



INSIDE THIS ISSUE:

Media Workshop	2
Come Early, Stay Late	2
SICB Financial Stability	3
Educational Council Initiatives	4
Broadening Participation	4
David Borst Remembered	5
SLC Travel Awards	9
Archivist Wanted	9
Broadening Participation Events at SLC	9
Underground Notes SLC	9
Student Support	11
My Last Beg	11
SICB Briefs Capitol Hill on Undergrad Research	12
Animal Behavior	
Comparative Biomechanics	
Comparative Endocrinology	
Comparative Physiology & Biochemistry	
Evolutionary Developmental Biology	
Ecology & Evolution	
Invertebrate Zoology	
Neurobiology	
Systematic & Evolutionary Biology	
Vertebrate Morphology	

EXPERIENCES— GRADUATE STUDENT CAPTURED BY LARGE GREEN TENTACLED CREATURES

by Kenneth P. Sebens
President-Elect, SICB

It was very early on a late spring morning, and we were heading for a Coast Guard boat in Neah Bay, Washington, on the northwestern tip of the Olympic Peninsula. We were carrying a lot of gear including groceries, rain gear, sampling equipment, coolers and so on. A purple pre-dawn light filled the bay, but the docks were still dark and slippery and I had not had enough sleep. We were on our way to Tatoosh Island, a cluster of islets and rocks a short



Fig. 1. Ken Sebens is President-Elect of SICB and Director of the University of Washington's Friday Harbor Laboratories.

(Continued on page 6)

THE STATE OF SICB

by Rich Satterlie, President

Since I will be passing the gavel to our President-Elect, Ken Sebens, at the end of this year's meeting in Salt Lake City, I thought it would be useful to give a snapshot of the last two years of SICB activities. Keep in mind that any accomplishments are not mine, but Society-wide accomplishments, and many of the advances resulted from the cooperative activities of the Executive Officers, the Executive Committee, the various Society Committees, and the individual divisions.

Financially, we are on solid footing despite the economic downturn of the last few years. Still, our steps are not on level ground. Our net worth has taken a hit with the rest of the economy, but our Treasurers (past and present) and financial advisor have ensured that it is minimal compared to other institutions. Also,

(Continued on page 13)

EXCITING MEETING— GRAND CHALLENGES

by Brian Tsukimura, Program Officer

I hope that you are all excited about our upcoming 2011 SICB meeting in Salt Lake City. This is the 3rd largest meeting with over 1120 abstracts. We have an exciting set of 11 symposia that are now spread out over four full days so that you can get to more of them. Each of these symposia have associated complementary sessions, both oral and poster. In addition, there are 96 sessions of contributed papers and three sets of poster daily sessions.

(Continued on page 10)

SICB Executive Officers**Richard Satterlie**

President 2009-11
U. of NC Wilmington

John Pearse

Past President 2009-11
U. of California Santa Cruz

Ken Sebens

President-Elect 2009-11
U. of Washington

Bob Roer

Treasurer 2010-13
U. of NC Wilmington

Lou Burnett

Secretary 2009-15
College of Charleston

Brian Tsukimura

Program Officer 2010-12
Cal State U. Fresno

Ed Rosa-Molinar

Past Prog. Officer 2010-11
U. of Puerto Rico

Brett Burk

Executive Director
McClellan, VA

**Media Workshop at SLC**

The Public Affairs Committee is happy to announce a new workshop entitled "*Communicating with the media*" at the Annual Meeting in Salt Lake City. The workshop will help SICB members improve their skills with the media; topics include translating your work to the public, how to find the right media outlet, discovering what journalists are really looking for, and how to work with the university press office. Wisdom, insight, and advice will be given by a panel of media experts: **Carl Zimmer**, a science writer who has written many outstanding

books with themes in organismal biology and has scores of credits in publications such as The New York Times, Discover magazine, and National Geographic; **Lee Siegel**, a science writing specialist for the University of Utah Public Relations whose previous work includes the time with the Associated Press and experience on a staff that won a Pulitzer Prize for coverage of the Mount St. Helens eruption; and SICB's very own **Mimi Koehl**, an outstanding communicator whose work as a scientist has attracted copious media attention. **Workshop— Wed., Jan 5, noon to 1:30.**

COME EARLY, STAY LATE—SICB ANNUAL MEETING IN SALT LAKE CITY

The 2011 SICB Annual Meeting will be held in Salt Lake City, UT, January 3-7, 2011 at the Salt Palace Convention Center. The headquarters hotel is the Marriott Salt Lake City Downtown which is located directly across the street from the Salt Palace. Online registration is currently open; register now to take advantage of the discounted early registration rates, which end December 3rd. New this year, the SICB meeting will be extended to 3:00 pm on Friday January 7th, followed by a wine and cheese reception. Visit the SICB meeting website at <http://www.sicb.org/meetings/2011/index.php>.

World-Class Skiing

Plan to come to Salt Lake City early or stay late to take advantage of all that SLC has to offer including world class skiing at four different ski resorts. Use this link: <http://www.visitsaltlake.com/ski/superpass/> to purchase a Super Pass for as low as \$64/day for an adult and to view other information (such as schedules, etc.) about the pass. The Super Pass can be used at one of four Salt Lake City area

resorts (Solitude, Brighton, Snowbird or Alta) and includes transportation to the resorts from downtown Salt Lake City via the TRAX



ALTA · BRIGHTON · SNOWBIRD · SOLITUDE

light rail system and UTA busses, a lift ticket at the resort, and a 25% discount on equipment rentals at one of the three Canyon Sports Stores in Salt Lake City. To get to the resorts, take TRAX to the 7200 South station. From there, for the Solitude and Brighton Resorts take the Route 960 bus and for the Snowbird and Alta Resorts take the Route 990 bus. Don't forget to visit one of the three Canyon Sports locations in Salt Lake City before you go to take advantage of the 25% off equipment rentals.

“...the Seattle meeting was another success, both scientifically and financially.”



FINANCIAL STABILITY AND THE PROMISE OF ANOTHER GOOD YEAR FOR SICB

Endowment Fund Continues to Rebound but Caution Prevails

As of 30 September 2010, SICB's portfolio showed a balance of \$997,508 compared to \$947,721 at the same time last year. While still approximately \$80,000 below its value on 01 September 2008, we've recouped most of the losses of the past two years and the substantial gain we made on our original investment of \$779,498 in 2002. To hedge against near-term drops in value, especially in light of the instability of some sovereign debts, our financial manager advised shifting a larger portion of our assets to the money market and cash accounts. The finance committee concurred with this advice and the reallocation was effected in July such that we now have approximately \$745K in mutual funds and \$250K in cash and money market, with a small remainder in equities.

Seattle Continues Trend of Annual Meetings in the Black

With historic attendance figures second only to Boston, the Seattle meeting was another success, both scientifically and financially. Using the same calculations as for previous meetings, the 2010 annual meeting netted \$61K compared to \$95K for Boston. The number of abstracts submitted for the Salt Lake City meeting indicates that it will be out third largest meeting ever, and it should provide the "hat-trick of outstanding meetings" that past-treasurer Ron Dimock was looking forward to.

I have been asked why the surplus revenue for the meeting isn't used to provide more amenities during the meeting or additional assistance to students. The reason is that our current accounting procedures do not allow us to fully separate out the expenses and rev-

enues associated with the meeting. As a result, our nominal operating expenses are in the red and we bring the entire budget into balance (at least over the past three years) with the meeting revenue. For example, while the Boston meeting showed a net revenue of \$95K, the audited balance sheet for 2009 showed a net income (excluding the unrealized loss of the endowment value and less prior year expenses) of just under \$68K. Without the meeting revenue the Society would have operated with a \$27K deficit. This year, with the \$61K surplus from the meeting, I predict that we'll close 2010 with a minimal net income for the entire budget.

I am working with Burk and Associates to separate, at least proportionally, the administrative costs associated with the meeting from those for general operations. Once this is accomplished, we'll be able to provide a more realistic assessment of the meeting revenues and expenses, and of the operating revenues and expenses. This will allow us to determine if the registration fees are appropriate to support the meeting, and if the dues (in addition to the journal income) are appropriate to support the operations.

Some Restricted Funds Still Need Help

Distributions from the restricted fund endowments are limited to 4% of the average fund balance over the past five years. In order for funds to yield \$1000 per year for awards, they must maintain a fund balance of at least \$25K. A number of our funds are far below this benchmark. The Davis, Moore, Wenner, and Skinner funds are in the underfunded categories and need our support in or-

(Continued on page 11)

*“Broadening
Participation
Travel Awards
see page 9”*



EDUCATIONAL COUNCIL INITIATIVES

The Educational Council has worked on several initiatives leading up to our annual meeting in Salt Lake City. (1) The third speaker in our revived John A. Moore Lecture series will be Dr. Scott Freeman, who will talk about his research on student learning. Keep an eye out for the scheduling of the Moore Lecture and plan to attend this important event, which highlights educational issues important to the society while honoring Dr. Moore's legacy. (2) We will ask undergraduates who will present posters in the regular poster sessions to display them as well on the first night near the registration area, as a way of highlighting their diverse contributions to the society. (3) In consultation with SICB webmaster

Ruedi Birenheide we have been developing a mechanism for generating a course website database, which would allow members who currently teach or are planning to teach similar courses to more easily share ideas and materials. Please watch for an announcement and then help us to build the database by updating your member record with teaching information. (4) We plan to use time in Salt Lake City in part to strategize about a Grand Challenges in Organismal Teaching workshop, possibly to be held at the annual meeting in Charleston in 2012. Please plan to attend the Council meeting to contribute your ideas about how to improve the educational component of SICB.

-Bob Podolsky, Ed. Council Chair

COMMITTEE ON BROADENING PARTICIPATION

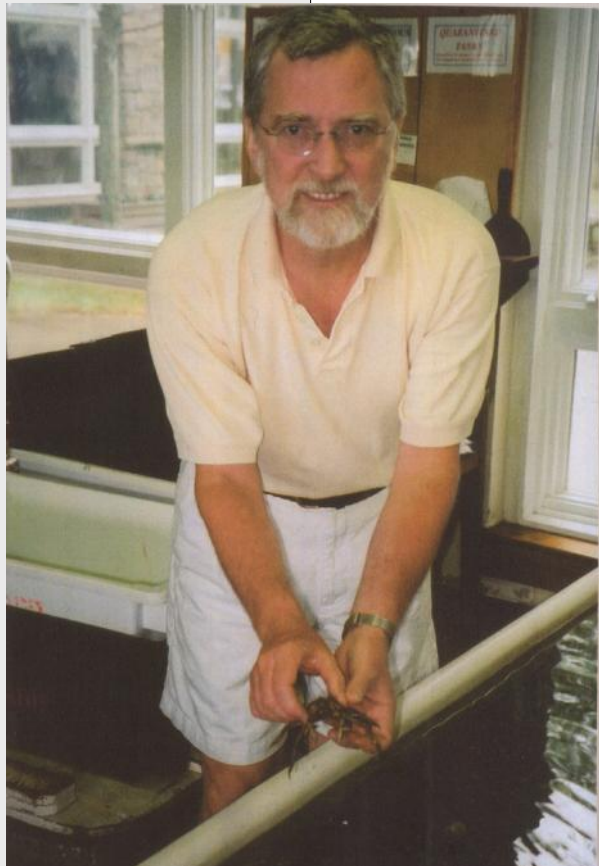
First, we would like to welcome two new members, Nish Nishiguchi and Scottie Henderson, and Jennifer Burnaford as consultant. We would also like to give a hearty thank you to L. Patricia Hernandez for her past service as Chair of the Broadening Participation Committee where she was instrumental in initiating a mechanism to self-identify underrepresented groups through meeting registration and membership. This allowed us to begin work on a 5 year Strategic Plan to broaden participation within our society, including developing a proposal for submission to the NSF for support. Nish Nishiguchi, Brian Tsukimura, and Cheryl Wilga met in Albuquerque N.M. for three days in June to begin work on the grant proposal based on the self-identification data from the registered members who attended the 2010 meeting in Seattle. We anticipate submission of a full proposal in late fall 2010. The

proposed initiatives will coalesce and enhance the experience of participants with new activities that complement those already in place. Several undergrads, graduate students and faculty met at the brown bag lunch on Jan 5th to discuss issues affecting underrepresented groups and what the broadening participation committee could do to improve participation. As a result, the BPC will offer travel funding to attend the 2011 meeting and host two workshops and a social at the 2011 meeting in lieu of the breakfast. This is an exciting time as we are now a recognized committee with a budget to move forward with plans for increasing participation within the SICB. We welcome the participation of all members and look forward to hearing your comments and suggestions for broadening participation in our society.

-Cheryl Wilga, Chair

DAVID W. BORST, JR. 1945-2010

David Borst passed away on September 27, 2010 in Winter Springs, Florida, where he resided for the last five years after joining the faculty at the University of Central Florida. Dave was an active member of the SICB serving as the



Chair of Student Post-Doctoral Affairs Committee (1990-1994), Chair of the Student Support Committee (1996-2000) where he was instrumental in developing the Fellowship for Student Travel, and Chair of the Division of Comparative Endocrinology (2004-2006), as well as the DCE Nominating Committee Chair in 2008. In addition, Dave was on the Editorial Board (1997-2007) of the

SICB journal *Integrative and Comparative Biology* where he served on the Publisher Selection Committee (2005) and the *ICB* Editor Selection Committee (2005). In addition, he organized the Midwest Regional Comparative Endocrinology Conference (1992) as mid-year SIBC activity.

Dave performed service beyond the SICB, where he was an associate editor for the *Journal of Experimental Biology* (1999 – 2006). He was also a member of the Marine Biology Laboratory (MBL) Corporation, Woods Hole, where he maintained a summer research lab from

1985 – 2003, bringing numerous undergraduate and graduate students from Illinois State University, as well as researchers from around the USA and the world community. At the MBL, he served on the Radiation Safety Committee (1988-1997). Dave was remembered at the MBL with the flags lowered during the first the week of October.

David Borst attended Reed College where he received his BA. He obtained a Master's in Zoology at UCLA (1970) and his PhD in Biology (1973) working with J. D. O'Connor, where they developed the ecdysone radioimmune assay. Dave's research revolved around arthropod endocrinology, particularly insects and crustaceans 61 of his 70 publications have occurred. Dave's research focused on function and regulation of methyl farnesoate in crustaceans and juvenile hormone and ecdysone in insects. Dave received much recognition while developing his research laboratory at Illinois State University, including 2003 Distinguished Professor (the highest academic honor from the institution), the Half-million Dollar Club (1990) and Million Dollar Club (1992). Dave also was a visiting scholar at UCLA (1984) with F. Englmann, University of Washington (1990) with L. Riddiford, Fogarty International Scholar at the University of Liverpool (1997-1998), Shanghai Institutes for Biological Sciences (PRC) (2003), and at University of Basilicata, Italy (2004).

Dave Borst's accomplishments in teaching, graduate advising, research and service, provide a solid career in arthropod research and the SICB. His insights into arthropod physiology and methyl farnesoate biochemistry are an important component of his legacy. He will be greatly missed.

-Brian Tsukimura



*“Experiences—Part 9
in a series
of articles about the
research experiences
of members of SICB.*

*“SICB members
like a good story about
an expedition,
a field experience,
a lab experiment
or another
researcher.”*



Fig. 2. Cliff top crane transports people and supplies to and from the island.

GRAD STUDENT CAPTURED BY GREEN CREATURES — KEN SEBENS

(Continued from page 1)

distance off Cape Flattery, a place rarely visited except by the Coast Guard who maintained a manned station there until 1977. My advisor at the University of Washington, Bob Paine, had started research at Tatoosh, with Paul Dayton and some of his other graduate students, in the late 1960s. He made regular trips there, so it was a good place for me, as a new grad student, to consider starting a project.

An hour or so in the open ocean swells brought us to the island, with spectacular cliffs on all sides, and no clear place to land our small party. There

was a small beach, with waves crashing on it, but we did not have a small boat that could land there – how were we going to get ourselves and all our gear onto the island? The solution became apparent soon, as the boom of a large crane swung out from the closest cliff top, with a tiny wooden box suspended from a cable over a hundred feet long (Fig. 2). Within a few minutes, the box was perched on the roof of the aft cabin, was tied down, and all our stuff was being thrown into it. The cable, which had been unhooked while we bounced around in the swells, was reattached and the box went sailing upward. This process was repeated twice more, but with people instead of gear. On my turn, I watched the boat speed away from the rocks below us as we swung perilously

into the sky. I had arrived at a marine ecologist's paradise – an amazing place with extensive rocky intertidal habitats, and very little direct human impact, protected both



Fig. 3. Ken Sebens (right) prepares for liftoff.

by the Coast Guard and by the Makah Tribe who own the land. By the way, nobody had told me about the flying box – maybe on purpose (Fig. 3).

After a few very early morning low tides, and many hours of jumping across chasms and from rock to rock, I had a picture of just what these amazing intertidal communities offered. I had been in grad school for less than a year, and I had no idea yet as to what I was going to spend four more years working on. Maybe I would find it there. One of Bob's first suggestions was that I should look at limpets – there were quite a few species and nobody really knew what they were all doing ecologically. I started collecting limpet shells off the beach, between low tides, trying to figure out which species we had. Meanwhile, exploring during the low tides, what really caught my eye were the tidepools full of huge green sea anemones, *An-*

(Continued on page 7)

GRAD STUDENT CAPTURED BY GREEN CREATURES — KEN SEBENS

(Continued from page 6)

Anthopleura xanthogrammica. I had seen small anemones, but never anything like this. When I asked Bob about them, he related some



work that Paul Dayton had done regarding their diet and the role of seastars dislodging prey items that the anemones could capture.

But, beyond that, there did not seem to be much known about them – do they move around much? Do they interact with each other? The fact that they were so unstudied, and their resemblance to the stereotypical extraterrestrial (green tentacled monsters!) had me intrigued. My next trip out, I started working on mapping anemones and measuring movement.

During my first year of classes at UW, I learned a lot of ecology. One of the ideas I found most intriguing was Stephen Fretwell's model of habitat suitability – he suggested that territorial birds actually distribute themselves such that the best habitats get most crowded, with less suitable areas decreasing in density, but with all birds (theoretically) having equal fitness because of the trade-off of density and food availability, mate attraction, or other measures of habitat quality. Could these ideas apply to marine invertebrates

such as the big green anemones – they clearly live in habitats of different quality and vary in population density. Meanwhile, information on anemones started to pour in. Liz Francis found that the smaller aggregating/clonal congener, *A. elegantissima*, had complex agonistic behaviors and amazing powers of clone recognition and separation. Mimi Koehl started working at Tatoosh Is. at about the same time, measuring wave forces on anemones and relating this to shape and mechanical design. My first findings were that some of the anemones, the smaller ones, seemed to move around a lot, whereas the large ones mostly stayed put.

Following that start, I worked on the reproductive ecology, growth rates, and feeding biology of both *Anthopleura* species for the next four years, and beyond. Did they behave like Fretwell's birds? Not quite, but they did have an ability to choose habitats, and interact with neighbors, and there did seem to be the same trade-off between

“On my turn, I watched the boat speed away from the rocks below us as we swung perilously into the sky. “

crowding and habitat quality. The best habitats were those with crashing waves and mussel beds, since dislodged mussels are their most important prey at this site. Big tide pools right below mussel beds became very crowded – in surge channels where the anemones could space themselves out, they did, and anemones

grew larger when less crowded in good habitats. There was also some evidence that, at this site, the anemones settled in mussel beds, then migrated downward as they grew, ending up right below their

(Continued on page 8)



“...but there is a basic question of whether you start with the question, or the organism. Is one way better than the other?”



GRAD STUDENT CAPTURED BY GREEN CREATURES — KEN SEBENS

(Continued from page 7)

future prey.

At the University of Washington's Friday Harbor Laboratories (FHL), I was able to conduct both field and laboratory studies and experiments on both species of *Anthopleura*. It was here that I first saw what looked like agonistic behavior in the larger species, but they did not react very much in aquaria with slow-moving water. At FHL, I focused on the smaller species which was abundant along the moderately wave exposed southern and western shores of San Juan and Lopez Islands. Here, I was able to examine behavior related to light, tides, and currents. Having Len Muscatine around one summer was a big help too, aiding my understanding of cnidarian physiology and symbiosis. I also studied the process of fission that allows *A. elegantissima* to form clonal aggregations, and tried to find the seasonal cues that initiated the process. I followed individual growth and movement over about two years, and tested the agonistic response of individuals to other aggregations at each site. Based on whether or not two anemones would fight, when forced to remain in contact in the lab, I determined that some sites seemed to have very few or no diversity of clones – one site may have had a population consisting of a single large clone. Finally, I applied what I had learned about growth, degrowth, feeding and reproduction to a mathematical model of indeterminate growth and optimal size in marine invertebrates. That model addressed the question of when an individual should stop growing, and how much effort should go to reproduction, as habitat conditions change, over space or time.

A few years later, after finishing my dissertation, I returned to Ta-

toosh to test my suspicions that their behavior was even more complex. These new experiments showed that this species really was fighting for space using the same anatomical and behavioral mechanisms Liz Francis had shown for *A. elegantissima*. We had not observed this behavior earlier because it tends to occur on rising tides when waves first start jostling the anemones – I had to spend a lot of time snorkeling to observe this. Transplant experiments provided another new piece of the puzzle. If these anemones, which are solitary and not clonal, are fighting with each other, why do they persist in dense aggregations in some tide pools? The answer is that they fight with new arrivals, but not with established neighbors, based on field transplant experiments. Their fighting behavior seems less lethal than that of some other species, and they are willing to accept a neighbor when there is no choice of spacing out.

The two anemones turned out to be wonderful model organisms to test ecological models about habitat suitability, and even better to test ideas I had about the regulation of body size in invertebrates with indeterminate growth. But, I did not really start with the theory and find the best model organism to work with. Instead, I was intrigued by a creature that seemed exotic, intrinsically interesting, and poorly known. It was that lack of information - for a large, common and beautiful creature, that really set me on my path of study. I am certainly not the only person who chose their research topic in this way – but there is a basic question of whether you start with the question, or the organism. Is one way better than the other? I suggest that the process is not one or the

(Continued on page 14)

Researchers

Database

Send a short paragraph and a photo representing your research to your divisional secretary.

The photos appear on the SICB homepage and change each time the page is refreshed.

This is a great way to recruit students into your laboratory.



Salt Lake City Travel Awards

The Committee on Broadening Participation is accepting applications for travel awards to attend the SICB Annual Meeting in Salt Lake City. The purpose of the award is to provide funding up to \$500 for underrepresented students, postdocs and faculty to attend or present their research at the 2011 annual meeting of the SICB. The [application](#) and **one letter of recommendation** are due **November 30, 2010**. Decisions should be made by the end of December. Travel awards will be presented to recipients at the Broadening Participation Social during the annual meeting.

Broadening Participation Events for Salt Lake City

Mentor-Mentee meeting

Monday 6:30-7:30 pm. Contact Cheryl Wilga (cwilga@uri.edu) if you would like to be a mentor or if you would like to have a mentor for the meeting.

Committee meeting

(Committee on Broadening Participation), Tuesday 7-8 a.m.

Lunch Workshop

"How to have a life and be an academic," Wednesday 12-1 p.m. organized by Greg Florant. A brown bag lunch will be provided for underrepresented groups identified as such on the SICB meeting registration form.

Lunch Workshop

"Issues facing new faculty," Thursday at noon organized by Denise Dearing. A brown bag lunch will be provided for underrepresented groups identified as such on the SICB meeting registration form.

Diversity Social

Thursday 8 p.m. organized by Cheryl Wilga.

Wanted: Society Archivist

Our Society has a rich and eventful history. As one example, look at the list of past presidents (<http://www.sicb.org/archive/SICBPresidents.php3>) from our website. We have significant documentation from both the early and recent history of our Society, so we are seeking a Society Archivist who is willing to oversee the files and ensure that our current dealings are properly archived to maintain our excellent record of society activities. This important position has been vacant for the past several years. Anyone who may be interested, or anyone who can suggest a nominee, should contact any of the Executive Officers.



Symposium: Eco-Immunology and Disease Ecology –Salt Lake City

Salt Lake City Notes from the Underground

Like last year's "Notes from the Seattle Underground" we want to put together a guide to eating, sight-seeing, and playing places in the vicinity of the Salt Lake City meeting hotels and convention center. If there is anyone in Salt Lake City, or anyone familiar enough with the area to help put together this year's "Notes from the Underground" please step (electronically) forward. The executive officers and program officers were there a few weeks ago, and there are plenty of eateries in the immediate blocks. We are also about a block away from Salt Lake City's historic Temple Square and just down the hill from the Capitol building. Our management company is looking into skiing packages, so stay tuned for late-breaking news.

EXCITING MEETING—GRAND CHALLENGES

(Continued from page 1)

The Program Committee (Divisional Program Officers + Associated Society reps) is to be congratulated for putting this all together on the last weekend of September. By going to four full days, we are changing the



Dessert Social in Honor of Students and Post-docs, to Friday afternoon after the last talks, where the menu will be light hors d'oeuvres.

We will kick-off the meeting with the **Plenary Lecture** by **Tom Daniel** concerning the "Grand Challenges in Organismal Biology." This lecture will be fol-

lowed by a **Grand Challenges Workshop** organized by Jonathon Stillman, to be held on **Tuesday, Jan. 4**. Please read more about this below. We also have excellent presentations for the **Bartholomew Lecture: Robert Cox** "Two Genders, one Genome," the **Bern Lecture: John Wingfield** "Putting the Brakes on Reproduction," and the **Moore Lecture: Scott Freeman**

"Evidence-based Teaching in Introductory Biology."

The welcoming social, coffee breaks, and end-of-the-meeting hors d'oeuvres social will provide ample time for interaction and discussions among members and visi-

tors. The **Salt Lake City Marriott Downtown Hotel** is within walking distance of all types of attractions, restaurants, nightlife and entertainment. In addition, there is a free trolley that runs to an Open Mall area where restaurants and shops can be found. Registration and the exhibit hall for vendors, posters and coffee breaks, and divisional and society-wide socials will be held in the **Salt Palace Convention Center** across the street from the hotel.

The selection of the symposia is the highest priority for the Program Committee, as the contents of the journal are based solely from the content of the activities from the SICB meetings. Thus, the selection of diverse topics and relevance to a broad interest directed the selection of these 2011 symposia. This year we will kick-off the meeting with a **Grand Challenges Workshop**, Jan. 4, 2011, that includes presentations by **Mark Denny** and **Jonathon Stillman** on potential testable questions within the Grand Challenges. In the afternoon, there will be associated discussions on how to move forward through the process of establishing funding for new directions and questions in Organismal Biology. This workshop is designed to move the Grand Challenges into the next phase, which includes identifying the next generation of testable hypotheses and acquiring the funding to examine them.

Finally, the SICB Executive Officers, Program Committee, symposia and workshop organizers, Burk & Associates, and I have labored very hard to make your 2011 SICB meeting as productive and as engaging as possible. If you have comments about the program, please feel free to contact me before, at or after the meeting. We look forward to seeing you in Salt Lake City at the start of the 2011 New Year!



(Photo by Anuschka Faucci)

Symposium: Speciation in Marine Organisms—Salt Lake City



*Support your
favorite SICB fund.
Click on the
“donations” button
on the home page.*



Student Support Committee

The Student Support Committee received a big jump in number of submitted proposals – a total of 153 proposals with 126 submitted to the Grants In Aid of Research (GIAR) and 27 submitted to the Fellowship for Graduate Student Travel (FGST). We awarded 4 FGST and 24 GIAR. For the previous year and the upcoming year, we introduced a number of new improvements to the review and application process to streamline the system. Most recently, we developed a new website for the GIAR and FGST: <http://sicb.org/drupal/>. This site gives us more flexibility for including announcements, posting FAQ's and also for the reviewers to actively participate in the behind-the-scenes review process. The deadline for 2010 was October 15, and the winners will be announced at the Salt Lake City SICB meeting.

-Sheila Patek, Chair



Researchers Database—click photo

My Last Beg

Over the past several years, the Society has benefitted from the generosity of our membership in building our endowments to include support for awards, lectures and symposia. I'd like to make one last pitch for continued donation. As a Life Member, I once again donated the equivalent of annual dues to the Symposium Endowment Fund. I challenge all other Life Members to make a similar donation to an endowment of choice. Also, recall that the donation of the equivalent of just a fancy coffee (~\$5) will help if enough of us make the effort. So, buy SICB a coffee or two, and pick your favorite endowment. We will return the favor with plenty of free coffee at the meeting. The donations page on the website makes it all very easy. Thank you all for your past and continued support.

-Rich Satterlie, SICB President

Researchers Database

Ever noticed the cool images on the upper left hand corner of the SICB web page? They change every time the screen is refreshed. Submit your photos and brief paragraphs to your **divisional secretary**.

FINANCIAL STABILITY OF SICB

(Continued from page 3)

der for them to provide awards in the current and future years. One option that allows a fund to make an award, when its yield is insufficient, is for donors to allow part or all of their contributions to be used in the current year with any surplus going into the corpus of the endowment. Such was the case for the Skinner Fund this year. In order to make an award, an appeal was sent out to the membership, and donations that were specified for use in the current year provided sufficient funds to enable an award to be made at the upcoming meeting.

Financial Status Remains Healthy

With the rebound in the endowment and a good cash position, the financial condition of the Society is sound. The unaudited total assets of the Society as of the end of the fiscal year well exceeded those at the end of FY 2009 and even exceeded those at the end of FY 2008 when our investments were at their peak value. Continued responsible stewardship, robust meeting and journal income, and ongoing review of revenues and expenses should provide for a healthy Society into the foreseeable future.

-Bob Roer, SICB Treasurer

SICB Members Brief Capitol Hill On Undergraduate Research and American Innovation

Undergraduate research opportunities attract and retain students in Science, Technology, Engineering and Mathematics (STEM) fields that are crucial to the country's ability to innovate and remain

competitive globally. Every day, across the nation, undergraduate students are engaged in authentic research that is reshaping their education. On Tuesday, October 26, 2010 Professor Robert J. Full from the University of California at Berkeley and Tonia Hsieh, a former Berkeley

undergraduate researcher, briefed policymakers and staffers associated with the United States House of Representative's STEM Education Caucus.

Both are long-time members of the SICB. It was Professor Full who introduced a Society-wide Constitutional Amendment that allowed undergraduates to present their research at the annual SICB meeting. Dr. Hsieh was one of the many undergrads who have presented their ground-breaking discoveries since.

Dr. Hsieh expressed how undergraduate research completely changed her career trajectory and ultimately led to an emerging industry. She began her studies in Dr. Full's research laboratory in the Department of Integrative Biology as a freshman undergraduate interested in veterinary medicine. In collaboration with then postdoc Dr. Kellar Autumn and engineering Professor Ron Fearing, she went on to discover the secret of how geckos use hairy toes and intermolecular forces to stick. Results from her undergraduate research led to a

high-profile publication in *Nature* and has galvanized a new field of research into synthetic gecko-inspired adhesives. At her graduation in 1999 Tonia received Integrative Biology's Departmental Citation Award (UC Berkeley). After graduation, she completed a Ph.D. at Harvard University with SICB member Dr. George Lauder and is currently an assistant professor in the Department of Biology at Temple University.

Professor Full pointed to the importance of these undergraduate research experiences at R1 universities. 54% of Berkeley's nearly 8,000 STEM undergraduates have research experiences. Over forty undergraduate research programs are available on campus. UC Berkeley graduates more students that go on to earn PhDs than any other university in the Nation.

Professor Full strongly recommended that interdisciplinary, research-based learning be made the standard, not only in undergraduate research capstone experiences, but also as part of the mainstream curriculum. He highlighted his research-based teaching laboratory associated with the Center for interdisciplinary Bio-inspiration in Education and Research (CiBER) where teams of biologists and engineers work side-by-side to make original discoveries in a teaching laboratory. He urged the Caucus to support the development of interdisciplinary undergraduate training programs with a research focus and called for the STEM community to work with social scientists in assessing these programs with regard to broadening participation.

The Council on Undergraduate Research (CUR), the Lancy Foundation and Research Corporation for Science Advancement (RCSA) sponsored the briefing.



"...teams of biologists and engineers work side-by-side to make original discoveries in a teaching laboratory."



STATE OF SICB

(Continued from page 1)

we continue to operate our annual budget at the junction of red and black ink, which means we can't let up in being fiscally responsible and somewhat conservative in terms of planning future budgets.

Our membership continues to be strong in the face of financial challenges, both for the society and for



President Rich Satterlie presides over the SICB business meeting in Seattle.

individual members. We are experiencing an increase in membership (up by 3.5% from two years ago) and attendance at annual meetings that prompted us to expand our annual meeting to four full days instead of the traditional 3.5 days. Our current membership stands at 2,491.

I have been shamelessly pushing donations to the Society's endowment funds throughout the two years, and we have had great success in this arena. Despite taking a huge hit in 2009, our total endowment fund is up slightly from 2008 levels. We have had major donations as well as numerous smaller ones, and we are grateful for the way everyone has stepped up their giving. We are still way behind some societies in terms of endowments, but with our financial history, we are making a remarkable recovery.

Our annual meetings have been setting attendance records, with the Boston and Seattle meetings ranking 1 and 2 in numbers of attendees. Furthermore, the feared drop-off for the Salt Lake City

meeting never materialized. We have over 1120 abstracts for the meeting, which places it in third place in attendance for the recent history of the Society.

As usual, we benefit from another form of generosity of our membership—the willingness to donate time and energy to serve the society in the variety of officer and committee positions. I thank everyone who has given their time and encourage other to step forward to similarly help shape our activities and our future.

In addition to the nuts-and-bolts Society business, we had some interesting events that placed our Society in the news and in a leadership role in our academic community. The Salt Lake City venue is the outcome of our decision to not consider New Orleans due to their anti-evolution legislation. This reportedly was a factor in rejection of similar legislation in Oklahoma. We also took the lead (and continue to provide leadership) in charting the Grand Challenges in Organismal Biology and in determining the next steps in formulating new directions for Organismal Biology research in the 21st Century. We had a series of papers published in our Society journal including the original white paper on the Grand Challenges. We will have a workshop again at the Salt Lake City meeting to help direct the next steps.

Overall, I came into the presidency of a unique and strong society, and I believe I am passing the gavel to Ken with those descriptors intact. We have significant momentum that was built by our previous leadership, and promises to continue. For that, we must thank you, our members. This Society is only as strong as its membership, and I feel we have one of the most interesting and committed membership bases in the biological community. Thank you all for a productive two years.





*Integrative &
Comparative
Biology is
published by
[Oxford University
Press.](http://www.oup.com)*



SALT LAKE CITY—SYMPOSIUM HIGHLIGHTS

Tuesday, Jan 4, 2011:

I've Got Rhythm: Neuronal Mechanisms of Central Pattern Generators (D. McPherson, organizer)

Speciation in Marine Organisms (M.P. Miglietta, F. Santini & A. Faucci, organizers)

Synthesis of Physiologic Data from the Mammalian Feeding Apparatus using FEED, the Feeding Experiments End-User Database (S.H. Williams, organizer)

Wednesday, Jan 5, 2011:

Neuroecology: Neural Determinants of Ecological Processes from Individuals to Ecosystems (C. Derby & R. Zimmer, organizers)

Bioinspirations and Applying Mechanical Design to Comparative Experimental Biology (B. Flammang, organizer)

Bridging the Gap Between Ecoimmunology and Disease Ecology (S. French, organizer)

Thursday, Jan. 6, 2011:

Population Dynamics of Crustaceans (J. Buhay, organizer)

Environmentally-Cued Hatching Across Taxa: Embryos Choose A Birthday (K. Mar-

tin, organizer)

Friday, Jan 7, 2011:

The Biomechanics and Behavior of Gliding Flight (R. Dudley, organizer)

A Synthetic Approach to the Response of Organisms to Climate Change: The Role of Thermal Adaptation (M. Sears, organizer)

Environment, Energetics and Fitness: a Symposium Honoring Donald W. Thomas (M.S. Wojciechowski, organizer)



Hatching Grunions
(Photo by Rachel Darken)

Symposium: Environmentally-Cued Hatching Across Taxa: Embryos Choose A Birthday

GRAD STUDENT CAPTURED BY GREEN CREATURES — KEN SEBENS

(Continued from page 8)

other. As a graduate student, and throughout your career, you become aware of theories in your field. There are dozens or more of these in your head based on classes and reading. At about the same time, you start visiting field sites or working at field stations and laboratories, and you have a chance to observe hundreds of creatures, sometimes in their natural habitat.

Consciously or not, a match is made. Here is an organism, or community, or interaction that would be great with which to explore a particular theory. I know that is what happened in my case, not just that once, but many times since. Then again, maybe it was the English class I took as an undergrad – Science Fiction as Literature – that drew me to the green-tentacled monsters.