

The Charles A. and Anne Morrow

LINDBERGH • FOUNDATION

N • E • W • S • L • E • T • T • E • R

October 2007

Bees and Butterflies Cause a Buzz in St. Louis Schools

Dr. Gail Langellotto's Work Inspires Gardens of Merit Project

Who doesn't marvel at the beauty of a butterfly as it flits from flower to flower? But, oh, those pesky bees! They sting. They buzz. They're just trouble. Or are they?

Bees have been in the news recently, and for good reason. Their numbers are declining, due in part to decreasing numbers of native plants. That's not good news for farmers or for those of us who like to eat. Many bees and butterflies are pollinators, and without them, most plants will not be able to produce fruits or seeds for the future. Dr. Gail Langellotto believes community and private gardens may provide refuge and food for these beneficial pollinators.

Last year, the Lindbergh School District and community of St. Louis raised money to fund a Lindbergh Grant project as part of their Lindbergh Legacy Project. They chose to support Dr. Gail Langellotto, whose research project was entitled, "Assess-

ing the Dispersal of Bees and Butterflies among Greenspace Garden Habitats in Urban and Suburban Areas in order to Preserve These Necessary Pollinators." Her research looked into what types of pollinators can be found in gardens, how abundant they are within the garden, garden characteristics that may increase the diversity and abundance of pollinators, and how successfully these insects can find natural havens among the parking lots and shopping malls.

Superintendent James Sandfort hoped that Dr. Langellotto would be able to return to the community of St. Louis to share the results of her research. On May 17, 2007, Dr. Gail, as she became lovingly known, returned for an incredibly inspiring day of talks to donors, teachers, and more than 200 eager and inquisitive second-graders.



Dr. Gail talks to second-graders about the importance of bees and butterflies during her visit to the Lindbergh School District in St. Louis, Mo.

of her research. She explained how green spaces and gardens are ecologically valuable, and reported that hers was one of the first studies of bees in urban and suburban gardens. As a result of her work, Dr. Gail has determined which species of bees are able to live in cities. She also discovered that the number of flowers present in a garden was the most important factor in attracting a diverse population of bees, and that landscaping factors had no discernable impact on bee diversity within the gardens. After breakfast, there was a workshop for second grade teachers. Dr. Gail discussed her research and how it might be applied in the curriculum.

Dr. Gail, continued on page 4



Dr. Gail Langellotto speaks to donors at a breakfast meeting at Kennerly School. She recounted all the good work she was able to do because of the Lindbergh Grant. Dr. Sandfort said that people left knowing more about the value of the research they supported and personally more informed about pollinators and what every family can do to support the planet.

A Day Full of Bees & Butterflies

Beginning with a donor breakfast, Dr. Gail presented the preliminary results

Inside

President's Message	2
Director News	2
Bryan Sharratt Dies at 59	3
2007 Grant Projects.....	5
Earth Shine News.....	12
Honor Roll.....	15
Announcements.....	16

Letter from the President



Dear Friends,

We are just returning from the Foundation's annual meeting held this year in St. Louis, Mo. It was a wonderful and productive meeting. I am pleased to announce that two additional board members, with strong ties to the aviation community, were elected at this meeting. Linden Blue and Larry Williams are both outstanding individuals and each possess skills of great value to the Foundation. You can read about them below and on the next page. As we extend a warm welcome to these new board members, I'd also like to offer hearty congratulations to John King, who was elected to serve as Chairman of the Board.

While we were in St. Louis, we were honored to have Dr. Tony Goldberg join us for a special reception at Wiegand Studios. Dr. Goldberg has the rare distinction of being a two-time Lindbergh Grant recipient. His two projects are related to chimpanzees in Uganda, and the second is focused on bonefish in the Bahamas. Both are yielding outstanding results. We will profile Dr. Goldberg's projects in a future issue of the Newsletter, but I would like to share with you one statement he made that really resonated with all of our board members. During his brief talk,

Dr. Goldberg stated that, "the Lindbergh Foundation is unique in its mission because it is the only one that funds a philosophy." He added that the Lindbergh Foundation funds projects that other grantors might perceive to be risky, but the Foundation sees potential for real change. I think Charles and Anne Morrow Lindbergh would agree with that assessment. Charles did not call himself a risk-taker. He calculated the risk in all that he did very carefully. That's exactly what our rigorous Lindbergh Grants process strives to accomplish – providing the greatest opportunity for significant achievement with least amount of risk.

Finally, at the NBAA convention in Atlanta, Ga., this fall, we launched the new Lindbergh Partners program. It is aimed largely at aviation-related companies and gives them the opportunity to be part of the Lindbergh legacy as they support the Foundation.

As the year comes to a close, I hope you will include the Foundation in your charitable giving plans. The skies are clear for the Foundation, and with your help, we will continue to enjoy smooth air.



Director News

Lindbergh Foundation Welcomes Two New Board Members

The Lindbergh Foundation is pleased to welcome two outstanding representatives from the aviation community as its newest board members.



Linden S. Blue is Chairman of Spectrum Aeronautical LLC, a company involved in development of advanced composites aircraft manufacturing systems. Spectrum's Independence S-33 very light jet and Freedom S-40 mid-size jet feature the company's proprietary fibeX_{TM} composite material system. The light weight of these jets, combined with ultra-efficient fanjet engines, result in extraordinary fuel efficiency and very low emission of green-house gasses.

Mr. Blue is vice chairman of General Atomics – Aeronautical Systems Inc. (GA-ASI), the world's leading producer of advanced composite unpiloted aircraft. GA-ASI is a diversified international high technology company with world leadership positions in fusion, fission, training research and isotope nuclear reactors,

high power lasers, high power electromagnetics, ultra wide band telecommunications, and unmanned surveillance and strike aircraft (Predator). The Predator has been highly successful in Bosnia, Afghanistan and Iraq where they have proven themselves as one of the most versatile new aircraft systems in decades. Since 1986, he has concentrated his activities on the development of the advanced, second-generation Modular Helium Reactor.

Blue is also co-founder and chairman of the Executive Committee of Cordillera Corporation of Denver, a holding company with principal assets in real estate, gas utilities, and oil and gas production. He is a former President and CEO of Beechcraft, where he directed the *initial* development of the first FAA certified advanced composite aircraft, the Starship. He was also a director of Raytheon Company. From 1980 to 1982, he was managing director and CEO of Lear Fan Limited. From 1977 to 1980, he was with Gates Learjet Corporation, serving as executive vice president and general manager, and earlier as head of strategic planning. There, he was instrumental in defining and developing the winglet configured line of Learjets.



Mr. Blue's other activities include: Board of Overseers, Center for Naval Analysis; Board of Trustees and Executive Committee, Hudson Institute; board member and past president, Green Foundation; board member, National Parks Foundation; Director's Council, Scripps Institute of Oceanography; chairman of the Airports and Airways Committee, General Aviation Manufacturers Association; and board member, Burnham Institute, among others.

Blue received his bachelor's degree from Yale University in 1958, and is also a graduate of the Advanced Management program of the Harvard Business School. Mr. Blue has more than 25 years in the aircraft industry and has logged more than 10,000 hours as pilot in command, with more than 3,000 in jets and turboprops. Mr. Blue also has helicopter and seaplane ratings.



Larry Williams is Chief Executive Officer, President and Chief Operating Officer, at Ballistic Recovery Systems, Inc., in South St. Paul, Minnesota. BRS develops, engineers and manufactures whole-aircraft recovery parachute systems for use with defense, general aviation and recreational aircraft. The emergency parachute systems are designed to bring

down the entire aircraft and its occupants in the event of an in-air emergency. Since its inception in 1980, BRS has delivered over 27,000 systems that have been installed on general aviation and recreational aircraft throughout the world, and the system has documented 205 lives saved through the deployment of its systems in actual in-air emergencies.

Beginning in 2000 and until he accepted the position with BRS, Mr. Williams served as Vice President of Business Development for AmSafe Aviation in Phoenix, Arizona. Prior to that and since 1995, he was Group President at Rural/Metro Corporation. From 1985 to 1995, Mr. Williams was Executive Director of the Emergency Response Training Academy.

Mr. Williams serves on the board and as the Chairman of the Safety Affairs and Training committee of the General Aviation Manufacturers Association. He has a degree in Fire and Safety Engineering Technology from Eastern Kentucky University and is a graduate of the Aviation Safety program at the University of Southern California. He served in the U.S. Air Force as a Nuclear Weapons Technician and received the Air Force Commendation Medal in 1980. He has published a number of articles and previously served on two National Fire Protection Association Committees as well as the International Fire Service Instructors Association Aircraft Rescue and Fire Fighting committee.

He resides in Woodbury, Minn., with his wife Mary and has two children, Jaelyn and Laura.

In Memoriam

It is with great sadness that the Foundation notes the passing of of Lindbergh Foundation Director Emeriti Bryan Sharratt and Honorary Board Member and 1982 Lindbergh Awardee Dr. Paul MacCready, Jr. A tribute to Dr. MacCready's life will appear in the next Newsletter.



Bryan Sharratt served on the Lindbergh Foundation board of directors from 2002 – 2004. He passed away suddenly on August 16, 2007, from heart failure. He was also being treated for cancer.

Bryan Sharratt was born in Bethesda, Md., the youngest of a Navy family, and lived around the world. He graduated from Duke University with a B.A. degree in economics in 1968 and earned a juris doctorate in 1971. He then served in the U.S. Navy, as a judge advocate at the 100th Naval District Law Center, in San Diego, and head of the trial team at North Island Naval Air Station. He volunteered for sea duty and was assigned as the legal officer aboard the attack aircraft carrier *USS Forrestal*, based in the Mediterranean. Upon his release from active duty, he and his family moved to Wyoming, where he earned an M.B.A. from the University of Wyoming in 1977. He transferred his commission to the Air Force Reserve and served an additional 19 years, achieving the rank of lieutenant colonel. He was a graduate of the Air War College and Air Command and Staff College at Air University. His military awards included the Meritorious Service Medal with two Oak Leaf Clusters and the National Defense Service Medal, Sharpshooter Pistol.

Sharratt practiced law for 20 years in Wyoming. He was elected in 1978 and served four years as county and prosecuting attorney for Platte County. In 1982, he established his own firm, Sharratt & Sharratt, P.C., and practiced with his father before his father's death in 1983. He also served as president of both the Wyoming Trial Lawyers Association and the Wyoming County and Prosecuting Attorneys Association. In addition, Sharratt became a CPA and real estate broker. Bryan Sharratt also had an impressive political career. In 1992, he was asked to serve as President Clinton's campaign manager for the state of Wyoming. He also served on the Kerry Defense Policy Team and traveled to Sioux Falls, S.D., to campaign for Tom Daschle. In 1994, he was appointed by President Clinton to serve as the deputy assistant secretary of the Air Force (Reserve Affairs), overseeing the Air National Guard, the Air Force Reserve, and all of the Air Force's counter-drug activities, as well as serving on the Reserve Forces Policy Board. Sharratt spent the last few years of his career at The Spectrum Group in Alexandria, Va.

Portions of this article were taken from the Wyoming Tribune-Eagle.



As the children left the auditorium, Dr. Gail shared her collection of pollinators with them. "The kids were enthralled. It was a really great moment," recalled Dr. Sandfort.

In the afternoon, she spoke to all the second-graders in the Lindbergh School District about how the kids and their families could get involved with backyard activities that would attract bees and butterflies. She also explained why these insects are so vitally important to our daily lives.

Gail captured their attention by telling the kids interesting stories and fascinating facts about pollinators. She told them ways to tell an old insect from a young insect; how some bees make their home by digging a hole in the ground and others build tents out of leaves; and the way others disguise themselves as a dangerous insect to fool other animals that might want to eat them. The day concluded with a talk to garden clubs and scout leaders about establishing habitats that attract bees and butterflies and the plants that could be used to attract these beneficial insects to their gardens.

"It was a WOW day for us," Dr. Sandfort recalled. "Dr. Gail has the wonderful ability to impress donors, work with teachers and share her love of bees and butterflies with students. We have students who will remember this experience for a long time."

Dr. Gail's involvement with the school didn't end with that single visit, however. A Pollinator Project web site was established by the Lindbergh School District, and was written by Gail. In it she explained that conservation efforts don't have to take place in exotic far-away places of the world, in fact, we can take part in extremely

important conservation efforts right in our own backyard. She also wrote about her research project, compiled links, and provided answers to questions from the students. You can visit the site at <http://pages.lindberghschools.ws/education/dept/dept.php?sectionid=992>.

Gardens of Merit Project

Dr. Sandfort also stated that Gail's visit became the catalyst for the district to encourage students and their families to

develop home based gardens. The district is working with the Missouri Botanical Garden, which has established a Plants of Merit program, to create Gardens of Merit at each school site. The gardens will use native plants that thrive in Missouri. "Hopefully, we will become the first district to have gardens of merit at every school," he said. Dr. Gail responded to this news by saying, "I applaud Dr. Sandfort and the Lindbergh School District for encouraging district families to develop home based gardens. Not only are these spaces potentially important to the conservation of native pollinators, but they serve as fantastic living laboratories and learning spaces

where students can explore the natural world up close and personal."

Dr. Gail is continuing her research at Oregon State University and is working with Master Gardeners to sample pollinator diversity in gardens across a very large geographic scale. This large-scale survey will be one of the most comprehensive surveys of bee diversity in gardens. She is also exploring the emerging field of landscape genetics to try to answer some questions about how pollinators move among developed landscapes. In addition, she is working to develop curriculum that will make garden ecology more accessible to school kids and adults.

"My visit to the Lindbergh School District was perhaps one of the best days of my professional life," Dr. Gail said. "I absolutely



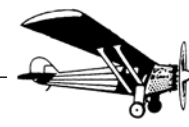
The Bees and Butterflies Program was a full day of activities, for students, parents, and the community. Here, students are potting a plant to take home and start their own garden.

loved how open the students were to learning about insect pollinators. They were so engaged and enthusiastic, and their questions were insightful and thoughtful. Their openness to learning made it a pleasure for me to express my own fascination with and love of insects and nature."

"From our perspective, the work that Dr. Gail is doing is critical to the maintenance of the food chain in this country," said Dr. Sandfort. "The great thing about her work is that every student in our district, and probably the country, can take action on her research and make a difference in their local community."



At the end of the day, Dr. Gail visited with parent leaders and Girl and Boy Scout leaders about how to set up gardens that bring in pollinators. This segment was connected to the plants of merit/gardens of merit initiative with the Missouri Botanical Garden. Gail served as the consultant for the group.



2007 Lindbergh Grant Recipient Projects

The Lindbergh Foundation provided grants for 14 projects this year – the most since 1985. Lindbergh Grant projects are the cornerstone of the Foundation’s mission and their global reach ensures that the Lindbergh legacy of balance resonates around the world. Each grant recipient receives up to \$10,580 (the cost of building the *Spirit of St. Louis* in 1927) to support their research or education projects that foster our environment and use innovative ideas to work for a planet in balance.

The Foundation is deeply grateful for the financial support of the Lindbergh Grants program provided by **Knox Bridges**, North Carolina; **Cherbec Advancement Foundation**, St. Paul, Minn.; **Peter Diamandis**, California; **Clare Hallward**, Canada; **Jeppesen, Sanderson, Inc.**, Englewood, Colo.; **Richard and Susan Kane**, Florida; the **Laura Jane Musser Fund**, St. Paul, Minn.; **Reeve Lindbergh**, Vermont; the **Lindbergh School District and Community**, St. Louis, Mo.; and **Lycoming, Inc.**, Williamsport, Penn.

Lindbergh grants are also funded by the Lindbergh Grant Endowment and the **James and Maureen Lloyd Grant Endowment**.



Dr. Angela R. Bielefeldt and R. Scott Summers
University of Colorado, Boulder

“Determining the Importance of Silver in Home Filters used to Disinfect Drinking Water in Developing Countries”

About 20% of the world’s population lives without access to safe drinking water, and an estimated 4 million children under the age of five die from water-associated diarrheal disease. Simple, low cost methods to remove disease-causing impurities from the water are needed, yet in-home devices for disinfecting and removing bacteria, viruses, and other microorganisms have been under-utilized in developing communities where they are needed most. Filtrón in-home ceramic water treatment filters are inexpensive, locally made, and require no energy to use. The most costly part of the filter is the colloidal silver coating used to improve the pathogen control; however, the maximum life span and effectiveness of the filters and the silver coating is unknown.

Dr. Bielefeldt and Mr. Summers plan to determine the maximum useful life of the Filtrón filters, the effectiveness of the silver in removing pathogens, and whether filters must be replaced or if the colloidal silver can be painted on again at the end of its life cycle. They also hope to make recommendations that may enable the removal of a wider range of contaminants. Determining that the filters are effective would be a significant step toward helping the United Nation’s Millennium Development Goals of bringing potable water to the 1.5 billion people without safe drinking water.

The Lindbergh Grant Endowment sponsored this water conservation grant.



Catherine T. Cloud
International Agricultural Development, Davis, California

“Promoting Sustainable Agriculture in Mozambique through Junior Farmer Videos”

Two of the most urgent challenges of our time are putting food on the tables of those in need, and creating a farming system that is in balance with nature. The HIV AIDS epidemic in the Global South has devastated many families, and with the loss of adult farmers, traditional ecological knowledge also has been lost. The Food and Agriculture Organization of the United Nations (FAO) has developed Junior Farmer Field and Life Schools (JFFLS), which provides AIDS orphans with the skills necessary to grow food for themselves and their families.

Catherine Cloud is establishing a pilot video project working with the FAO’s JFFLS program in Mozambique. In this project, Ms. Cloud plans to teach junior farmers the basics of making videos so they can make collaborative videos on agricultural topics most important to them. The videos may cover step-by-step teaching of specific farming practices; the benefits of integrating wildlife into agricultural systems; or asking for help getting rid of pests. These videos will be traded between several JFFLS groups and

“response” videos will be made, addressing subjects brought up in previous videos. Ms. Cloud believes the collaborative video method fits within a natural process of hands-on learning and verbal communication, while acknowledging the

junior farmers as valuable members of their communities. Video conversations can be carried on over great distances, so people who would not otherwise be able to meet can have a meaningful dialogue. The format may also overcome some learning



Grant Recipients, continued on page 6

and communication challenges because it is not necessary to be literate to learn from the videos, and because voice-overs or sub-titles can be added to bring the subject matter to broader audiences. Ms. Cloud hopes that using video technology will help empower children to promote ecologically sound agriculture in Mozambique and other countries worldwide.



Dr. Margaret A. Coffman

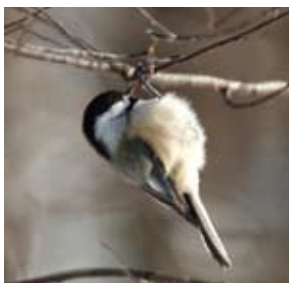
Science Education Consultant, Ypsilanti, Michigan

“Empowering Students in Ecology, Music, and Computer Science through Active Participation in an Elementary Bird Song Curriculum”

Elementary age students are surrounded by technology in the form of computers, cell phones, and music devices. Familiarity, however, does not necessarily indicate a high-level understanding of technology. Dr. Margaret Coffman will develop a curriculum that blends technology, science, and music, and present these diverse subjects in a manner that engages students with little interest in one subject through interaction with the others.

Using sound analysis software, students will learn to identify bird songs, analyze the musical characteristics of these songs, and associate the song characteristics with bird behavior and habitat. Using spectrograms of bird songs and calls, students will identify key components and concepts that bridge science and music. Utilizing this interdisciplinary approach, her fourth – sixth grade curriculum will leverage students’ interest in technology to develop their knowledge of ecology and music. The curriculum also provides an opportunity for students to realize the connection of humans to their natural environment as they develop critical thinking skills. Funds from the Lindbergh Grant will be used to develop an activity guide with individual bird song lessons that connect science, music, and technology. These lessons will then be implemented in a local school where, as a final project, students will use their newly acquired knowledge and skills to create an ecologically-inspired musical composition.

This education grant is sponsored by the Lindbergh School District and Community, St. Louis, Mo.



Kristina Cockle

University of British Columbia, Canada/Argentina

“Using Ground-based Measuring Tools to Study Birds’ Nests in Tree Cavities in the Atlantic Forest of Argentina”

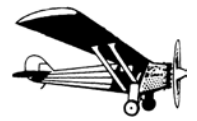
One of the world’s five most diverse and threatened ecosystems is the subtropical Atlantic forest, where many endangered bird species depend on tree cavities for nesting. In the Atlantic Forest, large cavity-nesting birds, such as parrots and toucans, are threatened by loss of cavity trees as a result of widespread logging, and by capture of chicks for local pets. In the province of Misiones, Argentina, the government has taken important steps to protect the forest by creating 68 parks and multi-use reserves. However, all but about 600 hectares of the forest has been selectively logged. There is concern that the remaining forest may not have sufficient cavities to support large cavity-nesting birds. Little is known about cavity nesting birds and their needs because the cavities are too high to be reached.

Ms. Cockle plans to use newly developed remote measuring technology to determine

the preferred cavity size, height, tree species, and availability in logged and primary subtropical forests for a threatened parrot, the Vinaceous Amazon, and other species. Using wireless pole-mounted video cameras she will determine cavity suitability, occupancy and nest success. Pole-mounted infrared reflectometers will be used to measure cavity depth. Ms. Cockle will involve local farm families in measuring and monitoring cavity nests on their farms. This project will provide guidelines for conserving breeding habitat for several threatened birds of the Atlantic forest.

This animal conservation grant is sponsored by the James and Maureen Lloyd Grant Endowment.





Jason Edens
Rural Renewable
Energy Alliance,
Backus, MN

“Determining the Economics of Solar Heat as a Long-term Solution for Public Energy Assistance in the Midwest”

In Minnesota alone, \$73 million is spent annually on energy assistance and weatherization programs, yet only one-third of the low-income families are served. As energy prices continue to rise, families across the nation are struggling to heat their homes, creating dependency on assistance programs. Many families receiving energy assistance have been receiving help for generations. In the U.S., coal, nuclear and natural gas plants generate about 2/3 of the nation’s emissions associated with global warming. More than half of the energy used in single-family homes is used for heating. Mr. Edens plans to conduct a cost-benefit analysis for using solar thermal heating systems for public energy assistance. These systems are estimated to provide between 25-50% of a families’ winter heating needs.

Using life cycle analysis, Mr. Edens will summarize: public and private energy assistance programs in rural Minnesota; annual solar thermal savings both in financial and environmental terms; all associated costs with each; and determine the payback time. He will also evaluate the effectiveness of solar heating compared to traditional energy assistance. Results from this study could help increase the number of low-income people served by energy assistance while reducing our dependence on nonrenewable energy sources.



As the need for fossil fuels is reduced, improved air and water quality will follow. Mr. Edens, a former social science teacher, trains at-risk students to build the advanced solar systems, which they then help to install in the homes of low-income people. While this project will look at solar heating in rural Minnesota, other parts of the country could also benefit greatly from this information. As a result, solar heating may provide a permanent home heating solution for many families.

While this project will look at solar heating in rural Minnesota, other parts of the country could also benefit greatly from this information. As a result, solar heating may provide a permanent home heating solution for many families.

This general conservation/waste management grant is sponsored by Knox Bridges.



Tom Ehresman
Inventor,
Loveland, Colorado

“Creating a Direct Injection Igniter Fuel Nozzle to Eliminate Use of Leaded Fuels in Existing High Power Density Aircraft Piston Engines”

Aviation gasoline is the only fuel in the world that still contains lead. Soon, 100 octane Low Lead aircraft fuel (100LL) will be discontinued because of the tetra-ethyl-lead (TEL), which is added at the refinery, and is highly toxic. Current high performance aircraft piston engines require this 100LL to operate without failure at the higher power settings. The move to unleaded fuels is fast approaching and no viable alternative fuels have been found which these higher power piston engines can use without incurring damage or greatly decreasing operational limitations. Some proposed alternate fuels are actually more dangerous and harder to handle and transport than the current 100LL gasoline.

Mr. Ehresman plans to continue his development of a direct injection fuel nozzle system that would allow numerous types of fuels to be used in current high-performance aircraft piston engines, including jet fuel, diesel, kerosene and other liquid fuels. Operators would need to make only relatively minor modifications to reap the benefits of operating their aircraft as they do today. Elimination of TEL would not only improve the air quality as lead is removed from fuel emissions, but would also allow refineries to consolidate refining operations and reduce fuel infrastructures, further



reducing harmful emissions, risk of spills, pipeline lead and lower consumer fuel prices.

This Lindbergh Grant in aviation is sponsored by Lycoming Engines.

Grant Recipients, continued on page 8



Dr. Peter Girguis
Harvard University,
Cambridge, Mass.
“Developing Microbial Fuel Cells from Soil for Lighting and Power in Rural Areas of the World”

Approximately 2.8 billion people live in rural areas of developing countries, representing over half of the world’s population. A majority of these people live without access to electricity or are too poor to pay for the service if it were available to them. Dr. Girguis plans to develop low-cost microbial fuel cells (MFCs) to produce high-efficiency lighting for people living in rural regions of developing countries. Using an electrode and a bucket of soil, compost, food scraps, or other naturally occurring sediments, energy is harvested and can generate one volt of electricity for up to 18 hours. A bucket of soil may last up to six months and could be used to re-charge batteries, cell phones, etc. Dr. Girguis estimates one system would cost only about \$15 USD and should last 10 years.

During this study, Dr. Girguis will characterize the power produced from three different sediments or soils from tropical, polar and desert climates. He will also evaluate the effect of enriching the soils with organic matter. In particular, Dr. Girguis plans to develop MFCs to power high efficiency lights in homes, illuminate roadways, or highlight rivers and remote runways. Because of the wealth of organic carbon in sediments and soils, he believes MFCs are superior to even wind and solar energy for this purpose. Furthermore, MFCs are economical and do not require technical expertise to construct, maintain or repair. This project could revolutionize the way energy and light is provided to remote regions of the world, and promotes environmental sustainability.

This general conservation energy grant is sponsored by Reeve Lindbergh.



Dr. Andrés González
Laboratory of
Chemical Ecology,
Montevideo, Uruguay
“Reducing Pesticide use in South American Soybean Production with Pheromone-Baited Monitoring Traps”

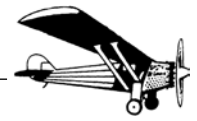
Soybeans are a fundamental source of protein and vegetable oil. Soybean production in southern South America has increased dramatically and consequently, so has the use of insecticides. In Uruguay, the planted area expanded from 12,000 hectares in 2000 to 270,000 in 2005, causing a 10-fold increase in the use of toxic insecticides. Of particular concern for soybean crops is the tortricid moth, *Epinotia aporema*. Since there are no monitoring tools available for estimating the density of these moths, insecticides are used preventatively, causing not only a decline in the population of natural enemies, but also increasing water and soil contamination.

Dr. González plans to develop a monitoring trap for *E. aporema* males, and study the attractiveness of soybean odors toward females, in search of a monitoring trap for them as well. He will use gas chromatography, mass spectrometry, and electrophysiological methods to identify the female sex pheromone, which attracts

males, and the chemical attractants emitted by plants, which attract females. He will then field test synthetic blends of these chemical compounds to help determine the number of moths in an area, so that farmers can use insecticides only

when necessary. It is expected that if the monitoring traps are proven effective, there could be a reduction in the amount of pesticides used by up to 50%.





Dr. William Knecht
Maneuver Space
Technologies,
Pocasset, Oklahoma

“Reducing Upper Atmospheric Fuel Burn Through Direct Routing Air Traffic Technology”

Energy use and climate change are global concerns. Aircraft exacerbate both by converting fuel to greenhouse gases in the upper atmosphere precisely where they exert disproportionately large effects on climate. Worldwide, aircraft produce over 600 million tons of CO₂ per year, with passenger traffic projected to increase by about 5% per year. The most straightforward way to save fuel and reduce emissions is to fly shortest-distance, direct routes. However, commercial aircraft follow segmented jetways, effectively adding up to 12% distance to each flight.

For this project, Dr. Knecht will test 4CAS, a 4-dimensional collision avoidance system based on aircraft heading, speed, altitude, and available maneuver time. 4CAS makes optimal maneuvers graphically prominent to the air traffic controller or pilot, despite dense air traffic. The information representation can be extended to include weather, terrain, and special-use airspace, and is compatible with either manual or automatic collision avoidance systems (auto-

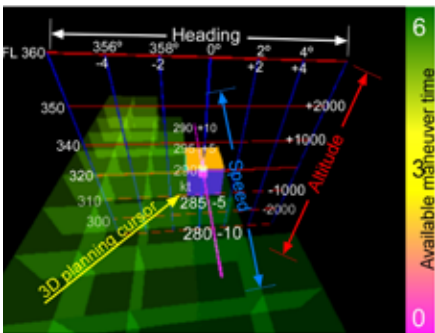


Dr. Amy Lang
University of Alabama,
Tuscaloosa, Alabama

“Reducing the Drag Over Aircraft by Mimicking the Surface Geometry of Bristled Shark Skin Scales”

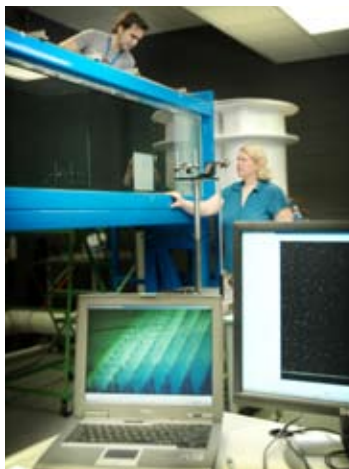
The issue of reducing drag over solid surfaces in high velocity flows is one that has kept researchers working for years. It is estimated that even a 1% reduction in drag can save an airline company \$100,000 to \$200,000 and at least 25,000 gallons of fuel per year per aircraft. Worldwide, this 1% reduction could translate to fuel savings of more than \$1 billion per year. The resulting reduction in emissions into our air is equally as impressive.

With her Lindbergh Grant, Dr. Lang will determine whether the surface texture on the skin of fast-swimming sharks, potentially capable of bristling their scales when in pursuit of prey, could be mimicked and used to reduce the drag on aircraft. She will perform water tunnel experiments to measure the flow over and within a bristled shark skin model (2 cm size scales) which achieves similarity with real shark skin (0.2 mm size scales) by a corresponding scale down in velocity of the experiments. She will also obtain drag measurements over a shark skin model in a Couette flow facility containing high viscosity oil.



CAS). The goal of this project is to change the way maneuver information is represented to enable safe, efficient, easy, and rapid aircraft maneuvers during direct routing. Reducing aviation fuel consumption, flight duration, and engine operation time benefits not only the global environment, but passengers and airlines as well.

This Lindbergh Grant in aviation is sponsored by Richard and Susan Kane.



Her objective is to reveal the boundary layer control mechanisms of the bristled shark skin to deduce the means by which sharks minimize their drag. Dr. Lang’s project has the potential to reduce aircraft drag by 30%, once the technology is refined and implemented, greatly reducing the nation’s dependency on fossil fuels, reducing carbon dioxide emissions into the atmosphere, and costs.

This Lindbergh Grant in aviation is sponsored by Jeppesen Sanderson, Inc.

Grant Recipients, continued on page 10



Kimberly Ritchie Ph.D. and Dr. Max Teplitski
Mote Marine Laboratory,
Sarasota, Florida

“Harnessing Beneficial Bacteria for Coral Reef Health”

According to the U.N. Atlas of the Oceans, coral reefs support the economies of at least 100 countries, providing food to more than one million people. In Florida alone, reefs contribute \$1.9 billion to local economies every year, and provide employment for 39,000 people. Coral reefs also provide habitat for marine life and are sources of novel medicines as they protect millions of miles of coastlines around the world. Two major factors causing coral stress are rising water temperatures and decreasing water quality. Stressed corals become susceptible to infection by common environmental bacteria. Despite the known value of our coral reefs, there are no logistically feasible ways to protect coral reefs from disease.

Dr. Kimberly Ritchie and Dr. Max Teplitski plan to use In Vivo Expression Technology to conduct the first effort to systematically characterize the mechanisms that are required for successful interactions between corals and their beneficial bacteria. In addition, they will chemically characterize at least one compound with the ability to attack pathogenic bacteria, but spare the coral. This project will help identify how beneficial bacteria colonize the coral and prevent pathogens from attacking the reef. Using the



coral reef’s own beneficial bacteria, Drs. Ritchie and Teplitski plan to “vaccinate” the corals against disease by identifying the chemical interaction between the two. An added benefit to this work is that compounds from the beneficial bacteria could have the potential to treat human diseases as well as for topical antibiotics or surface disinfectants for commercial use.

This animal conservation grant is sponsored by Clare Hallward.

This animal conservation grant is sponsored by Clare Hallward.



Dr. James Smith
University of Virginia,
Charlottesville,
Virginia

“Purifying Drinking Water in Guatemala with Ceramic Filters made from Local Materials”

The adverse impact of waterborne disease on human health in developing countries is significant. Considering the limited resources of these countries, delivering safe, potable water to the world’s most impoverished communities is no small undertaking. Potters for Peace has developed a clay filtration device that has been used in several countries since 1998, however, no studies have been conducted to determine how the filter design directly affects the removal of pathogens and turbidity. Furthermore, little is known about leaching of the colloidal silver into the treated drinking water and whether there are associated human health impacts.

In this project, Dr. Smith plans to systematically evaluate the design and performance of the Potters for Peace ceramic filters in the lab and in San Mateo Ixtatan, Guatemala, where diarrhea-induced dehydration caused by waterborne pathogens is the second largest human-health problem. Dr. Smith will also manufacture whole filters and evaluate each filter’s performance for removing bacteria and turbidity from natural water samples. Finally, in collaboration with the Ixtatan Foundation, Dr. Smith will work to establish a filter factory in San Mateo Ixtatan. In this community, 50 households



using ceramic filters will be compared to the water quality in a group without filters to quantify improvements in water quality. Residents also will be surveyed about their water usage and social acceptance of the filter. Information from this study will help governments and agencies solve water quality and human health problems in developing countries. It will also expedite design improvements for the Potters for

Peace filters and other ceramic filtration systems, which can then be used elsewhere around the world.



Dr. Peter H. Wrege
Cornell Lab of
Ornithology
Ithaca, New York

“Using Acoustics to Monitor Poaching and Elephant Abundance at Forest Clearings in Central Africa”

Wildlife managers are continually challenged by the need to estimate the population size of species in their care and to monitor habitat use within protected areas. Elephants and other large mammals are especially difficult to monitor because they range over broad geographic landscapes and often avoid areas of human activity. Forest elephants in Central Africa are particularly difficult to monitor because of the dense forest cover. Yet poachers, lured by the lucrative illegal and legal market for ivory and bushmeat, increasingly target these populations. Recently, dung pile counts, GPS collared elephants, and mark-recapture DNA techniques have been used to estimate the size of forest elephant populations, but all are labor intensive, invasive, and not fully effective.

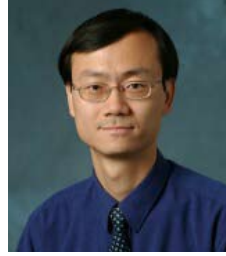
Dr. Wrege plans to use acoustic monitoring to estimate and compare elephant densities at forest clearings, determine the daily and seasonal pattern of use, and investigate whether there is a relationship between gunshot activity and elephant activity at forest clearings. Acoustic monitoring is particularly appropriate for this study because elephants are highly vocal creatures and the monitors can pick up their low frequency vocalizations from long distances.



Acoustic recorders can provide continuous monitoring of elephant activity and can capture gunshot sounds, which could help eco-guards locate poaching activity. During the study, Dr.

Wrege will field test a new model of autonomous recording unit; quantify transmission loss of gunshot sounds in African forests; and develop software for automatic detection of gunshots and elephant calls. The results of this study will help focus conservation efforts in targeted areas of Gabon, Central Africa, and will develop protocols for monitoring forest elephant populations and poaching activity.

The Cherbec Advancement Foundation sponsored this animal conservation grant.



Dr. John Zhai
University of Colorado
at Boulder, Boulder,
Colorado

“Applying Ancient Building Technologies to Design Energy Efficient Buildings”

Buildings account for 45% of worldwide energy use, 80% of potable water use, and 50% of the timber harvest in North America. They also account for about 40% of municipal solid waste and 30% of greenhouse gas emissions, which contribute to global warming and acid rain. Growing concern over the financial cost and environmental impacts of modern energy use has led government administrators, building designers, developers, and owners to re-examine the use of various ancient passive building designs, which could reduce building operation energy costs by an estimated 50%.

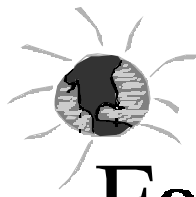
Dr. Zhai will conduct a qualitative study of traditional passive building characteristics and technologies in various climates around the world. He will then use computer modeling to quantify the potential energy savings for each building technology in each of the climate areas. The results will be compared with the calculated energy usage for reference buildings that are designed and built according to today’s standards and codes. Finally, he will develop an intelligent computerized conceptual building design tool focused on passive building technologies. The easy-to-use on-line program will provide interactive and real-time consultation and recommendations on appropriate building design strategies, materials, technologies,



and methods based on climate and site analysis and energy optimization results. It is hoped that with continuous development this online design and education resource could become one of the leading passive building design and management resources to promote sustainable building practices.

The methodology developed by this project will also help create a comprehensive body of knowledge about traditional architecture that can be leveraged by architects and engineers at the beginning of the building design process so energy-saving traditional technologies can be integrated into new construction and cultural traditions can be preserved.

Peter Diamandis sponsored this energy conservation grant.



Earth Shine Institute

A Supporting Organization of The Charles A. and Anne Morrow Lindbergh Foundation

Message from the President

*“Listen! The wind is rising, and the air is wild with leaves.
We have had our summer evenings, now for October eves.”*

So begins Humbert Wolfe’s *Autumn Resignation* from which Anne Morrow Lindbergh took the title of her second book, *Listen! The Wind* and quotes so elegantly in the 27th chapter that the poem’s images and rhythms seem to infuse the entire work. Whenever I read these lines, and think about my own autumns, the season seems to be not “wild with leaves,” but wild with “to do” lists that carry with them a particularly stressful seasonal anxiety, invoking the coming of winter.

Will the small fragment of western civilization that I am personally in charge of completely collapse if I take the time to look back on my year and savor a sense of accomplishment, of growth, of learning? To reach the kind of thoughtful contentment that the integration of experience into being brings? Whatever happened to the “season of mellow fruitfulness” and “harvest home,” I want to ask?

In *Gift from the Sea*, Anne Morrow Lindbergh so perceptively writes, *“For life today in America is based on the premise of ever widening circles of contact and communication. It involves not only family demands, but community demands, national demands, international demands on the good citizen, through social and cultural pressures, through newspapers, magazines, radio programs, political drives, charitable appeals, and so on.”* To return to the language of Wolfe’s poem, today we are encouraged to keep our ships of being “close-hauled on the edge of the wind” at all times. Anything else, we are made to feel, is “resignation,” giving up, or letting go. Somehow or other, we are made to believe that we are letting the team of “Western Civilization” down, and not doing our bit.

If there is no harvest and no harbor, no arrival and no reflection, how can we appreciate the journey? How can we learn from experience? How can we not be destined to continually repeat our mistakes? The Lindberghs’ philosophy of “Balance” recognizes the importance of an “autumn phase” in any endeavor. As Anne Morrow Lindbergh reminds us in the “Preface” of *North to the Orient*, our life experiences through these moments of reflection become not only “more vivid” but also their important “essential core” is revealed.

Filed



Thelma Ham Dahlberg admires her “Anne Morrow Lindbergh” rose this fall on her farm in Franklin Grove, Illinois.

Thelma Dahlberg received her “Anne Morrow Lindbergh” rose to celebrate her 97th birthday this July. A great admirer of Charles and Anne Lindbergh, she remembers vividly standing, looking at the sky in 1927, and thinking, “There goes our prairie boy, winging his way across the Atlantic to Paris.” Being an almost exact contemporary of Anne Morrow Lindbergh (she and Anne Morrow Lindbergh both graduated from their colleges in 1928), Thelma treasured reading all of Anne’s books and articles from the first in NATIONAL GEOGRAPHIC magazine and throughout all the years that Anne Morrow Lindbergh works continued to be published. Thelma still makes an excellent grape pie from grapes picked from her own garden. Many thanks to Saran Morgan Hutchins for

her assistance on this piece.

Each year a very few plants of the rare “Anne Morrow Lindbergh” Rose are available for purchase. If you are interested in putting your name on the waiting list for this true collector’s rose, please contact Peach Sonne at csadmin@earthshineinstitute.com or at 239-694-7286. Proceeds support the Earth Shine Institute.

On the Horizon ...

Special Tour and Talk with Judy Schiff

Saturday, October 20, 11:00 AM



Yale Sterling Library, Manuscripts and Archives Division, New Haven, CT commemorating the 80th anniversary of Charles Lindbergh’s New York-to-Paris flight. Space is extremely limited for this very special glimpse from Yale’s extensive collection of Lindbergh Papers. There will be a lunch following the tour at The Graduate Club. **SOLD OUT**

2007 Lindbergh Symposium

Charles Lindbergh: Flight and After Flight

Friday, November 16 and Saturday, November 17, The Army and Navy Club, Washington, D.C. For information or to reserve tickets, contact Peach Sonne at 239-694-7286 or Symposium@earthshineinstitute.com

Dr. Theodore Malinin Joins the Speaker Roster for the 2007 Lindbergh Symposium

Margaret Eiluned Morgan and Dr. Richard Hallion, co-chairs of the 2007 Lindbergh Symposium, “Charles Lindbergh: Flight and After Flight” announced the addition of **Dr. Theodore I. Malinin** to the speaker roster for this year’s Symposium commemorating the 80th anniversary of Charles Lindbergh’s historic solo New York-to-Paris flight. Dr. Malinin will be presenting on the collaboration of Nobel Laureate, Dr. Alexis Carrel and Charles Lindbergh and their contributions to medical research, as well as Dr. Malinin’s own work with Charles Lindbergh in the field. Margaret Eiluned Morgan remarked, “This is an important area of my uncle’s life and accomplishments that we have never had a chance to explore at the Symposium. We are very fortunate to have someone as eminent and knowledgeable about this period as Dr. Malinin presenting at our symposium.”

Confirmed speakers for the Friday, November 16 session of the 2007 Symposium include: **Tom Crouch**, senior curator of aeronautics at the Smithsonian National Air and Space Museum; **Sergei Sikorsky** on his father, Igor Sikorsky’s collaboration and life-long friendship with Charles Lindbergh, **Erik Berg** on the current archeological work and current environmental research using the Lindbergh’s 1930’s survey of the American Southwest (see accompanying article), and **Dr. Richard Hallion** on Charles Lindbergh’s contributions to US and Allied intelligence. **Michael Collins** will be the final speaker.

Returning for the second day of panel discussions on Saturday, November 17, will be Dr. Malinin, Sergei Sikorsky, Erik Berg, and Dr. Hallion. Joining them will be: **Judy Schiff**, chief archivist of the Lindbergh Papers at Yale University; **Robert Arnold**, grandson of General Hap Arnold and also Donald Douglas, aircraft designer and manufacturer; **Steve Harnsberger**, whose grandfather worked with the Lindberghs on the China Flood Relief program in the 1930’s; and **John Nance**, reporter, author and photographer, who accompanied Charles Lindbergh on his

many environmental and conservation trips to the Philippines, will be participating.

The cost per person for the 9:00 AM to 4:00 PM Friday session is \$175.00, which includes lunch. The cost for the 10:00 AM – 1:00 PM Saturday Session Brunch is \$50.00. All sessions take place at The Army and Navy Club in Washington, D.C. Sponsorship opportunities and patron tickets are available. Please contact Peach Sonne at 239-694-7286 or symposium@earthshineinstitute.com for ticket reservations and information.



Robert and Kathy Arnold, John Nance, and Sally Crane enjoy Chandelle Winery’s Limited Edition “Lindbergh Label” wines at the 2007 National Aviation Hall of Fame Gala.

To celebrate the 80th anniversary of Charles Lindbergh’s New York-to-Paris Flight, Chandelle Winery is offering a special limited edition labeled wine. Chandelle wines will be featured at the reception on November 15th at The Army Navy Club as part of the 2007 Lindbergh Symposium. A portion of the sales of this special edition wine will support The Lindbergh Foundation and the Earth Shine Institute’s programs. To order, call toll-free 1-800-544-8890 or visit www.chandellewinery.com.



Left: Eric Hopkin’s Gallery, 21 Winter Street, in Rockland Maine, August 23, 2007. Noted artist and former President of Earth Shine Institute, Eric Hopkins hosted an opening reception for his show “Landscapes of Engagement” featuring Charles and Anne Morrow Lindbergh’s aerial photographs of Penobscot Bay. Photograph courtesy of Eric Hopkins Gallery and Soo Chin Cho.

Do you go somewhere you enjoy in the winter? Would you like to attend Earth Shine Institute events while you are there? We host events in Southwest Florida and Tucson, AZ. Please be sure we have your winter address if you would like to hear about these events. Peach Sonne would be delighted to hear from you at 239-694-7286 or esadmin@earthshineinstitute.com.

Charles Lindbergh: Aerial Archaeologist

By Erik Berg

One of the great adventures in archaeology began when Charles and Anne Lindbergh met Dr. Alfred Kidder in the summer of 1929. One of the nation's top archaeologists, Kidder was investigating the ancient Ancestral Puebloan (Anasazi) culture whose ruined cities, fine pottery and extensive roads dotted the southwest like the scattered pieces of a giant puzzle. Knowing that a pilot's view might prove useful, the Lindberghs volunteered their help. A grateful Kidder soon launched them on a flying quest across the far reaches of the region with a mission to photograph known ruins, locate new ones, and study unusual land features.



Left: Chaco Canyon, irrigated area. Pueblo del Arroyo, Pueblo Bonito, and Chetro Ketl, July 1929. Photograph by Charles Lindbergh, Courtesy Palace of the Governors (MNM/DCA), Negative No. 130206.

Right: The same view, rephotographed by Adriel Heisey on February 5, 2006. Copyright Adriel Heisey.

From Kidder's field camp near Santa Fe, the young newlyweds soared over the massive ruins of Chaco Canyon, viewed the inhabited pueblos of the Rio Grande, traced the Colorado River through the Grand Canyon and even landed on the rim of remote Canyon de Chelly to explore a hidden cliff dwelling. As Anne guided their bi-plane, Charles would lean from the cockpit to snap pictures of the features below. In all, they took nearly two hundred photographs documenting dozens of important historic, prehistoric and geological sites.

To reach, explore and photograph each of these locations from the ground would have required a small army of scientists working for many months. The Lindberghs did it in seven days. It was the first comprehensive aerial survey of the prehistoric southwest and the results would be reviewed and studied by researchers for years to come. For all his life Charles Lindbergh was widely known as an aviator, but far fewer people know that he was also once an archaeologist with wings.

The Lindbergh Southwest Images Today

Eighty years later, the significance of the Lindbergh images has only grown. Not only do they still provide a valuable insight into the region's prehistoric past, but they also offer a fascinating perspective into our own era. The decades following the Lindbergh survey were ones of tremendous cultural, ecological and geographical transformation in the southwest. Changing climates and conservation programs would alter ecosystems, automobile roads and new construction would pierce even the most remote corners and long unexcavated mounds and ruins would transform into popular parks and monuments.

Because they cover such a wide area, the Lindbergh images provide a comprehensive snapshot of a still untamed southwest and a yardstick for the impact of the twentieth century. The



changes they can reveal are as dramatic as the rockslide that destroyed the back wall of Pueblo Bonito, as broad as regional shifts in vegetation patterns or as subtle as minor alterations to ancient walls and rooms due to reconstruction, excavations or the forces of time and nature. Today the photographs are important historic documents themselves forming a bridge between the ancient past and the living present.

To help unlock the secrets of the Lindbergh images, the Center for Desert Archaeology and the Museum of New Mexico are teaming up with noted aerial photographer Adriel Heisey to carefully rephotograph and interpret a selection of the original images. A traveling exhibit will display the old and new photographs side by side, describing the Lindbergh survey and providing the public with a unique two-paned window into the ever-changing southwest and the different peoples that have called it home from prehistoric times to the present.

For more information on the project, see the Center for Desert Archaeology website at: www.cdarc.org.

Erik Berg is a prize-winning historian who has a special interest in aviation history of the U.S. Southwest. He will be presenting his research on the Lindbergh's 1929 photographic survey at the 2007 Lindbergh Symposium, November 16 in Washington, D. C. (See article in this newsletter for more information regarding program and ticket reservations.) Linda Pierce of the Center for Desert Archeology assisted Erik Berg in collecting the material and images for these articles.

Earth Shine Institute Officers

Honorary Chairman and Acting President

Margaret Eiluned Morgan

Vice President

Constance Morrow Pendleton

Secretary/Treasurer

Steven R. Whitley

Executive Director

Mary Hendry Sonne

Argonauta Scholar Secretary General

Jared Reigle

2075 West First Street, Suite 300, Fort Myers, FL 33901
Phone: (239) 334-2154 ext. 2119 • Fax: (239) 334-7009

e-mail: esinfo@earthshineinstitute.com

www.earthshineinstitute.com

A Supporting Organization of The Lindbergh Foundation



Honor Roll: August 1 - October 17, 2007

UNRESTRICTED

Cherbec Advancement Foundation, St. Paul, MN
C. Paul Cox Family Fund of the Mid-Shore Community Foundation, Easton, MD
Mr. and Mrs. Philip Nehl, Circle Pines, MN
Mr. Dick Smith, Terrey Hills, Australia

GRANTS

Lindbergh School District and Community, St. Louis, MO

ASSOCIATES 1000

Mr. and Mrs. Pat Epps, Atlanta, GA
Mr. and Mrs. Thomas Hamman, Bellevue, WA
Mr. Peter Lawson-Johnston, New York, NY

SPONSORING ASSOCIATES

Robert and Julie Davey, Duarte, CA
Mr. and Mrs. William R. Orthwein, Jr., St. Louis, MO

SUSTAINING ASSOCIATES

Ms. Christa Armstrong, New York, NY
Mr. and Mrs. Warren C. Brown, Sr., Deer Park, NY

Mr. and Mrs. Leonard F. Burke, Newport Beach, CA
Mr. Richard W. Carter, Fairfield, CA
Mr. and Mrs. Kenneth Gillpatrick, Oelwin, IA
Rev. John Gowdy, Portsmouth, OH
Mr. John R. Higgs, McAllen, TX
Troy Hoehne, Bellevue, WA
Mr. and Mrs. Newell S. Knight, Jr., St. Louis, MO
Mr. Richard H. Korn, Greenport, NY
Mr. and Mrs. Donald S. Lopez, Alexandria, VA
Dr. and Mrs. Havner H. Parish, Jr., Pinhurst, NC
Mr. Dave Vandegrift, Saint Paul, MN
Mr. Lester G. Weaver, Greenville, SC

FAMILY ASSOCIATES

Mr. and Mrs. Robert Dempster, Seattle, WA
Mr. and Mrs. Douglas Lake, Stillwater, MN
Col. and Mrs. Kenneth and Willetta Wofford, Golden Valley, MN
Maj. James A. Winker, Sioux Falls, SD

INDIVIDUAL ASSOCIATES

Mr. and Mrs. Ralph M. Anglea, Northridge, CA
Mr. Douglas M. Bielanski, Thousand Oaks, CA
Dr. Richard Bing, La Canada, CA
Mr. Arnold Bornhoft, Northfield, MN
Mr. Carl Conley, Fort Myers Beach, FL
Mrs. Robley Greilick, Fort Myers, FL
Mr. Brian P. Hanson, Austin, TX
Ms. Josephine A. Hausam, Poughkeepsie, NY
Dr. Larry Friesen, League City, TX
Capt. Mike LaVelle, Salt Lake City, UT
Mr. and Mrs. Kevin Peterson, Salina, KS
Ms. Gloria L. Santucci, Marcy, NY
Mr. C. Bart Whitehouse, Greenwood Village, CO

ASSOCIATES

Mr. Don M. Byrd, Lakeview, OR
Dr. Nathaniel Tarn, Tesuque, NM

NEW ASSOCIATES

Leigh Davidson Finney, Naples, FL

MEMORIAL GIFTS

Mr. A. Richard Boera, Lyndonville, VT
In memory of Anne Morrow Lindbergh

HONOR GIFTS

Rick and Connie Apple, Orono, MN
In honor of the marriage of Greg Herrick and Suzanne Fedoruk
Mr. and Mrs. Greg Burgardt, Little Falls, MN
In honor of Robert and Mary Beth LeMieur

Remember

All donations are currently being matched.

Now is a great time to support the Lindbergh Foundation with your tax-deductible contribution.

New Premium Offer for Sponsoring Associates



In honor of the 80th anniversary of Charles Lindbergh's historic New York-to-Paris flight, the Foundation is pleased to offer this signed and numbered, limited edition lithograph created by Charles Kapsner, Master Painter, from Lindbergh's boyhood hometown of Little Falls, Minn.

Current Associates Gifts

Individual/Family Associate

\$35/\$55

Gift: Lindbergh Grant Projects Around the World.

Cards feature field photos from Lindbergh Grant projects that have touched the far reaches of the world.



Sustaining Associate

\$100

New Gift: 2007 Lindbergh Award Celebration DVD. "Perspectives on the Earth - from Home, Above & Beyond." Available for a limited time only.

Partnering Associate

\$250

New Gift: The Last Man on the Moon. Hard cover book autographed by Capt. Eugene Cernan at the 2007 Lindbergh Award Celebration.

Sponsoring Associate

\$500

New Gift: The Flight. Limited edition lithographs numbered and signed by Master Painter Charles Kapsner.

Associate 1000

\$1,000

New Gift: Doolittle Lúho. 19"x29" lithograph of Gen. Jimmy Doolittle sketched by artist Paul Calle. A very limited supply is available.

Patron Associate

\$2,500

New Gift: 80th anniversary 1" bronze lapel pin in limited quantity minted by Medallie Art Company. Based on the sculpted bas-relief of the Spirit of St. Louis by Don Wiegand.

Life Associate

\$5,000

Gift: Lindbergh flights map in color, matted and framed.

Announcing ...



The Lindbergh Foundation is accepting nominations for its Lindbergh Award until December 15, 2007. If you know of someone who is deserving of the Foundation's Lindbergh Award, which recognizes individuals for their significant achievements toward balancing technology and the environment through their work, please visit our web site at www.lindberghfoundation.org, and click on "Events and Awards" to review the guidelines and download a Nomination Form.

Awardee Update

Dr. J. Michael Fay, National Geographic Society Explorer in Residence and Wildlife Conservation Society Conservationist, has already embarked upon his Redwood Transect, which he announced at the 2007 Lindbergh Award Celebration. The trek began in early September, at the southern-most coastal stand of redwood trees, located at Salmon Creek, which is just north of San Simeon on the Central California Coast.

As we learn more about this exciting adventure, we will pass the information on to you.

Contributions to the Foundation are Tax-Deductible

The new Matching Gift program makes this an even better time to make a contribution to the Lindbergh Foundation. As a 501(c)(3) organization, your contributions are tax-deductible. There are many ways to give. You may send a check to the Foundation office, make a contribution on-line through our secure web site, or you may donate shares of stock. Remember, there are no capital gains taxes on gifts of stock. Please contact the Foundation office if you would like information about including the Lindbergh Foundation in your will.

LINDBERGH FOUNDATION

Officers

Honorary Chairman
Reeve Lindbergh

Chairman of the Board
John King
Co-Chairman
King Schools, Inc.

President and Chief Executive Officer
Knox Bridges

Vice Chairman
David E. Treinis
Advisory Committee X Prize

Vice Chairman
Clare Hallward

Secretary
Martha King
Co-Chairman
King Schools, Inc.

Treasurer
Daniel E. Stolz
Chief Financial Officer
Twin City Co-Ops Federal Credit Union

Governing Board of Directors

Daniel Bennett
President
The Explorers Club
Linden Blue
Chairman
Spectrum Aeronautical, LLC

Shawn A. Dorsch
President and Co-Founder
Blackbird Holdings, Inc.

Greg Herrick
Publisher
AircraftOwner Magazine

Kristina Lindbergh
Writer

Lars Lindbergh

Gregg Maryniak
Director
J.S. McDonnell Planetarium
Miles O'Brien
CNN

John L. Petersen
President and Founder
The Arlington Institute

Judith A. Schiff
Chief Research Archivist
Yale University Library

Steven R. Whitley
Wiltshire, Whitley, Richardson & English, P.A.

Larry Williams
Chief Executive Officer
Ballistic Recovery Systems, Inc.

Honorary Board of Directors

Joseph D. Anding
International Airline Captain (Ret.)

Carrie W. Farmer
Executive Director
Open Minds, Inc.

Richard W. Foss
Executive Vice President
Gables Capital Management, Inc.

Joseph S. Micallef
President of Trustees and
Chief Executive Officer
Great Northern Iron Ore Properties
Wendy R. Lindbergh
Artist

Directors Emeriti

C. Edward Acker
Robert O. Anderson
Kasse Andrews-Weller
Dr. Robert B. Arnot
Orin E. Atkins
Gen. Robert D. Beckel
Gregory E. Bradbury
Gene Bratsch
John C.D. Bruno
Dr. Charles F. Brush
Hugh Downs
Robert Dragotta
Robin Chandler Duke
Dr. Sylvia A. Earle

Albert Fried, Jr.
George L. Gildred
Dr. Richard D. Gilson
Elaine Harrison
Charles G. Houghton, III
Dorothy C. Jenkins
Betty C. Jukes
Charles J. Kelly, Jr.
Peter Lawson-Johnston
Peter Lawson-Johnston, II
Dr. John M. Levinson
Dr. John H. Lorent
Capt. James A. Lovell, Jr.

Capt. Alfred S. McLaren
Dr. Edgar D. Mitchell
William A. Nitze
Robert Pearlman
William K. Reilly
Faanya Rose
Debra S. Sears
Bradford D. Smith
Barbara Kauffman Stokes
Dr. Nicholas Sullivan
Thomas Turner
Don Walsh
Richard C. Wiese

Staff & Office

Diane Lindberg, Office Assistant
Shelley Nehl, Staff Accountant/Grants Program Administrator
Kelley A. Welf, Communications Manager/Award Program Administrator
& Newsletter Editor

2150 Third Avenue North, Suite 310
Anoka, MN 55303-2200
Phone: (763) 576-1596; Fax: (763) 576-1664
e-mail: info@lindberghfoundation.org
www.lindberghfoundation.org