ROSENSTIEL CORAL CONSERVATIONIST HONORED AMONG 2008 PEW FELLOWSHIP WINNERS

Coral reef scientist, and Rosenstiel assistant professor Dr. Andrew C. Baker has been awarded the prestigious 2008 Pew Fellowship in Marine Conservation to help protect reef corals from climate change. Baker, an assistant professor at the UM Rosenstiel School, plans to develop groundbreaking techniques to enhance the thermal tolerance of corals and help them survive dangerously warming oceans around the world.

A native of the United Kingdom, Baker is among five people who have received this highly competitive three-year fellowship in support of his critical marine conservation initiatives. The Pew Institute for Ocean Science administers the awards. In addition to Baker, the 2008 Pew Fellows included winners based in China, France, Australia and Canada.

Baker’s initial discovery that reef corals may be able to withstand climate change by switching algal partners was published in the journal *Nature* and (Continued on page 2)
hailed by Discover Magazine as one of the “Top 100 Science Stories of 2001.” His follow-up work on corals’ response to climate change has been underway for almost nine years. His collection of more than 12,000 samples of coral tissue, from over 20 countries on four continents, is maintained under long-term cryopreservation at the University at temperatures of -176°F (-80°C). In the lab, Dr. Baker and his team of graduate student researchers run experiments on live corals, and extract and purify DNA from corals and their algae, in a quest to pinpoint the specific genetic and physiological factors that enable certain corals more bleaching-resistant.

Baker’s research focuses on these algal partners, which genetic studies have shown to be very diverse. He has shown that many important coral species are flexible in the types of algae they host, and that some of these algae are more heat tolerant than others. Corals with the heat tolerant types of algae are more resistant to bleaching caused by rising temperatures.

Since the early 1990s, the Pew Fellowship in Marine Conservation has been awarded to more than 100 leading marine scientists, economists, attorneys, and other ocean conservationists from 29 countries. The $150,000 fellowship program supports innovative projects led by mid-career, emerging leaders in ocean conservation and is designed to develop and implement solutions to critical challenges in the marine realm. The four other 2008 Pew Fellows in Marine Conservation will pursue the following projects:

**Safeguarding Antarctic krill populations that endangered whales rely upon as food:**
Dr. Andrew Constable is a native of Australia and a leader in the Antarctic Marine Ecosystems Program of the Australian Antarctic Division. Constable will use his fellowship to create nimble fishery management models that will prevent Antarctic krill fisheries from being unsustainably exploited and thereby protect whales, penguins, and other marine animals that rely on krill as food. His models will incorporate many ever-fluctuating conditions—including water temperature, krill abundance, and whales’ seasonal breeding success—so that krill fishery restrictions can be tightened or loosened accordingly. Constable will work with Antarctic authorities to implement this progressive “ecosystem-based management” model for krill, shrimp-like animals that are increasingly sought for use in fish-food, pharmaceutical applications, and human consumption.

**Protecting China’s threatened marine environments:**
Mr. Fan Meng is general manager of the Guangdong Provincial Oceanic and Fishery Administration in China, where significant coastal damage has accompanied economic development in recent years and political and public support for serious marine conservation has been slow to develop. The first Pew Fellow in Marine Conservation from China, Meng will improve the effectiveness of the region’s Marine Protected Area (MPA) network by organizing professional training for staff of 35 existing MPAs, and by designing and implementing an additional 15 to 20 MPAs to expand the network. Meng will also establish an information center and launch publicity campaigns on marine conservation issues. Guangdong Province borders the South China Sea and is home to 80 million people. It has 2,100 miles of winding coastline, the longest stretch in the country.

**Documenting the economics of unsustainable fishing globally:**
Dr. Ussif Rashid Sumaila is an associate professor at the University of British Columbia Fisheries Center in Vancouver, Canada. Sumaila will create comprehensive databases detailing the global cost and ecological impacts of commercial fishing around the world. This information will form the basis for sophisticated studies and models that he will develop to document the massive fiscal and environmental waste being caused by poor management of global ocean resources. His work will provide concrete arguments for smarter policymaking concerning fisheries management worldwide. Sumaila’s prior work has shown that taxpayers worldwide are paying massive subsidies to support overfishing and has drawn international attention from the media and policymakers.

**Determining the least harmful commercial fishing strategies and encouraging their widespread adoption:**
Dr. Marie-Joelle Rochet is a research scientist at The French Research Institute for Exploitation of the Sea, and the first Pew Fellow in Marine Conservation from France. Through her fellowship project, Rochet will work to determine which of two approaches to commercial fishing least impacts the ecosystem – selectively capturing one or more species, or fishing more broadly and discarding unwanted “bycatch” fish. The global objective to reduce wasteful bycatch has encouraged commercial fishermen to fish selectively, yet this approach may be causing significant ecosystem damage by removing a member of the food web in disproportionate numbers.
Rochet will use her findings to advise international fisheries officials to focus on developing selective fishing gears and methods, or on identifying improved uses for bycatch.

The overall mission of the Pew Institute for Ocean Science (PIOS) is to advance ocean conservation through science. Established by a generous multi-year grant from the Pew Charitable Trusts, PIOS is a major program of the Rosenstiel School and has offices both in Miami and New York.

Treasures of the Abyss: A Cruise Opportunity

his work on the Little Salt Spring prehistoric submerged site, he worked on developing advanced underwater videogrammetry techniques for the rapid and accurate mapping of shipwrecks sites, testing the new methods on sites in Florida such as the early 20th century yacht Germania, off Key Biscayne.

Explorer of the Seas is not only a top-rated cruise ship, it also serves as a floating platform for scientists to study the ocean and atmosphere. The ship sails from Port Liberty, New Jersey, with stops at Bermuda, St. Maarten, St. Thomas and San Juan, Puerto Rico. Fares start at $1,409 per person double occupancy, plus air to New Jersey, taxes, fuel surcharge and shore excursions. Prices are subject to change, and space is limited. The deadline for reservations is April 14. For more information, contact Doug Ray, Assistant Dean of the Rosenstiel School, at clovinsky@rsmas.miami.edu, or call 305-421-4061.

2007 Bonefish Census Shows Steady Stock Counts

Results are in from the fifth annual Bonefish Population Census in the Florida Keys, and thought the bonefish population has remained fairly steady from 2006 to 2007, the number of volunteers participating in the annual event continues to grow. According to Jerry Ault, Ph.D., University of Miami Rosenstiel School of Marine and Atmospheric Science Professor of Marine Biology and Fisheries, that's exactly the type of fish stock numbers and community involvement he'd like to see.

“A slight variation, up or down, in the numbers isn’t bad. In fact it shows that the research methods employed are working and that the resource appears to be sustainable. This year’s study showed a slight decrease in the numbers of bonefish caught and released during the survey, as well as in the relative density of the bonefish population in the Keys, but this change is relatively stable,” said Ault.

Seventy-two teams joined the effort this year, spread out across 19 zones in four regions (Biscayne, Upper, Middle, and Lower Keys) from Key Biscayne to the Marquesas. Gary Ellis and guides who fished in the Mercury Cheeca Redbone Tournament out of Islamorada, Fla. Helped to significantly enhance team participation. During the survey held in late October 2007, bonefish sightings were recorded and reported directly to Ault’s team at the Rosenstiel School. The 2006 census indicated a fishable population over 382,000, while this year’s findings point to a very slight decrease in that number estimated at 364,000 bonefish throughout the Florida Keys. The bonefish being calculated are those large enough (i.e. > 14 inches) to be targeted on the flats for catch and release sport fishing.

Ault and his team feel that the purpose of the census is becoming even clearer to fishing guides, enthusiasts and environmentalists alike that understanding more about the bonefish population helps, not only the environment and the sport of fishing, but also the state economy in Florida.

Coordinated by Bonefish & Tarpon Unlimited (BTU) and the Bonefish and Tarpon Conservation Research Center at the Rosenstiel School, the census aims to document population trends of one of South Florida’s most important sport fish. Professional guides from the Florida Keys Fishing Guides Association, the Lower Keys Fishing Guides Association, and the Key Largo Fishing Guides Association provided the census with boats and manpower.

http://www.rsmas.miami.edu
RSMAS HOSTS ENVIRONMENTAL ETHICS CONSORTIUM

Friday, February 15, The South Florida Environmental Ethics Consortium hosted its 7th Annual meeting at the Rosenstiel School. Centered around the theme of sustainable food, this year’s conference: “Good Food: From Farm and Sea to Table in South Florida,” brought together a diverse collection of community advocates, government representatives, writers and educators all focused on creating a sustainable future for our community.

Attendees engaged in discussions on the ethical and social challenges of maintaining a balance between South Florida’s quickly growing population and the limits to its natural food resources, as they were treated to a gourmet lunch of seasonal, locally grown, organically produced, sustainable food.

Miami Herald columnist and editorial board member, Nancy Ancrum (above left), who is also a co-founder of Curated Dining and a member of ‘Slow Food’ and the American Institute of Wine and Food provided the keynote address. During the luncheon her speech

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POPULAR SCIENCE


Always on the move and surrounded by students, Millero kept his class going during this month’s power outage by hurrying his students outside and writing his lecture in chalk on the sidewalk of the Cox Science building. The students in his Chemical Oceanography lab didn’t hesitate to join in. So much for all the high tech stuff!

Photo Credit: MSC undergrad student, Alycia Rajendran.
SLOW ‘SLIP AND SLIDE’ DYNAMICS

Kim Psencik, a 4th year Ph.D. student in MGG at the Rosenstiel School, was recently awarded a prestigious MARGINS Student Prize for best paper/presentation at the American Geophysical Union (AGU) Fall 2007 Meeting. The prize was in recognition of her presentation entitled “Current Status and Future Directives of the Nicoya Peninsula Continuous GPS Network, Costa Rica, In Regard to Slip Style and Distribution.” Her research was in collaboration with her advisor Dr. Tim Dixon (UM Rosenstiel School), Susan Schwartz (University of California - Santa Cruz), and Marino Protti and Victor Gonzales (National University of Costa Rica), on processes occurring in the Cocos-Caribbean Subduction zone on the east coast of Coast Rica.

Using high precision GPS (Global Positioning System) equipment, as well as seismometers, Psencik and the team were able to study and assess Earth dynamics occurring in the Nicoya Peninsula on Costa Rica’s Pacific Coast. The scientists initially intended to assess changes in the locking patterns of the fault and better understand the physics of regional Earthquakes and energy release. But while they were there, they captured what is referred to as a ‘Slow Slip Event’, in which the same amount of energy is released as in a standard earthquake, however energy is dispersed over a matter of weeks rather than a matter of seconds. The long duration of energy release spares damage to the surface environment, and the lack of significant seismic waves (only tremors) causes the quakes to go unnoticed by humans.

The NSF’s MARGINS program promotes research strategies that redirect traditional approaches to studies of continental margins. It brings together specialists in observation, numerical and experimental simulation, and laboratory and computer analysis to develop a complete picture of the systems it targets. Geologists, geophysicists, hydrologists, geochemists, and mathematicians work together to help us understand the fundamental controls on continental margin evolution, such as deformation of the crust and mantle, the generation and transport of molten rock, chemical and material fluxes, sedimentation and fluid flow. The program is funded by the National Science Foundation, and is driven by input from, and interaction with the earth science community.

RSMAS HOSTS ENVIRONMENTAL ETHICS CONSORTIUM

(Continued from page 4)

underscored that even small acts of conservation can create long-lasting impacts. Ancrum offered up suggestions, prompts, and “what-ifs,” giving the audience the lasting impression that the way to cultivate and create new pathways in Florida’s sustainable food market is through the things many of us do already (or almost do), albeit less often than we should.

The conference was sponsored by the University of Miami Ethics Programs, Florida Atlantic University, the Miami-Dade Commission on Ethics and Public Trust and the Florida Bioethics Network. Co-sponsors for the event included: Whole Foods Market, Publix Markets, Florida International University, Johnson & Wales University, Earth Ethics Institute - Miami-Dade College, Faiths United for Sustainable Energy and St. Thomas University.

http://www.rsmas.miami.edu
ANNUAL RECRUITMENT EVENT BRINGS POTENTIAL STUDENTS TO CAMPUS

The choice of graduate school is one of the most important decisions a student can make and the annual recruitment weekend has turned into a major event showcasing the school to prospective students. Not only is this a time for the invitees to meet and interview with members of the divisional academic committees and faculty, but it is also when the entire Rosenstiel community gets a chance to show its hospitality and impress them. Based on feedback received after the event, both sides came away very impressed.

The Rosenstiel School invited 32 prospective graduate students from all over the country to visit its campus and the University of Miami. Culled from over 200 applicants so far this year, these students were targeted because of their impressive undergraduate credentials and because of their expressed research interests mesh well with those of our faculty and researchers.

The student visitors spent all day getting to see the campus and visiting the divisions to which they applied. At the end of the day, the visitors enjoyed a reception in their honor that preceded the annual Mardi Gras Party organized by our Marine Science Graduate Student Organization (MSGSO). Over 100 Rosenstiel staff, faculty and students attended the event, which included a Cajun style menu provided by our friends at Sidewalk Salads. On Saturday, Drs. Larry Peterson, Peter Glynn and Chidong Zhang hosted a group day trip to Everglades National Park, where the students were able to see a unique part of the South Florida landscape and learn about regional environmental issues. There was no shortage of alligators, herons, anhingas and other native species. The return trip to the hotel was topped off by fresh tropical fruit milkshakes from Robert is Here, Inc. and a short walking tour of the main campus in Coral Gables, where they posed for a group photo on the shore of Lake Osceola to commemorate the trip.

This annual event would not be possible without the cooperation of the entire Rosenstiel community and of course, the weather gods who kept the rain away.
REITMEISTER FOUNDATION FUNDS SCHOLARSHIP, AWARD

In support of higher education in environmental and conservation-based sciences, the Louis Aaron Reitmeister Foundation, Inc. has generously donated $100K to the Rosenstiel School.

A portion of the gift will go toward establishing the Louis Aaron Reitmeister Endowed Scholarship Fund at the Rosenstiel School. The scholarship will provide funding for graduate students working toward the achievement of the Reitmeister Foundation’s mission, which is “to preserve and safeguard endangered species and help rid pollution from rivers, streams and oceans of the world.”

Fifty thousand dollars will be used to establish the Louis Aaron Reitmeister Environmental Stewardship Endowed Award Fund at UM’s Leonard and Jayne Abess Center for Ecosystem Science and Policy. The award will be presented annually to an individual who has made a singular contribution to conservation, particularly related to water resources and/or endangered species. The intent of the Award is to help publicize and promote efforts that are helping to safeguard environmental resources for the future.

Reitmeister-Abess Center Environmental Stewardship Awardees will be selected by a committee assembled by the Abess Center. The Awardee will receive an honorarium and a plaque, and will be asked to provide a public lecture at UM. The Abess Center will match the Reitmeister Foundation’s funding to a maximum of $2,500 per year.

A philosopher, Louis Aaron Reitmeister was a 20th century American writer for whom humanism and the environment were lifelong commitments. He also was a respected contributor of articles to dozens of academic journals and popular periodicals. Before his death in 1975, he established the Louis Aaron Reitmeister Foundation, which continues to preserve and protect endangered species and bodies of water around the globe. The Reitmeister Foundation has supported the Rosenstiel School since the 1970’s.

DIVING INTO HISTORY: SHALALALA, GROGG VISIT LITTLE SALT SPRING

Recently, UM President Donna Shalala, and Dean Sam Grogg of the UM School of Communication toured the Little Salt Spring Archaeological and Ecological Preserve in North Port, Fla. They were joined by several North Port City Commissioners, a representative of the Sarasota County Board of County Commissioners, representatives of the Florida Aquarium, and Sarasota County Archaeologist Dan Hughes.

Dr. John Gifford served as scientific host for the event, sharing information about the site, artifacts found in the water, and its archaeological significance with the group. Site Manager and Archaeologist Steve Koski and UM Anthropology Professor Traci Ardren also provided scientific insight regarding the spring and its importance.

UM Dive Safety Officer Rick Gomez and Florida Aquarium Dive Officer Casey Coy were on-hand for a bottom dive, which utilized technical open-circuit Trimix diving. They videotaped the dive (view video of the dive at: http://www.rsmas.miami.edu/groups/1/videos.html), during which they took samples from a mysterious white bioaccumulation growing at the bottom of the spring and retrieved a turtle bone from a 90-foot ledge. The bone that is being radiocarbon dated, and is expected to be nearly 12,000 years old.

Little Salt Spring was donated to UM in 1982. It is one of the most important archaeological sites in the Sunshine State, and perhaps the nation. The sinkhole’s water chemistry and temperature have created a one-of-a-kind submerged site where early Paleo-Indian artifacts dating back 12,000 years have been excavated - some of the earliest any where in the U.S. It was first recognized as an underwater archaeological site in the late 1950’s, making it the first ‘wet site’ discovered in Florida. Today, approximately 95 percent of the sinkhole still remains unexplored.

Photo Credit: Steve Koski
ALUMNI IN ACTION

The Rosenstiel School held its second-ever “Alumni & Friends of RSMAS” cruise to much success aboard Royal Caribbean Cruise Line’s Liberty of the Seas. Host and Associate Director of Development, Karen Wilkening, helped bring cruise patrons up to date with current projects at the School, while traveling scientist Dr. Andrew Baker (Rosenstiel alumnus - Ph.D. ’99, MBF) spent the week hosting onboard discussions about corals and coral reef ecosystems, the effects of climate change on marine habitats, marine conservation, his scientific involvement in the Too Precious to Wear campaign and other research at the Rosenstiel School.

Ports of call and shore activities included a snorkel safari in Labadee, Haiti; a glass bottom boat ride in Montego Bay, Jamaica; a 40-minute dive down to 100 feet aboard the Atlantis Submarine and a special lecture by Baker at the new Grand Cayman Books and Books in Georgetown, Grand Cayman; and a special day trip through the Tulum Mayan Ruins in Cozumel, Mexico.

Guests of the cruise included:
Pamela and John Admire, Esq. *; Andrew Baker, Ph.D. ’99 (Scientist Host); Charles and Robina Baker; Jean Dolan *; Elena and David Enfield; Beth Gopman, BSED ’55, and Herb Gopman, BSAE ’54 *; Nanny Olausson; Alice Pascale and Dr. Joseph Pascale *; Monique Pepper and John Pepper, BSAE ’70 *; Mona and Surendra Saxena; Suze and Mark Shyman; Mary and Hank Smith; Annette E. Stiefbold, Ph.D. ’78 and Edwin Bell; Mercedes “Beba” Ugarriza; Karen Wilkening * (Cruise Host); and Robert Carbo.
* Veteran cruisers who sailed on the Inaugural Alumni & Friends of RSMAS Cruise ’07!

ALUMNI UPDATE

2000s

Carlos Lentini, Ph.D. ’02, MPO, has a permanent position, which began February 2007, in the Earth Sciences Department at the Universidade Federal da Bahia in Salvador, BA, Brazil. His work involves the use of satellite remote sensing techniques in studying the surface circulation and upper ocean dynamics, processing studies of biophysical interactions in frontal zones, and climate change on bleaching of coral reefs.

Guillermo Diaz, Ph.D. ‘01, MBF, formerly at the Southeast Fisheries Science Center in Miami, is now a Research Fisheries Biologist at the National Marine Fisheries Service in Silver Spring, Maryland.

LAST WORD

“*The most exciting phrase to hear in science, the one that heralds new discoveries, is not ‘Eureka!’ (I found it!) but ‘That’s funny ...’*”
- Isaac Asimov (1920 - 1992)