

September 2003

Atmospheric Circulation

Newsletter of the University of Washington Atmospheric Sciences Department

Well Known Alums “On the Air”

By Clifford F. Mass, Professor of Atmospheric Sciences



Mary Jean (M.J.) McDermott, '01.

Although many UW Atmospheric Sciences graduates have gone on to jobs in research, forecasting, and teaching, a sizeable number have established successful careers in TV weather. Although the majority of our “on-air” alumni were undergraduate majors, some have been graduate students that made the jump from researcher to TV personality.

For many of our TV alumni combining science and show business produced the ideal career. Case in point: **Mary Jean (M.J.) McDermott**. After earning a B.A. in Theater Arts at the University of Maryland, she worked as an actor for several years, including children’s TV in Seattle. With an interest in physics and weather and a desire to have a career in TV, she decided to try to combine both interests by becoming a TV weathercaster. M.J. wanted to be the “real deal” and decided to enter the UW to get a degree in Atmospheric Sciences. And it clicked. “I had no idea I would fall in love with weather,” she noted in a recent email. While still a junior in our program she began an internship with KOMO TV’s Steve Pool and during her senior year did fill-in work on Northwest Cable News (NWCN). After two years with NWCN, she was offered the weekend weather position at Seattle station KCPQ-TV, where her enthusiastic, but technically correct, presentations are a relief from some of the weekend weather fare on other stations.

But the department’s representation on Seattle airways is not limited to M.J. **Jeff Renner**, (B.S. 1988) the deep-voiced lead forecaster at the local NBC affiliate KING-TV, received his second degree from our department after he was picked to do local weather because of his prowess in covering the Mt. St. Helens eruption. **Rich Marriott**, the KING-TV morning weather lead, took graduate courses in both geophysics and our department. Our influence on local TV doesn’t end there. Mike Wallace tutored **Harry Wappler**, the now-retired dean of Northwest TV weathercasters, while (continued on page two)

First Balloon Ascent Over Mt. Rainier. Graduate Student Described As “Most Valuable Player”

By Connie Ellsbury, Assistant to Chair

At 10:33 am on September 19, 2002 a historical moment occurred when a hot air balloon successfully traversed Mt Rainier for the first time. The flight lasted 3 hours and 18 minutes and reached altitudes of greater than 20,000 ft.

Justin Sharp, graduate student in our Department, was the Chief Meteorologist for this memorable flight along with Vic Johnson (Pilot), Larry Simburger (Co-Pilot), Tomer Bernard & Jamie Bernard (Crew). Justin was given credit as “**easily the most valuable player**” by Larry Simburger, Co-Pilot.

Volunteers were recruited from the ballooning community for various phases of planning, organizing and making preparations over a two-year period, including a six month waiting period for just the right weather. The large balloon shown below was custom made for this ascent to navigate the high altitudes at Mt. Rainier and to carry 4 persons. (continued on page 3)



The large balloon in the foreground is the custom built Aerostar AX-10 at 245,000 cubic ft.

Chairman's Column



As I sit in the Chair's office looking through the trees toward Red Square it is one of those remarkable summer afternoons in Seattle when not a cloud mars the azure sky, the temperature is about 75, the dewpoint is about 50, and the air has a clean marine feeling with just enough breeze to keep the boundary layer fresh. No rain has fallen in our rooftop gauge for more than a month. Now is the time to start thinking about January in Seattle. You are

invited to the 50th Anniversary Reunion Dinner: Celebrating a Half-Century of Excellence in Atmospheric Sciences at the University of Washington, which will be held at the UW Faculty Club on Tuesday, January 13, 2004. In his book [Eyewitness: Evolution of the Atmospheric Sciences](#), Emeritus Professor Bob Fleagle indicates that the PhD program was established in 1954. What better reason for a celebration could there be, particularly since the 84th Annual Meeting of the American Meteorological Society will be held in Seattle that very week? Please mark your calendars. Space will be limited to about 150 people and you will need to reserve your seat in advance for this interesting and fun evening. Check the Department website for details.

The past year has been an eventful one for the Department, as you can verify by reading the articles in this our third annual newsletter. I will add here a few additional notes on faculty issues. Research Professor Jim Tillman officially retired, but continues to work toward putting meteorological instruments on the surface of Mars for the first time since the Viking Lander's 3.3 Martian year climate record that ended in 1982. Qiang Fu was promoted to Associate Professor with tenure. Joan Alexander was promoted to Affiliate Associate Professor. Tom Ackerman (Ph.D. 1976) was appointed to Affiliate Professor, and Cecelia Bitz (Ph.D. 1997) was appointed Affiliate Assistant Professor. Tad Anderson (Ph.D. 1992) was appointed Assistant Research Professor. A search was conducted during the past year for a new Assistant Professor of Atmospheric Chemistry, and Joel Thornton was recruited from a pool of very strong applicants. Joel received his PhD in the Department of Chemistry at U.C. Berkeley in 2002. He will join the Department in June of 2004 after completing the project he has begun as a postdoc at the University of Toronto.

We would like to include more news of alumni and friends in Atmospheric Circulation, so please call or write to tell us of news in your life. Best wishes for the coming year.

Dennis L. Hartmann
Professor and Chair of Atmospheric Sciences

Well Known Alums (continued from Page 1)

Cliff Mass worked extensively with **Steve Pool**, the current weather personality on KOMO-TV, the local ABC affiliate.

Our department alumni have also taken positions at TV stations around the nation.

Joe Witte, B.S. 1965, earned his M.S. in 1968 based on his arctic research with Norbert Untersteiner. Joe has moved from Seattle to Philadelphia, New York, and Milwaukee, where he has been Chief Meteorologist at WITI-TV since 1981. He has often been on morning shows "Good Morning America" and the "The Today Show" and is on MSNBC and CNBC.

Mark Nelsen, B.S. 1991, initially forecast windsurfing conditions for a small private firm (Microforecasts, Inc). He then made his TV career in Portland where he is the nighttime lead meteorologist on KPTV. As expected from one of our graduates, Mark lives in a windy location near the exit of the Columbia Gorge, where he maintains his own observations, including winds that sometimes top 100 mph!

Mark Larson, B.S. 1989, went east and is now morning weekday co-anchor and meteorologist at KWCH in Wichita, Kansas.

Sean Langhelm, B.S. 1998, decided that his career would be in a location with a lot more sun; today he is chief meteorologist at the ABC affiliate in Palm Desert, CA and provides guidance on such important issues as when to turn on the swamp cooler.

Shannon O'Donnell, B.S. 1998, started at local NWCN and KING-TV and is now the weather lead at an NBC network affiliate Channel 11 in San Francisco.

The department has fostered the TV weather career path for interested students in a number of ways. Most important has been the close relationship we have developed with local TV weathercasters, who allow our students to intern at their stations for one or two quarters. During such internships, students learn the weathercasting business, including the use of complex production graphics systems, and are offered the chance to practice and make tapes on real weather sets with all the bells and whistles.

The department also offered a one-credit TV weather class in which students (such as Shannon O'Donnell) put on a weekly weather program on the UW cable channel. Tapes from this class are being saved to embarrass them later! (continued on page 3).

Well Know Alums (continued from Page 2)

Although they represent a relatively small percentage of our graduating classes (roughly one student per year), the department considers TV weather broadcasting an important career direction and will maintain our support for this option. We are proud of our students who dedicate their careers to communicating our discipline and its products to the public.

Joost Businger Receives Bjerknes Medal



The European Geophysical Society awarded its Vilhelm Bjerknes Medal to Emeritus Professor Joost A. Businger at its April 2003 meeting in Nice, France. The Bjerknes Medal recognizes distinguished research in atmospheric sciences, and cited Professor Businger for his fundamental contributions to the understanding of atmospheric turbulence and boundary layer processes and structure.

Joost Businger was born in Haarlem, Netherlands, received his Ph.D. from the University of Utrecht, and came to the Department of Atmospheric Sciences at the University of Washington in 1958. Joost's research has included instrument design, observational field programs and the interpretation of their results, and theory of the atmospheric boundary layer. His theoretical work has elucidated understanding of the growth and structure of the boundary layer resulting from surface fluxes of heat, moisture and momentum, convective plumes within the layer, radiation and entrainment at the top of the layer. Joost has received many other honors in recognition of his achievements, including membership in the National Academy of Engineering and the Second Half Century Award of the American Meteorological Society.

Joost's son Steven received his Ph.D. from the Department in 1986 working under the tutelage of Peter Hobbs. Steven is currently a professor in the Department of Meteorology at the University of Hawaii, and enjoyed helping his father prepare his first Powerpoint presentation for the medalist lecture.

50th Anniversary Reunion Dinner January 13, 2004

***Limited space available
Please reserve in advance
See details on department
webpage or call the office***

First Balloon Ascent (continued from Page 1)

The following report is taken from Justin Sharp's journal, September 19, 2002:

Today, after almost a year of planning on my part, and substantially more on the part of some others, a hot air balloon successfully traversed the summit of Mount Rainier. The flight was a success beyond my wildest dreams. The closest approach was 0.46 miles from the summit.

The window where the conditions might be right for such a flight began appearing in model runs on Monday. After poring over meteorological data for the last two days, and particularly last night I finally made the decision at 12:30 am this morning that the upper level pattern was too good to pass up and gave the green flag for an attempt. There followed a very nerve racking 3 hours, as I'd just started a process which involved 40 people being assembled by 3:00 am this morning at a time when there was a thin but almost solid layer of mid-level overcast covering our launch site.

Trajectories from the summit were initially back plotted using MM5 12 km data, with detailed flight forecast near the mountain using 4 km data. This morning we used ACARS data to re-evaluate the launch site and make final corrections. At about 4:00 am the cloud layer began to break as I'd hoped and by 5:00 am we had a very large area of clearing over our launch area. The balloon took off at 7:14 am in light and variable winds, first drifting north and then arcing around to the WNW as it climbed through 6000 feet.

The summit was over passed at about 20,000 feet with a weak wave reported on the lee side. And by 10:45 am we were recovering the balloon from a hay field just outside Yakima!

Articles on the first hot air balloon ascent of Mt Rainer were published in the April 2003 issues of Aerostat and Balloon Life. Coverage of this event was shown on local TV, Kiro 7 on the day it took place.

The Fédération Aéronautique Internationale's Montgolfier Diploma was awarded to Vic Johnson and Larry Simburger on March 8, 2003 for the best performance in a hot air balloon for 2002.



Recent Graduates in Atmospheric Sciences

Doctor of Philosophy Degree Recipients

Yadwiga Beres, Ph.D., "Gravity waves generated by tropical convection: Generation mechanisms and implications for global circulation models," (J.R. Holton)

Sasa Gabersek, Ph.D., "The dynamics of gap flow over idealized topography," (D.R. Durran)

Kristin Larson, Ph.D., "Tropical climate sensitivities: Clouds, water vapor, radiation and large-scale circulation," (D.L. Hartmann)

Sungsu Park, Ph.D., "ENSO-related marine cloud variation and new single column marine boundary layer cloud modeling," (C. B. Leovy)

Jerome Patoux, Ph.D., "Frontal wave development over the southern ocean," (R.A. Brown)

Courtney Schumacher, Ph.D., "The TRMM precipitation radar comparison to ground-based radar and application to convective-stratiform precipitation mapping over the tropics," (R.A. Houze)

Master of Science Degree Recipients

Craig Brown, M.S. "The impact of daily changes in the Pacific North American Pattern on the occurrence of extreme weather events," (D.S. Battisti)

Min-Jeong Kim, M.S., "Comparison of surface rainfall retrievals from the TRMM microwave radiometer and the Kwajalein radar," (R.A. Houze)

Jessica Mjelde, M.S., "Tropical marine surface winds as seen by the Quikscat scatterometer," (R.A. Brown)

Greg Ostermeier, M.S., "Interdecadal trends in the North Atlantic Oscillation and North Hemisphere annular mode during the 20th century," (J.M. Wallace)

Brian Polansky, M.S., "Reconstructing 500hPAA height fields over the northern hemisphere," (J.M. Wallace)

Justin Sharpe, M.S., "The mesoscale meteorology of the Columbia River Gorge," (C.F. Mass).

Stan Rose, M.S., "Jet streaks, cold fronts aloft, and the forecasting of severe weather in the United States," (P.V. Hobbs)

Bachelor of Science Degree Recipients

Congratulations to the following students who have earned their B.S. degrees this past year:

Robert Beaufait
Olivier Crozier
Megan Galus
Brian Garcia
Liam Lynam
Madhu Narayanan
Shane Reuber
Timothy Whitcomb

Scholarships

The Atmospheric Sciences Anonymous Endowed Fund (used exclusively for undergraduate scholarships) made awards to current majors Candace Berg, Sean Casey, Matt Munson and Steve Robinson. The fund was also used this year for the first time to recruit an outstanding incoming freshman to the UW. We are delighted that Alexandra Hoff from Davis, CA will join our program in the fall.

Weather Forecast Contest Winners

The winner of this year's Spring Forecasting Competition differed from previous winners in a very basic way. It was a non-human. "MRF-MOS" was a computer-generated forecast.

MRF-MOS finished with the best combined score and also the best score for precipitation only. At least temperature was won by a real person, M. J. McDermott who is a recent graduate of the Department and now appears on KCPQ13's Double Doppler Weather.

For the 2003-2004 academic year, we are delighted to welcome the following new graduate students:

| | |
|---------------------|-----------------------------|
| Jimmy Booth | U. Kentucky, NC Chapel Hill |
| Steven Cavallo | Florida State |
| Briana Gordon | Cornell U. |
| Lucas Harris | No. Illinois |
| Leah Heiss | CIT, UW |
| Terry Kubar | San Jose St. |
| Mario Lopez | U. Texas Pan Am. |
| Rob Ncholas | Colgate, Bucknell |
| Eve Stein | Rutgers U. |
| Phil Swartzendruber | Goshen Coll. |

Dean's List

Congratulations to the following majors who were on the Dean's list for at least one quarter of the past academic year:

Ryan Eastman
Joseph Nelson
Jeffery Thomason
Sean Casey
Megan Galus
Matthew Munson
Steven Robinson
Cynthia Peacock
Shane Reuber

Timothy Whitcomb and Reid Wolcott made the Annual Dean's List. Way to go!

Undergraduate Research

Many of our undergraduate students work on projects with faculty members, either as research assistants or interns. This provides invaluable experience to the students, and wonderful mentoring opportunities for our faculty. Some of the faculty and undergraduate students who have worked together during the past year are:

Sean Casey with Prof. Houze on TRMM and IMPROVE data analysis

Tim Whitcomb and Dan Podhola with Prof. Yuter on TRMM and accretion data processing and analysis of ocean drizzle precipitation

Brian Garcia with Profs. Battisti and Mantua on the weather during the Lewis and Clark expedition

Andrew Hill and Becky Bolin with Prof. Anderson on aerosol variability and statistical data analysis

Megan Cartwright, Cindy Peacock and Elliott Ginder with Prof. Catling on the biochemical evolution of early earth and MARS water ice clouds simulation.

Undergraduate Research (Continued)

David Peterson with Prof. Rhines on down slope windstorms in the GFD lab.

Ryan Eastman with Prof. Warren on trends in cloud amounts over land.

Kudos to:

Steven Cavallo and Lucas Harris, recipients of AMS First Year Fellowships.

James Booth and Rob Nicholas, recipients of Program on Climate Change (PCC) First Year Fellowships.

Rob Nicholas, recipient of the Achievement Reward for College Scientists (ARCS) Fellowship.

Mario Lopez, recipient of GO-MAP Assistantship.

Camille Li, recipient of a scholarship to the Summer School on the Modeling of Arctic Climate, IARC, U. Alaska Fairbanks, 2003.

Dan Kirshbaum, who won the 2002 Award for Best Student Poster at the AMS Mountain Meteorology Conference in Utah.

Dan Kirshbaum, who also won the 2003 Award for Best Oral Presentation at the AMS Mesoscale Processes Conference.

Justin Sharp, who won the 2003 Award for Best Student Poster at the AMS Mesoscale Processes Conference.

Chih-Chieh (Jack) Chen, who won the 2003 Second Place Student Poster Award at the AMS Mesoscale Processes Conference.

Ian Kracunas, graduate student representative to the Program on the Environment's governing board.

Roberta Quadrelli, recipient of the Peter B Wagner Memorial Award for Women in Atmospheric Sciences, 2002.



Sue Wagner presenting award to Roberta Quadrelli (right).

Faculty Notes

Lyatt Jaegle, Assistant Professor, has received a National Science Foundation Early Career Development Award. The award will cover research for a 5 year period on "Global Modeling of Long-Range Transport of Tropospheric Ozone and Mercury".

Stephen G. Warren, Professor was designated as a "Highly Cited Researcher" by the Institute of Scientific Information, publisher of the Science Citation Index. There are a total of 25 "Highly Cited" researchers at the University of Washington, and five of them are in our department: Charlson, Hobbs, Holton, Houze, and Warren. The website address is: <http://isihighlycited.com>

Christopher Bretherton, Professor received the Department Teaching Award in September 2002.

Sarah Masonis, Research Associate is the new North American Executive Officer for International Global Atmospheric Chemistry Project (IGAC) and will be working out of her office at the University of Washington. The website address is: www.igac.noaa.gov

The Core Project Office for the IGAC moved from U of New Hampshire to NOAA-PMEL.

Tim Bates (NOAA-PMEL) and Affiliate Faculty is one of 3 co-chairs for IGAC. The other chairs are Sandro Fuzzi (Italy) and Shaw Liu (Taiwan-China).

David Battisti, Professor is the first recipient of the Tamaki Endowed Professorship.

Joost Businger, Professor Emeritus was awarded the Vilhelm Bjerknes Medal by the European Geophysical Society.

Alumni News

Shane Reuber and Megan Galus have been accepted into the Air Force fighter pilot training program.

Amy Haase will enter the graduate school program at Pennsylvania State.

Madhu Narayanan has been accepted into the Teach America Program. He will spend two years in the Bronx, New York City, teaching middle school math and science.

Kristin Larson has accepted a position as a research scientist with 3Tier, Inc.

Courtney Schumacher has accepted a Professorship at Texas A & M.

Jerome Patoux has accepted a Post Doc in our own department.

Sungsu Park has accepted a Post Doc at NCAR.

Yaga Beres has accepted a Post Doc at NCAR.

Jessica Mjelde has joined the Peace Corps, and is currently in Uganda.

Sasa Gaberseck has accepted a faculty position at the U. of Zagreb.

Battisti Receives Tamaki Professorship



Professor David Battisti (Ph.D. '88) has been named the first recipient of the *Tamaki Endowed Professorship*. The donor's preference was that the first appointment to the professorship be in a field of science related to contemporary public policy issues in environmental science.

Tamaki is a successful businesswoman, and is a daughter

of Dr. Job Tamaki who was a renowned chemist and patent attorney in Tokyo, and Gertrude Tamaki who was a devoted German-born wife to her husband. Nurtured by enlightened and internationally-minded parents, and having seen wars, suffering and injustice in the course of her life, Ms Tamaki became convinced of the importance of understanding among all peoples, learning to minimize human suffering, and helping to improve lives. Reflecting this vision, the purpose of the professorship is to assist the holder in her/his endeavor to teach and engage in research so that new knowledge is created and wiser policy is adopted for the benefit of all people around the world.

Battisti expressed his gratitude to Tamaki for her commitment to the UW and stated that, 'One of my major goals for the Professorship is to help facilitate activities that bring together the different communities necessary for addressing the important environmental issues that society is facing. Another is to explore mechanisms that enhance the public's knowledge of the science that addresses the policy issues associated with human-induced climate change.' With the approval of Tamaki, Battisti was appointed to the professorship on July 1, 2003 by David C. Hodge, Dean of the College of Arts and Sciences.



Donor Recognition



The Department of Atmospheric Sciences gratefully acknowledges the donors who have generously supported us during the past fiscal year July 1, 2002 through June 30, 2003.

| | | | |
|------------------------|---------------------|---------------------|-------------------|
| Gerard H. Ahtelik, Jr. | Masaru Hamada | Dennis Lamb | Bradley F. Smull |
| Robert G. Baughman | Halstead Harrison | Richard J. Lind | Raymond C. Staley |
| Robert S. Berkovitz | Dennis L. Hartmann | William H. Lipscomb | Hui Su |
| Michael I. Biggerstaff | Peter V. Hobbs | Gary A. Maykut | Ronald K. Surface |
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| Eugene E. Chermack | Charlotte J. Hopper | Frank S. Nishimoto | Stephen G. Warren |
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| Brad S. Ferrier | Ben Jong-Dao Jou | William R. Poteet | Jin-Yi Yu |
| Robert G. Fleagle | John N. Karamanian | David S. Rowe | Xiaoli Zhu |
| Jennifer A. Francis | Stephen A. Klein | Dorothy A. Russell | Xun Zhu |
| Qiang Fu | Kevin R. Kodama | Eckart W. Schmidt | Anonymous |

Giving to the Department of Atmospheric Sciences

Please consider supporting the activities of the Department of Atmospheric Sciences. Your gift strengthens the core of the UW through recruitment and retention of world-class students and faculty. Your support of undergraduate and graduate students helps to create the next generation of scientific leaders. Help us to ensure that the department continues to be a leader in weather and climate research.

Contributions to the **Atmospheric Sciences Discretionary Fund** are unrestricted and can be used to provide support

where the need is greatest. In recent years this fund has helped defer travel costs for graduate student recruitment, refurbished the undergraduate instrument laboratory, and funded student orientation activities.

If you wish to provide direct financial support for students, the **Atmospheric Sciences Fund** provides a mechanism to support undergraduate scholarships and financial aid for graduate students.

Yes, I want to support the Department of Atmospheric Sciences! I have enclosed \$_____ to support

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- Atmospheric Sciences Fund

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Please send your check, payable to the "University of Washington" to:
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Dennis L. Hartmann, Chair
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Please send alumni news, comments, questions, and address updates to alumni@atmos.washington.edu, or call (206) 543-4250.

Visit our website at <http://www.atmos.washington.edu>.

Don Atkinson, Department Administrator for 25 Years!

Born in Scotland and raised in Australia, Don earned his undergraduate degree in Physics and worked as a weather forecaster in Australia before moving to the United States. His first position at the University of Washington was with Professor Hobbs as research scientist from 1970-1977.

He then took a couple of years off and earned his MBA from the University of Washington. Not long after graduating with his MBA, an opening for the Department Manager became available. Don applied, and the rest is history - he has served the department in this position for 25 years!



Don feels that the Atmospheric Sciences Department has been remarkably stable over the years, and enjoys working with graduate students and watching their progress. He remembers the early years when the University had a large mainframe computer for scientific computing which used card decks, and how over time this was replaced first with terminals and then with individual computers on every desk.

His interest in weather has been a good fit for both his position as Administrator of the Department and his outside interests in sailing, flying light aircraft, and more recently in orienteering, which combines both his love of maps and hiking outdoors.

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