoffman

Ken Miller: "The star thrust experiment, rotating magnetic field current drive in the field reversed configuration." Professor Hoffman



Sutthiphong "Spot"

Srigrarom: "On the formation of vortex breakdown over delta wings." Professor Kurosaka

2001 Student Awards

SENIOR AWARDS

Robert J. Helberg Memorial Award
Steve Waydo

Dr. Walter F. Hiltner Award
Steve Nickels & Ryan Pettit

Rudolph H. Reichel Memorial Award
Sam Andreason

George E. Solomon Prize for Exceptional Performance
Judy Fahoum

A&A Wayne Olson Scholarship
Justyn Egert

A&A Aerospace Design Award
Dan Henry

JUNIOR AWARDS

A&A Wayne Olson Scholarship
Kristen Lee

Boeing Company Scholarship
Lisa Kajitani

Lance Erik Fogde Endowed Scholarship
Melissa Senger

Bishop-Fleet Foundation Scholarship
Brian Bloudek

Louis & Katherine Marsh Memorial Scholarship
Grady Lemoine

Dale & Marjorie Myers Scholarship
Eric Forbes

Arthur & Linda Pederson Engineering Scholarship
Varo Ly

Robert Max Reynolds Endowed Scholarship
Andrey Rekhin & Adam Wuerl

GRADUATE AWARDS

Gordon C. Oates Memorial Endowed Fellowship
Jeremy Wimer

A&A Fellowship
David Osburn, Vishwa Ranjan & Jose Valdez

The Boeing Company Fellowship
Louis Giersch

Graduate School Fund for Excellence and Innovation
Elisabetta Valenti

Achievement Rewards for College Scientists (ARCS)
Sam Andreason

Donald C. Whitworth Endowed Scholarship
Laura Nealon & Jeremy Wimer

Alum News & Updates



Robert H. Smith (BS 46, MS 52) is happily retired from Boeing. He and his wife, Rachel, live on Bainbridge Island.

Ken Medley reports that a few of our alums (class of 81) who are now at Boeing got together last October.

Andy Chow (BS 81) is now Lead, Level 4 Engineer/Scientist, heading an engineering team in the Boeing Structures Organization which reviews the commercial aircraft interior structure designs for FAA certification.

Dave Treiber (BS 82) has been doing research and development work in computational fluid dynamics for the last 20 years or so, first for Northrop, most recently for Boeing. He has worked on a little bit of everything: airplanes, missiles, spacecraft. But Dave says this is just to pay the bills for his activities outside of work, including snowboarding, wakeboarding, mountain biking, sailing, motorcycle riding, running and brewing beer!

Devin Cate (MS 84) is a lieutenant colonel in the U.S. Air Force, and program director for the National Low Observable and Counter Low Observable Programs, for the Office of the Under Secretary of Defense for Acquisition, Technology and Logistics/Directorate of Special Programs at the Pentagon. Devin says that he has been a flight test engineer for most of his career since graduating from the UW. He and his wife, Becky, have two children, ages 6 and 4.

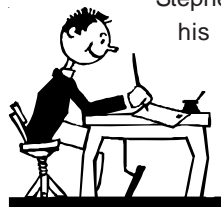
Following seven years after college in the U.S. Air Force as a T-38 Instructor Pilot, **Doug Lervik** (BS 84) is now a pilot on the Boeing 737-800 flying out of Salt Lake City for Delta Air Lines.

Professor Scott Eberhardt reports that **Moeljo Hung (Soetrisno)** (BS 86, MS 87, PhD 90) left Amtec and is now working at Boeing with two of his former students, **Chen Chuck** (MS 84, PhD 90) and **Linda Hedges** (PhD 91).

Kurt Lohman (BS 86) started out in 1986 in the cabin noise analysis/test group with the Boeing Commercial Airplane Co. He's still with Boeing, but now works for Space Station Acoustics and Communications in Houston, TX.

Douglas Stevenson (BS 87) is executive VP for Vectrix Corporation, a business he and his wife, Lynda, started in 1996 with venture capital. They now have 12 full-time employees. Douglas received an MBA in 1990 from Pepperdine in Southern CA, courtesy of McDonnell Douglas where he worked in composite structures for four years after graduation. He now lives in Newport, RI, the sailing capital of the East Coast, and is trying to sail and travel to Europe every chance he gets!

Stephen Ward (MS 87) "retired" from Boeing in 1999 to start a composite structures consulting business in Taos, NM. He is involved with a number of design, analysis, and R&D projects related to polymeric composites. Check out Stephen's Website: www.swcomposites.com, to find out more about his business.



Calvin Armerding (BS 88) is a Harley Davidson technician, and working on a Master's Degree in Education at Western Washington University.

Drew Magill (BS 88) was promoted to the position of director of marketing, Americas and Leasing Companies,



Class of '81 Alums
Back Row: Dean Christiansen, Don Tong, Lawrence Feil, Pen Ho, Ken Medley; Front Row: Glenn Redfield, Sam Dao, Dik Chan

Boeing Commercial Airplane Group.

Jesse Vickers (BS 88) is in the Propulsion Developmental System Office at Wright-Patterson AFB in Ohio, where he is in charge of the Reliability Centered Maintenance project.

Alexander Bernardo (BS 89) is a senior research engineer in the Ballistics and Explosives Section of the Engineering Dynamics Dept., Mechanical and Materials Engineering Division of Southwest Research Institute. He does testing to determine/reduce system vulnerability against ballistic threats.

Mark Bradstreet (BS 90) is a captain in the U.S. Air Force working as a C-21A instructor pilot, teaching pilots to fly the Learjet at the Air Force's C-21 "schoolhouse."

Drew Christopher Gonzalez (BS 90) is a major in the US Air Force flying the F-15C at RAF Lakenheath, UK.

Vinit Sethi (MS 90) stopped in around the holidays to visit Professor Emeritus Ian Fyfe. Vinit and a partner started a company in the Seattle area that installs electronics systems for yachts.

Randy Weaver (BS 90) is an engineering supervisor at the Boeing Company in flight structures.

Richard Welnick (BS 90) has returned to Boeing after completing a program at MIT called Leaders for Manufacturing for Boeing. In June, he received an SM in Mechanical Engineering from MIT and an SM in Management from the Sloan School of Management at MIT.

Christopher McLean (BS 89, MS 91) is a propulsion research engineer specialist at Pratt and Whitney in California, developing electric propulsion systems for advanced spacecraft platforms.

Steven Hamling (BS 92, MS 94) works as lead F-22 product support stress analyst for Boeing Military Airplanes.

Dennis R. Simmons (BS 92) and his wife, Darcey, moved to Atlanta, GA, where he worked for Delta Air Lines. They moved back to the Northwest in 1998, and he now works as a structural analyst (or as he calls it, "Stress Weenie") for the Boeing Military (Phantom Works). Dennis extends a "hello" to anyone who reads this and remembers that



Alum News & Updates

annoying guy/class clown they met in college.

Bill Fishburn (BS 93) sent an update during the holidays. He and his wife, Beth, are busy with sons, Guillermo and Callaghan and their Scouting, and other activities. Bill is now working in the Human Resources division of Intel (as he says, "quite a stretch from the aeronautical structures engineer I once imagined myself to be").

Juan Carlos Varela (BS 93) is at Johnson & Johnson in Brazil, where he works as a supply chain manager. He says that he is trying to remember how to use the aerodynamic principles to enhance the flow of products to J&J customers!

Andrew Buescher (BS 94) is a lieutenant in the U.S. Navy training MCM.

Jared Kipp (BS 94) designs and tests Flight Management Systems (FMS) software for all Boeing airplane models, specializing in Performance and Vertical Navigation functions of the FMS. In addition, he's diving into Radio Navigation systems, emphasizing ILS and GLS functions.

Takahisa Kobayashi (BS 94, MS 96) stopped by to visit during the holidays. Takahisa works at NASA Lewis Research Center in Ohio.

Ed LeMaster (BS 95) is completing his PhD at Stanford University in the Aerospace Robotics Laboratory. Ed is working on the Hummingbird Project, which is a robotic helicopter that navigates using only a global positioning system.

Chia-Chung Li (MS 95) is a sales manager for Ecomsoft Software Co., Ltd. in Taiwan.

Karen Mark (BS 95) is an engineer at Mechanical Vehicle Space Systems/Loral in Northern California, where she supports satellite integration and testing (primarily the Intelsat 9 series).

Edgar Melkers (BS 95) is a senior design analytical engineer in the Flight Controls Group at Sikorsky. He designs autopilots and stability systems for helicopters. He reports that the controls classes he took at UW really paid off!

John Williams (BS 95, MS 97) is a research engineer at Foster-Miller, Inc., in Massachusetts. John conducts early-stage R&D for commercial and government clients, including NASA and the DoD. 2001 was an eventful year for John and his

wife, Jennifer; they had baby girl, Flannery Grace, and bought a 100 year old house!

Craig Barwell (BS 87, MEngr 96) called to let us know that having been tested as a potential bone marrow donor for Professor Scott Eberhardt some years ago paid off. He was recently called to become a donor for someone else! (Scott Eberhardt, who had leukemia, has been in remission for nearly seven years.) Craig is now a network analyst for the Seattle Public Schools.

Chris Chuhuran (BS 97) is a lieutenant in the Navy. Last summer he went on a deployment to the Arabian Gulf, including stops at East Timor, Jordan and Saudi Arabia, serving as the navigator on USS Harpers Ferry as part of the Boxer Amphibious Ready Group. Now, Chris is attending Naval Postgraduate School in Monterey, CA working on a graduate degree in Mechanical Engineering. After graduation, he will take a job as an engineering duty officer.

Martha Johnson (MS 97) is back in Phoenix after leaving Honeywell in Seattle. She changed tracks, and became certified as an emergency medical technician, and was headed to Phoenix for a job. While driving there, she was hit by a semi-truck carrying a load of two 60-foot long, 20,000 pound concrete/rebar parking structure supports which were dropped onto her car! She suffered injuries, but her survival is pretty miraculous. She is slowly recovering, and working as an emergency medical dispatcher for the Phoenix Fire Department.

Bob Lovell (BS 1997) and his wife, Janette, are in Huntsville, AL, where Bob is working at NASA as a design engineer on projects like the High Performance Anti-matter Trap (HiPAT), Anti-matter storage, Self Diffusion of Liquid Elements (SDLE), and Thermophysical Properties of Telluride Based Semi-conductors.

Patrick Myrick (BS 97) completed flight training and received his "Wings of Gold," signifying that he is now a Naval Aviator. He's stationed in San Diego, CA at VS-41, the Navy's Fleet Replacement Squadron for the s-3B Viking. The Viking is a carrier based aircraft and is affectionately known as the War Hoover. When Patrick's finished with initial training, he'll be off to do some carrier deployments.

Jon Rue (MS 97) moved to Bristol England, where he is a consultant to BAE Systems/Airbus UK, writing knowledge-based engineering design and manufacturing applications for the A340-600 and A380-800 airplane programs. Jon says he's having a great time and trying not to get Mad Cow Disease!

Vin Lenbury (BS 98) worked at Boeing as a flight operations engineer after graduation, but is now a pilot trainee at Thai Airways International.

Brian Covey (BS 99) is an instructor pilot in the T-38A at Vance AFB, OK. The T-38A is used to train advanced students who will go on to fly fighters/bombers. Brian will be there for about 3 years, after which he will train to fly the F-16, F-15 C or E, or the A-10.

William Shell (BS 99) stopped by during the holidays. Bill is working as a systems engineer in the Autopilot Department of the Guidance, Navigation & Control Center at Raytheon Missile Systems in Arizona.

Paul Strobel (MS 99) stopped by in September on a visit here to catch a Husky game. Paul is still working at Honeywell in Albuquerque as KC-10 technical area lead on the Avionics Defense Team.

Terence Loo (MS 00) is an engineer at Bombardier Aerospace.



Alum News & Updates



Arti Nadkarni (BS 00) and **Farshad Forouhar** (BS 99) came to campus during Career Week in January as representatives from Raytheon, where they both work on the National Defense Program. In addition to work, Farshad is pursuing a degree in optical engineering at the University of Arizona. While Arti and Farshad were in Seattle, they took advantage of the opportunity to look around for a site for their upcoming wedding. Congratulations, Arti and Farshad!



Farshad Forouhar
& Arti Nadkarni

Mike Norman (BS 00) stopped by to visit. Mike is working as a contractor for Microsoft in Redmond.

Vu Tran (BS 00) stopped in to say hello before class (he's taking graduate classes in the A&A department). Vu, who has friends among last year's senior class, also attended the A&A department graduation celebration with his fiancée.



Brian & Heidi
Capozzi

Brian Capozzi (PhD 01) was married in October and is now

living in Reston, VA with his wife, Heidi and their two large cats. Brian is a systems analyst at Metron Aviation, Inc.

Vincent Cellamare (MS 01) is in primary flight training at the Pensacola Naval Air Station.

John Funk (BS 01) is with the U.S. Navy in Florida, working as an aerospace engineer at NADEP, or Naval Aviation Depot. It is the heavy maintenance hub for various Navy and other military aircraft and engines. He provides engineering support for the P-3 Orion and F-14 Tomcat aircraft, and his unit is on call to support P-3's and F-14 Tomcats in the field at a moment's notice. He says that it makes for exciting adventures as TDY's to aircraft carriers and to places overseas are frequent.

Warren Jones (MS 01) and his wife, Pageant, moved to Detroit, where he is working as a product development engineer at Ford Motor Company; there he gets to play with microphones and BMW's, Mercedes, and Lexus'. Warren does benchmarking of the acoustic performance of various aspects of the cars. He's working out future rotations to include computer aided NVH (noise, vibration & harshness), NVH testing & design modification, and a rotation at the Thunderbird assembly plant.

Vincentz Knagenhjelm (MS 01) is a software engineer at Lockheed Martin in Sunnyvale, CA. Vincentz sends regular updates, describing his life as a Californian—which it sounds like he enjoys!

David Meller (MS 01) is an associate engineer at Jet Propulsion Laboratory in Pasadena, CA. David works on calibration of panoramic cameras on the new Mars Exploration Rover, as well as doing systems work on the planned technology demonstration of a Mars sample return mission with the French space agency, CNES.

Satomi Ohno (MS 01), who was married last year, has completed a second Master's degree in Materials Science and Engineering. Congratulations to Satomi and her husband, Shogo!

Christopher Rayburn (MS 01) recently accepted a position as a development engineer with General Dynamics—OTS in Redmond, WA.

Highlight is published annually for alums and other friends of the Department of Aeronautics and Astronautics to provide updated information on department and alum activities. Our special thanks to the 2001-2002 Editorial Team:

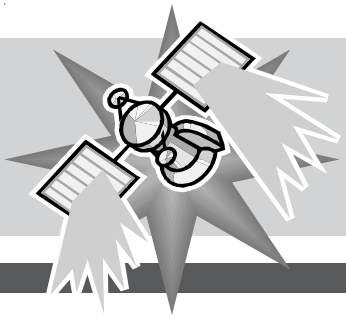
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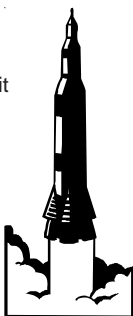
Pedro Pinto passed away on May 22, 2001, after a battle with cancer. After graduation in 1988, Pedro worked for Boeing. He loved his job and the people he worked with. He had an active life, he loved sailing, skiing, playing soccer, soaring, and golf. But his greatest joy was his wife, Wendy, and children Nichole and Marshall. A memorial for Pedro was held in the A&A department by staff and former students, who looked at photos and remembered him fondly. He will be missed by everyone here who knew him. Our thoughts are with Pedro's family.



Thank You, Donors

Gifts, cash, and in-kind contributions were received from the following alums and other friends between 9/1/00 and 12/31/01. We very much appreciate your support and the confidence in our program that it conveys. Thank you!

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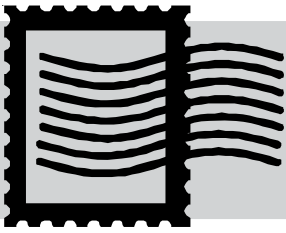
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