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EXPERIENCES—ODD AMPHIBIANS AND INTEGRATIVE BIOLOGY

by *Marvalee Wake*
President, SICB 2001-02

I'm an evolutionary morphologist, and proud of it. The 'label' allows me to work on any organisms, at any level of organization, and at any scale—sub-cellular to tissue to organism to community to ecosystem—using a diversity of techniques and approaches, including comparative (required!), developmental, functional, systematic and evolutionary, asking all sorts of questions. I've focused on vertebrates, mostly amphibians, particularly gymnophionones (caecilians), and on two general questions: the biology of caecilians in as many of its manifestations as possible, and the evolution of derived modes of reproduction in all



Dinner in Cairo, Egypt, for the International Union of Biological Sciences; I was President of it and its General Assembly—with a symposium on integrative biology. Motonori Hoshi, my successor as President and a distinguished invertebrate developmental biologist is to my right, and David B. Wake to his right.

(Continued on page 11)

STUDENT SUPPORT-NOTICE

It was wonderful to see the large number of graduate students and undergraduates attending the Salt Lake City SICB Meeting in January. I attended many talks, and viewed quit a few posters, that were presented by these students. SICB has a proud history of involving students in the meetings, and giving them a chance to share their exciting findings with their colleagues at all levels. This year, we even had a special poster session for undergraduate researchers during the first day of registration, located right in the registration lobby so it could not be missed.

The **Charlotte Mangum Student Support Program** provides financial support to students in the form of housing subsidies or waived registration fees at the annual meetings, in exchange for service to SICB at the

(Continued on page 18)

GRAND CHALLENGES—IMPLEMENTATION

In our last issue of *ICB* (Vol. 50:6), our last GC topic was published regarding behavior in human-altered world (Sih et al., 2010). Also included in the issue was a summary of the 2010 SICB workshop on the 'Implementation of the Grand Challenges' (Tsukimura et al., 2010).

The Grand Challenges concept was launched at the Salt Lake City SICB meeting by a grand Plenary Lecture by **Dr. Tom Daniel** who presented "Complex Computational and Collab-

(Continued on page 14)

SICB Executive Officers**Ken Sebens**

President 2011-13
U. of Washington

Rich Satterlie

Past President 2011-13
U. of NC Wilmington

Billie Swalla

President-Elect 2011-13
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

Jon Harrison

Prog. Officer-Elect 2011-13
Arizona State Univ.

Brett Burk

Executive Director
McClellan, VA

**Recognition of Officers**

I want to recognize the absolutely huge amount of work done by our outgoing SICB officers, led for the past two years by President Rich Satterlie. At the end of the Salt Lake City meeting, I began my two year term as President. Rich Satterlie will serve as Past-President, and Billie Swalla as President-elect, taking an active part on the Executive Committee as well. Other Executive Committee members completing their terms were: Jackie Webb, Member-at-Large, Bob Full, DCB Chair, Karen Crawford, DDCB Chair and Michelle Nishiguchi, DEE Chair. Many thanks

for their substantial and dedicated service to SICB. The new members who joined the Executive Committee in January are: Amy Moran, Member-at-Large, Jon Harrison, Program Officer-elect, Art Woods, DEE Chair, Kiisa Nishikawa, DVM Chair and Sharon Schwartz, DCB Chair. Hal Heatwole has been reappointed Editor-in-Chief for the next five years. A number of others completed their service on standing committees, and new members have signed on. Many thanks to all of them for their willingness to take on these important duties for our society.

*Ken Sebens
President*

STUDENT/POSTDOCTORAL AFFAIRS

The Student/Postdoc Affairs Committee (SPDAC) is going strong in 2011. At the meeting in Salt Lake City, we held a workshop that focused on the importance of mentorship at all levels of science. We had 3 panelists that discussed their experiences, outlook, approach, and advise on mentoring. These panelists included: Dr. Wendy Reed, North Dakota State University, Dr. Bruno Pernet, CSU-Long Beach, and Dr. Peggy Biga, North Dakota State University. The attendance was quite high, with nearly 70 people. Interestingly, in addition to many students and postdocs, there were several junior faculty in attendance.

During the workshop, the panelists introduced themselves through their mentorship experiences. These experiences covered a vast array of topics relevant to students and early career scientists. The topics discussed included how to approach a potential mentor at a meeting or via email/phone, what the role of a mentor is, the reciprocal nature of mentorship relationships and how mentees can play an active role, how to spot a bad mentorship relationship and what you can do, and

the overall importance of these relationships throughout your career. The students and postdocs had many questions that were broad in scope, as well as several that were more direct.

The SPDAC is going strong and looking forward to another successful meeting in Charleston in 2012. We will be hosting another workshop and hope to see you there! In addition, the committee is working on generating a 'tips' sheet for students attending their first meeting that will contain information about how to get the best out of their meeting that will be given out at the student orientation. This 'tips' sheet will be compiled by the members of SPDAC (mainly students and postdocs) and will be available to attendees at the Student Orientation meeting on the first day of the meeting in Charleston. We will be calling this sheet the *Notes from the Above Ground* to correspond with the *Notes from the Under-ground* (tips about local fare).

We look forward to seeing you all in Charleston!

Peggy Biga, Chair SPDAC



A FRESH LOOK AT THE SOCIETY'S FINANCES— TREASURER'S REPORT, BOB ROER

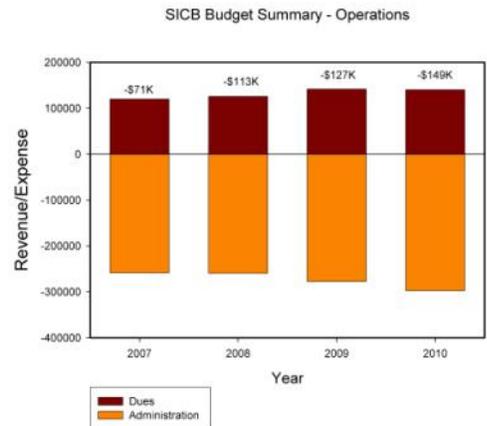
On the road to recovery

In 2002, SICB invested a total of \$779,498 with a professional financial management group under the guidance of Matthew Tederick. On 31 December 2007, the account was worth \$1,160,976. The stock market crash took its toll, and by 31 December 2008 the portfolio had decreased nearly \$300,000 to end the year at \$836,475. The stock market recovery has resulted in a substantial gain in the value of our endowment and, as of 15 December 2010, it was valued at \$1,025,210. Mr. Tederick has advised us to assume a conservative posture on our investments based upon his concern about potential sovereign and municipal defaults. The Finance Committee voted to accept this advice and we currently hold just over half of our assets in cash and bonds.

The society is in sound financial condition

The net assets of SICB, as of 30 June 2010, amounted to \$1,531,053. This is a marked improvement compared to 30 June 2009 when net assets totaled \$1,304,782. In addition to the un-

realized capital gain, this improvement in our net assets is due to the responsible stewardship of the So-



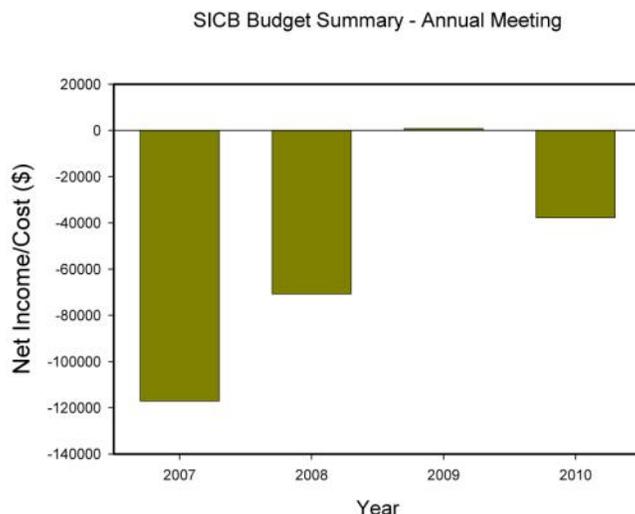
ciety's accounts by the Finance Committee and the efforts of our management company BAI to control the costs of our annual meeting. The result was that the Society ended the fiscal year \$103,504 in the black; and that is before the addition of \$68,478 in unrealized capital gain.

Realignment of revenue and expenses allowed for better analysis of SICB finances

When I took the reins as treasurer, I was asked if the dues were appropriate to cover our operations and if the registration fee for the annual meeting was sufficient to cover our costs. In attempting to analyze the numbers to answer these questions, it became apparent to me that, while the accounts were all accurate, their presentation did not make it easy to separate those revenues and expenses associated with our annual meeting from

(Continued on page 15)

“When I took the reins as treasurer, I was asked if the dues were appropriate to cover our operations and if the registration fee for the annual meeting was sufficient to cover our costs.”



“The travel award program was very successful this year.”

BROADENING PARTICIPATION IN SICB

On Jan 4th 2011, the members of the Broadening Participation Committee (BPC) met and discussed several items regarding revising the travel award applications and process to be more efficient and timely, generating a workshop evaluation, and new workshop and social ideas. Members present were: Cheryl Wilga (Chair), Michele Nishiguchi, Peggy Bigga, Denise Dearing, Gregory Florant, Nora Espinoza, Brian Tsukimura (Program Officer), and Ken Sebens (President-elect). We offer a fond farewell to Ken Sebens, who is now the President and so off the committee, and a hearty welcome to Billie Swalla, the President-elect and a BPC member. Members that were unable to come this year were Joan Edwards and Scottie Henderson,

vide lunches for workshop organizers, and fund the social.

The travel award program was very successful this year. This year, the call will come out at the same time as the student support. We had 30 applicants and were able to provide most of the requested funding to 26 of the applicants totaling \$9,285. The first SICB BP travel fellows are: Juan Felipe Aggio, Jesse Bautista, Sara Bombaci, Regina Campbell-Malone, Andres Carrillo, Diego Castro, Andrew Clark, Carrie De Jesus, Ying Huang, Cassie Kaapu-Lyons, Bethany Kimokeo, Felicia Linn, Nellie McLean, Robert Miranda, Jacqueline Moustakas, Andrea Narvaez, Dawn O'Neal, Mark-Anthony Pascua, Mu Qiao, Rocio Salomon, Gabriel Segarra, Adrian Tisbe, Michael



Student recipients of the Broadening Participation “travel awards” at the Salt Lake City meeting. Cheryl Wilga, Chair of the Committee on Broadening Participation, is front and center!

hopefully we see you next year.

The BPC discussed asking for an increase in the budget so that we could fund more travel awards to SICB. We asked for a total of \$15,000 (~\$2,000 increase), which was approved at the last SICB executive committee meeting. We will increase travel award support, pro-

Tran, Johanna Varner, Beatriz Willink, Enoc Zuniga (see photo below).

The fellows provided great information in their applications for the committee to guide future efforts; particularly good were suggestions for workshops and stating the challenges to being a scientist from an

(Continued on page 5)



“The committee was touched at the heartfelt thanks from the travel fellows and we look forward to seeing them again at future meetings.”



BROADENING PARTICIPATION IN SICB—CONT.

underrepresented group. The most commonly requested workshop was how to apply for grants. Therefore, the Broadening Participation Committee will host a workshop on “Demystifying the NSF Grant Process” by NSF program officers that will be open to all members at the 2012 meeting.

Two workshops were hosted by the BPC at the 2011 meeting. Both were very well received with great evaluations by virtually all attendees. The first workshop on “Balancing Life and an Academic Career” was organized by Greg Florant (Colorado State University) and Nora Espinosa (Clemson University) and was held on Jan 5th over lunch. This workshop discussed issues concerning time management techniques and focused on family issues in academia as they pertain to life and career as many questions on the topic were asked by the audience. The presenters shared some of their experiences and questions and issues from the audience were entertained throughout. 55 members attended. The second workshop on “Issues facing new faculty” was organized by Denise Dearing and was held on Jan 6th over lunch. This workshop was intended for postdoctoral fellows and junior faculty and 30 members attended. A panel of four faculty members covered topics from achieving tenure at an R-1 institution, developing a research portfolio, tips for securing grants, and balancing work-life issues. The panel consisted of Peggy Bigga (North Dakota State University), Hannah Carey (University of Wisconsin), Michele Nishiguchi (New Mexico State University), and Scott McWilliams (University of Rhode Island). Each panelist provided a brief summary of suggestions and then the floor was opened for audience questions and discussion with the panelists.

The Diversity Social was held on Jan 6th and was wildly successful. A continuing flow of tasteful appetizers including brie en crouete, vegetables crudite, northwestern smoked salmon with all the fixings, barbeque chicken strips and buffalo chicken wings, and a cash bar kept the attendees happy and chatting with fellow members well into the night. Cheryl Wilga (Chair) offered a welcome and thanked everyone for organizing workshops and evaluating travel awards at a time when everyone is busy with holiday events. Dr. John Wingfield, NSF Director of the Division of Integrative Organismal Systems, spoke about funding opportunities. Of course the highlight of the evening was handing out the checks to the travel award fellows, who were very appreciative of the much needed support. The committee was touched at the heartfelt thanks from the travel fellows and we look forward to seeing them again at future meetings. The BPC is very proud that one of our first travel award fellows won the D. Dwight Davis Award for Best Student Talk in DVM - Andres Carrillo. Most award fellows were there, we have evidence in the photo above! The social was attended by NSF program officers, past presidents, current presidents, executive committee members, travel award fellows, and many other members. Our sincere thanks to everyone who attended and helped make this event a success. We plan to do this every year, so be sure to look for us in Charleston.

Special thanks to Michele Nishiguchi and Brian Tuskimura for providing advice and support. The BPC thanks everyone who helped make our plans for increasing participation within the SICB a success.

*Cheryl Wilga, Chair
Committee on Broadening
Participation*

Communicating with the Media – A Success

At the annual meeting in Salt Lake City, the Public Affairs Committee (PAC) held a workshop entitled "Communicating With the Media." Judging from the interest and enthusiasm of the 100+ SICB

media world from their varied perspectives, sometimes engaging in philosophical debates. From feedback after the workshop, SICB members indicated an interest in having specific media training events and workshops each year, and this suggestion is spurring the PAC to design yearly events. Stay tuned for another media-related program at SICB 2012.

In other news, the PAC is considering a new program that would help train students in science journalism. In essence, a limited number of students would be chosen to serve as roving freelance journalists at the yearly meeting. This position would serve as their 'job' to earn their hotel or registration costs through the normal SICB student support program. In return, their science writing would be posted on the SICB web site after the conference or issued as a press release. We will provide more details about the program soon, and are aiming to implement this for SICB 2012.

*Jake Socha, Chair
Public Affairs Committee*



Workshop panelists Mimi Koehl, Lee Siegel, and Carl Zimmer.

members in attendance, it was a highly successful event. Panelists Mimi Koehl, Carl Zimmer, and Lee Siegel provided us insight into the

JOHN A. MOORE LECTURE

The **John A. Moore Lecture** moved to a new time slot this year, now positioned as the final talk of the annual meeting and a lead-in to the end-of-meeting social. Our Moore lecturer in Salt Lake City was **Scott Freeman** from the University of Washington. Scott delivered the message that non-traditional teaching methods can boost student performance even in large classes, as evidenced by his own research over several years on learning outcomes in his 700-student introductory classes. The talk was well attended and extremely well-received, and we look forward to using the new time slot to continue to give prominence to

educational issues important to the society.

Bob Podolsky, Ed Council Chair



Scott Freeman, the John A. Moore Lecturer.

Deadlines:

Symposium Proposals—Aug 19, 2011

Abstracts for 2012 Charleston Meeting—Sept 9, 2011

Strong Programs—Successful Annual Meetings

Brian Tsukimura, SICB Program Officer

Greetings from sunny California! I want to thank all of the plenary lecturers (Tom Daniel, John Wingfield, Scott Freeman, Robert Cox and Craig Young), symposium organizers and presenters, and all the participants for making the 2011 Salt Lake City meeting very rich and enlightening. Congratulations to all who survived the frigid weather! Charleston will be warmer. I'd also like to welcome aboard Program Officer-Elect Jon Harrison. In addition, we all should commend the Divisional Program Officers (DPO), Sue Burk, Lori Strong, and staff at Burk and Associates, and Ruedi Birenheide our webmaster

Plasticity on Evolutionary Innovation and Diversification - Organizer M. Wund, supported by DAB, DCE, DEDB, DEE, DIZ, DESB, & DVM.

Novel methods for the analysis of animal movement: spatial and temporal structure across scale - Organizer D. Altshuler supported by DAB, DCB, DCPB, DEE, DIZ, DNB, & DVM.

Dispersal in marine organisms: A symposium honoring Mary E. Rice—Organizer J. Norenburg supported by DEDB, DEE, DIZ, & AMS.

Regular Symposia:

Mangrove Killifish: an Exemplar of Integrative Biology—Organizers E. Orlando, B. Ring and R. Earley, supported by DAB, DCE, & DCPB.

Biology of Sea Snakes: Tribute to William Dunson and Harold Heatwole—Organizer H. Lillywhite supported by DAB, DCPB, DNB, DESB, & DVM.

Poecilogony as a window on larval evolution: Polymorphism of developmental mode within marine invertebrate species—Organizer E. Knott and supported by DEDB, DEE, DIZ & AMS.

Combining experiments with modeling and computational methods to study animal locomotion—Organizer L. Miller supported by DCB, DEE, DIZ, DNB, & DVM.

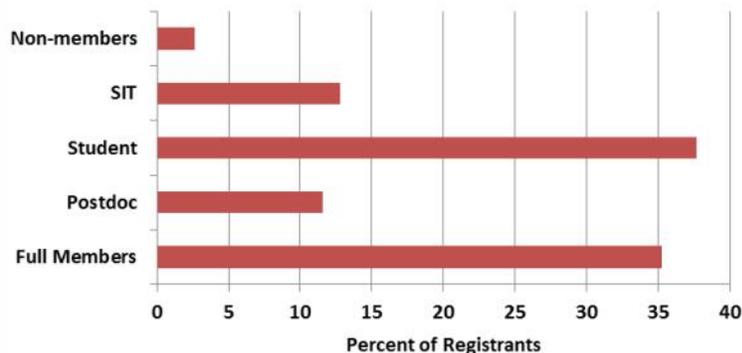
EvoDevo Rides the Genomics Express—Organizer B. Swalla supported by DCE, DEE, DIZ, DNB, DESB, & DVM.

Comparative Proteomics of Environmental and Pollution Stress—Organizer L. Tomanek supported by DCE, DCPB, & DNB.

Barnacle Biology: Essential Aspects and Contemporary Approaches—Organizer J. Zardus supported by DEE, DIZ, AMS & TCS.

I am very much looking forward to seeing your abstracts in September! Have a very productive Summer!

Salt Lake City Meeting Registrations



who work very hard to provide you an outstanding program.

Important upcoming deadlines

- Symposium proposals, **2013 meeting in San Francisco—Aug 19, 2011.**
- Abstracts for **2012 Charleston, SC Annual Meeting—Sept 9, 2011.** Plan ahead.

SLC Registration Info. We had 1404 registered attendees with 1082 presentations (119 of which were from the symposia), which included 452 posters and 511 oral presentations.

Symposia for 2012 Charleston:

Society-wide Symposia:

The Impacts of Developmental



JOHN H. DEARBORN 1933-2010

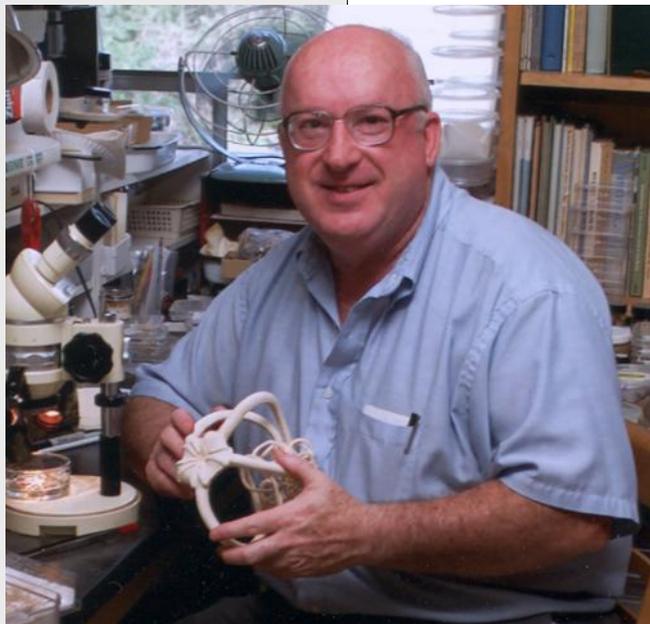
John H. Dearborn passed away on November 24, 2010 in Orono, Maine, where he was a member of the University of Maine faculty since 1966 and Professor Emeritus since 1999. A longtime member of SICB's Division of Invertebrate Zoology, John was a modern pioneer in Antarctic research. While a Ph.D. student at Stanford University,

he overwintered twice at the U.S. base at McMurdo Sound, spending a total of 25 months collecting marine invertebrates for his doctoral research. His extensive benthic survey provided the groundwork for all subsequent benthic research in Antarctica, and his collections are still studied and results published from them. He also warmly mentored generations of graduate students and colleagues worldwide who engaged in Antarctic and Arctic research, including Paul K. Dayton, who described him as "the best polar biologist who has ever lived."

John's research centered on the functional morphology and systematics of, especially, cold-water echinoderms, almost always in an ecological, and more recently, a forensic context. His perspective on the polar benthos covered exceptionally wide spatial and temporal scales. He maintained long-term collaborations with his friends Dave Pawson of the Smithsonian's National Museum of Natural History and Gordon Hendler of the Los Angeles County Museum. So respected was he among his diverse peers that a polychaete, a bivalve mollusk, and an Antarctic fish were named for him, as was Mount Dearborn in South Victoria Land, Antarctica. Other honors included the Antarctic Service Medal of the U.S. Congress in 1968, and the University of Maine Presidential Research and Creative Achievement Award in 1987. He is one of only two UMaine faculty members to receive both this recognition and the Distinguished Maine Professor award.

John Dearborn was what Paul Dayton called a "cultural elder," being not only a scientific and academic mentor, but also one who shapes the value systems by which we live. At Maine, John's wisdom, historical perspective, and humanness were a benefit to all who interacted with him. He directed the studies of 18 grad students and served on the committees of countless more. His former graduate students recalled: his endless generosity, sensitivity, warmth, and affection; how he disciplined with discussion and kindness; his vibrant and adventurous spirit; how he was a trusted protector, provider, companion, guide; his consummate grace and disarming humility; and how he exemplified what we should all aspire to be as professionals and as people.

Malcolm Shick & John Pearse



his extensive benthic survey provided the groundwork for all subsequent benthic research in Antarctica, and his collections are still studied and results published from them. He also warmly mentored generations of graduate students and colleagues worldwide who engaged in Antarctic and Arctic research, including Paul K. Dayton, who described him as "the best polar biologist who has ever lived."

Following a postdoc at Harvard's Museum of Comparative Zoology, John joined the faculty of the Dept. of Zoology at the University of Maine, where he taught courses in ecology, invertebrate zoology, functional morphology, and polar biology. Renowned for his exemplary and inspirational teaching, he was named Distinguished Maine Professor in 1973. Generations of students recall his welcoming demeanor, and especially his wonderful sense of humor that included classroom imitations of invertebrate be-

haviors and body parts.



DAVID W. TOWLE 1941-2011

In the midst of planning a June sailing trip on the eastern Adriatic in celebration of his upcoming 70th birthday, in the midst of rebuilding his 1962 vintage 36 foot wooden trawler *Spray*, in the midst of sharing the news that his latest publication on salinity-induced changes in gene expression in the green crab had just been accepted, in the midst of singing and fiddling and playing his accordion, in the midst of living his vibrant, enthusiastic, caring life – David Towle died unexpectedly on January 3, 2011.

David Walter Towle, Ph.D., until recently Mt. Desert Island Biological Laboratories Senior Investigator and Director of the Marine DNA Sequencing and Analysis Center, retired in June 2009 to move on to further adventures. David was born on May 26, 1941 into a dairy-farming family in Chichester, New Hampshire. He graduated valedictorian of his Concord High School Class, attended two years at Wesleyan University in Connecticut, and then joined the Peace Corps in the early 1960's. He was in the first Peace Corps group sent to Nepal, where he spent 2 years working primarily on animal husbandry, after which he rode his bicycle throughout Europe. He then attended the University of New Hampshire, first as an English major and eventually in Biological Sciences. After completing his Master's degree, David earned his PhD from Dartmouth College in 1971.

David joined the faculty at the University of Richmond, developed his research and teaching skills in comparative biochemistry and physiology, and was recognized with an Outstanding Educator Award. He began spending his summers at the Mt. Desert Island Biological Laboratory in 1982. In 1988, David was recruited to be Chair of the Department of Biology at Lake

Forest College, Illinois. He continued with his summer research at MDIBL, often bringing undergraduates from Lake Forest College to offer them summer research opportunities on the Maine coast. He was awarded the Foster G. McGaw Professorship of Biology in light of his administrative, research and teaching endeavors. In 2000, David retired from Lake Forest College and accepted a year-round position at MDIBL. Seven years after he left Lake Forest, in recognition of his contributions to undergraduate research, the College created the David W. Towle Excellence in Research Award to be given each year to the Lake Forest senior who had undertaken the most exceptional research in the Biological Sciences. Moving to Maine and working as a senior investigator at MDIBL, David reveled in the chance to devote his scientific energies to research. His already lengthy list of research accomplishments and publications continued to grow substantially at MDIBL. Working on the Na/K-ATPase, David was one of the first researchers to show that the activity of branchial transport enzymes was sensitive to salinity. He was also one of the first to show the Na/K-ATPase was localized to the basolateral membrane of the crab gill. David pioneered the preparation and use of membrane vesicles as a way to monitor ion flow and transporters in crustaceans, and he first discovered the electrogenic $2\text{Na}^+\text{H}^+$ exchanger in crustaceans. He continued to describe transporters in crustaceans at both the functional and the molecular sequence levels, comparing them with vertebrate transporters, and demonstrating the relevance of working with what were originally called non-model invertebrates in order to understand ion regulation in animal tissues. He focused on introducing new techniques in gene expression

(Continued on page 10)



DAVID W. TOWLE 1941-2011—CONT.

(Continued from page 9)

into the laboratory, including real-time quantitative PCR, developing EST libraries, and microarray analyses to further his interests in crustacean biology. David was adamant about the obligation to share data, especially EST and sequencing data, with the scientific community. He brought many new investigators to MDIBL and generously shared his time, knowledge, space, and resources, encouraging visitors to jump into the world of molecular comparative biology by example and by direct experimentation. One of David's most profound legacies is the number of people he trained, from undergraduates to established scientists, who now use his techniques in their research.

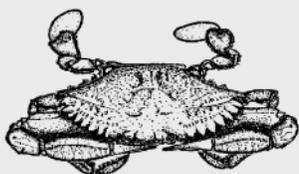
During his scientific career, David was invited to participate in numerous national and international meetings. He served SICB as the Society-wide Program Officer from 1987 to 1989; one of his goals was to schedule strong speakers for the last sessions of the annual meeting. After the final session, he would be there to give the speaker his warm thanks and a special hand-printed "Last Paper of the Meeting Award." David was chair of the Division of Comparative Physiology and Biochemistry in 1996-1997. Throughout his career, he and his students regularly contributed oral and poster presentations at SICB. Many in his expanding network of scientific colleagues developed into close friends and collaborators, and they exchanged research visits, postdocs and students. Opportunities for expeditionary biology and collaborative research included a research cruise to Palau to study salt and water balance in land crabs, Baja Mexico, the Amazon River, and the Patagonian Andes. While David's bibliography reveals a polyphyletic list of research organisms, he was a leading crustacean researcher, and

he often joked that there are crabs that need to be studied all over the world.

In 2009, David decided he was ready to turn his attention away from full time science and pursue other interests. One of his retirement projects was the restoration of the wooden-hulled boat *Spray* (that arrived on a flatbed truck from the Midwest in his driveway the morning of his MDIBL retirement party) and a trip on the Great American Loop. He also continued with his love of music, singing, playing fiddle and accordion in the Big Moose Contra Dance Band, and traveling to Louisiana Cajun music country. He leaves behind his wife, Dr. Betty Massie, three children, two grandsons, his mother, three siblings and their families, and countless friends.

These words are a two-dimensional timeline of David Towle's career written in the past tense for those who marvel at the weaving together of events that shape a scientist. For a fuller understanding of David's attitudes and accomplishments and his ability to inspire students of all ages, please read "Genomics with Gusto" on the Mount Desert Island Biological Lab web site (MDIBL Bulletin (2009), Vol 48, x-xviii). Ray Henry solicited written contributions from David's colleagues and students and wove them together into an eloquent living testimonial to the greatness of David's person, words written and given to David during his MDIBL retirement fest in July 2009. Note particularly the multitude of comments attesting to David's ability as a teacher – this, despite David's oft stated declaration that he preferred research to teaching. Note also the recurrent themes of generosity, hospitality, enthusiasm, openness, and joy.

Nora Terwilliger & Ray Henry



*“Experiences—Part 10
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.”*

ODD AMPHIBIANS AND INTEGRATIVE BIOLOGY — MARVALEE WAKE

(Continued from page 1)

amphibians, with comparison to such modes in fishes and reptiles. I am currently examining live-bearing taxa in diverse lineages in an attempt to assess the mechanisms that underlie the evolution of convergence and parallelism—homoplasy.

One of the major questions that I am still asking myself is why anyone would be interested in studying caecilians the elongate, limbless and [mostly] tailless, tropical amphibians that most people think at first sight are large earthworms? Until very recently, they have been poorly represented in museum collections, reputed to be difficult to find in the field (they are fossorial, one group also being semi-aquatic to aquatic), impossible (so far) to breed reliably in the lab, and generally not appropriate organisms with

wanted to ask. I haven't been able to extricate myself from my "investment" in them.

I first became acquainted with caecilians when Professor Jay Savage, then at USC, suggested that I do a senior project. I was already admitted to medical school, tired of observing in hospitals, and taking several of the courses required for my zoology major—and finding them fascinating! I took vertebrate natural history, animal physiology, genetics, ecology, and evolution, and sat in on Richard Etheridge's herpetology course. Jay had just returned from a year's sabbatical in Costa Rica, and had collected a vast number of amphibians and reptiles, including a series of caecilians that he hadn't yet identified. He suggested that I learn something about them, and start by identifying them. I did, and only then realized that identifying them meant counting all of their hundreds of body annuli—something that I have now done thousands of times, but that most people don't find too fascinating—and I suspect that Jay himself didn't. In fact, there were two species in two genera in the set; my early reading yielded a lot of very general information about caecilians, but especially some salient features such as several species, including the two in the sample, being viviparous and giving birth to fully metamorphosed young, and their extensive adaptive radiation, presumably following their limb/tail loss and body elongation. These factors really struck a chord with me in terms of broader biological questions that might be addressed using caecilians as an empirical base.

Strangely, hanging out in the basement of the Hancock Foundation at USC initially with such grad-

(Continued on page 12)



Looking for salamanders and caecilians in the Guatemalan highlands.

which to examine significant biological processes. I'll grant you they have been *enormously* frustrating to work with, but they have many biological attributes that have made them well worth investigating—when I could get the material that I needed to deal with the questions I

ODD AMPHIBIANS AND INTEGRATIVE BIOLOGY — MARVALEE WAKE

(Continued from page 11)

uate students as 'herpetologists' Arnold Kluge, David Wake, Arden Brame, and my friend since our freshman year, Roy McDiarmid, 'ichthyologists' Bob Lavenberg, Bill Bussing, John Paxton, and later Norm Scott, Ron Heyer, and Muggs McGinnis, and observing their (and Jay's) passion for the taxa they were working on and the questions they were asking enhanced this little pre-med's dissatisfaction with the way medicine seemed to be practiced. It was looking more and more like physicians were just high-gear technicians, while academia, with its combination of teaching and research (and basically being a student, learning new things for the rest of my life) seemed more and more attractive. Then Jay did the "you ought to go to graduate school" bit, and somehow got me admitted (late) to USC's graduate program with a TAship. So, suddenly, I changed course rather dramatically into an unknown but challenging and stimulating arena—while still too shy to talk with anyone about what it was all about!! In fact, I'm still trying to figure out what it's really about.

Starting graduate school meant taking more courses and some seminars, planning the research I wanted to do for my doctoral work, being a good TA in some of the courses I had found faulty when I was an undergrad (Zoology 1AB!!), and doing a Master's thesis in an area distant from the Ph.D. research I planned. Savage decided that, for the cohort of graduate students I joined (e. g., McDiarmid

and Paxton), a broader research experience would be "good", and it should encompass taxa and principles that were distant from those of the proposed dissertation. So, I embarked on an examination of the ecogeography of the lizards of Costa Rica, testing the newly published "Holdridge system" of classifying ecogeographical regions by dimensions of temperature, humidity, and evapotranspiration rates. That meant that I should examine Savage's large collection of Costa Rican lizards, and also those in the collections of the major natural history museums of the United States. I did the latter under the auspices of an NSF Summer Fellowship for Teaching Assistants—a great program, and one that I keep urging NSF to regenerate. I spent 7.5 weeks driving through the US to all of the major museums (Field, U Illinois [aka Hobart Smith], U Kansas, MCZ, AMNH, ANSP, USNM, Tulane, UMMZ etc.). (The journey was also a honeymoon, having married one D. B. Wake—little did I suspect that this would be typical of our meshing of research, meetings, and

fun during our travels, beginning in 1962 and continuing today—but it's been great!) I gathered tons of data on the distributions of lizard species throughout Costa Rica and mapped and analyzed them according to Holdridge principles—basically finding that for many species, there were strong correlations, but that frequently the biology of the animals drove the distribution, rather than the climatic variables, such that, for example, a species

(Continued on page 13)

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ODD AMPHIBIANS AND INTEGRATIVE BIOLOGY — MARVALEE WAKE

(Continued from page 12)

that utilized stream margin habitats often occurred near streams through several Holdridge zones—no surprise. Even though I never published my Master's, Jay was right—I have benefited throughout my career from learning something about a large lineage of animals that have a very different biology, and about ecology and biogeogra-



Holding a fine *Dermophis mexicanus* just collected in Guatemala, three more on the ground. Aren't they exciting amphibians??

phy. I finished the Master's thesis (8.5 months pregnant when I did my thesis defense, and still typing the manuscript a few hours before I went to hospital for the birth of Dave's and my son—having overheard the "well, she'll never finish" conversation of my fellow grad students when they learned I was pregnant, not being permitted to go with the group on a collecting trip in Mexico, etc. But I did finish the Ph. D.... before they finished theirs...), and got to work on my continually developing interest in caecilian biology. I examined the comparative morphology of the urogenital system of caecilians, thus meshing my interests in the lineage and in evolutionary reproductive and life history biology.

I've been studying the biology of caecilians and the evolution of reproductive modes ever since—still doing my senior project, I suppose—and have resolved a few questions, but mostly opened new, larger, more interesting ones for which I need another lifetime to resolve. I've ventured into neuroanatomy, functional morphology, bone, muscle, scale, tooth, heart and kidney development and comparative biology, embryonic and metamorphic biology, all sorts of reproductive comparative morphology, the search for new characters of systematic utility, taxonomy, molecular systematics, and on and on—which has mostly resulted in drawers full of files of incomplete data, hence the need for another lifetime to make use of new tools and increased field work. But I'm happy to spend my current lifetime trying to finish up several things, and especially sharing the diversity of materials I have prepared with a new generation of bright young scholars who are interested in great questions for which caecilians and other amphibians are amenable.

I won't bother those who might have read this far with more personal history, but I will comment on why I think I do research and teach the way I do. I came to biology with an interest in questions, and a limited exposure to animals (but curiosity about them), in contrast to many colleagues who work on amphibians and reptiles because they have been fascinated with them since childhood, and whose interest expanded subsequently to include major biological questions. Amphibians are particularly amenable (in some ways) to my studies of the evolution of reproductive modes, and caecilians, because of that strange, early introduction to them, have become my taxon-focus

(Continued on page 17)



EXCITING MEETING—GRAND CHALLENGES

(Continued from page 1)

orative: Challenges of Integrative Research and Education.” This presentation set the stage for the GCOB workshop held the following afternoon. On January 4, 2011, a Workshop on the **Implementation of Grand Challenges: Strategies for Addressing Grand Challenges in Integrative and Comparative Biology** progressed with short presentations by Drs. Marvalee Wake, Diana Padilla, Jonathon Stillman, and Mark Denny. Sheila Patek organized work groups and led a discussion on how the SICB membership should proceed with the GCOB. Recommendations from that workshop include establishment of interdisciplinary integrative research cooperatives as a means of increasing activity between large and small research laboratories, expanding coordinated research efforts beyond NIH-listed model organisms, facilitated by sequencing the genomes of a wider range of organisms. Much discussion centered on overcoming the vast educational challenges to prepare our students to become the scientists able and ready to take on the challenges of interdisciplinary integrative research spanning organismal biology and genomics. These ideas are expanded in Stillman et al. (2011) in *ICB*.

The SICB Executive Committee has established the website: <http://grandchallengesinbio.org/> that will be a site for all organismal biologists and researchers to get the most up-to-date Grand Challenges in Organismal Biology information. Stay tuned!

Brian Tsukimura
SICB Program Officer

Rebecca Calisi Wins Dorothy Skinner Award

The 2011 Dorothy M. Skinner Award was presented to Rebecca M. Calisi, University of California, Berkeley by selection committee chair Emily Carrington at the SICB Society-wide Business Meeting in Salt Lake City. Former recipients of the award Molly Jacobs and Maren Vitousek also served on the selection committee. The purpose of the award is to provide travel support for women Ph.D. students and/or post-doctoral fellows to present their research at annual meetings of the SICB. Donations to the fund can be made through the SICB web site.



Rebecca Calisi, University of California, Berkeley, is the winner of the 2011 Dorothy M. Skinner Award.

Researchers Database

- ◆ Send a title, 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.

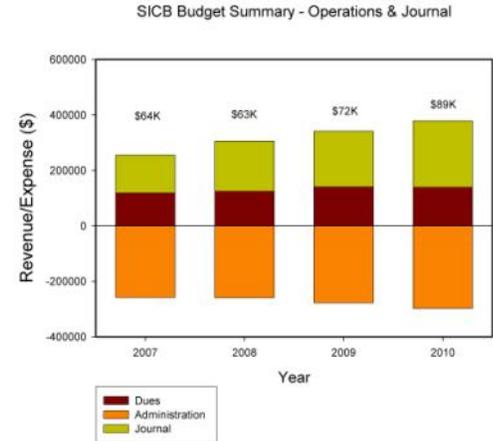
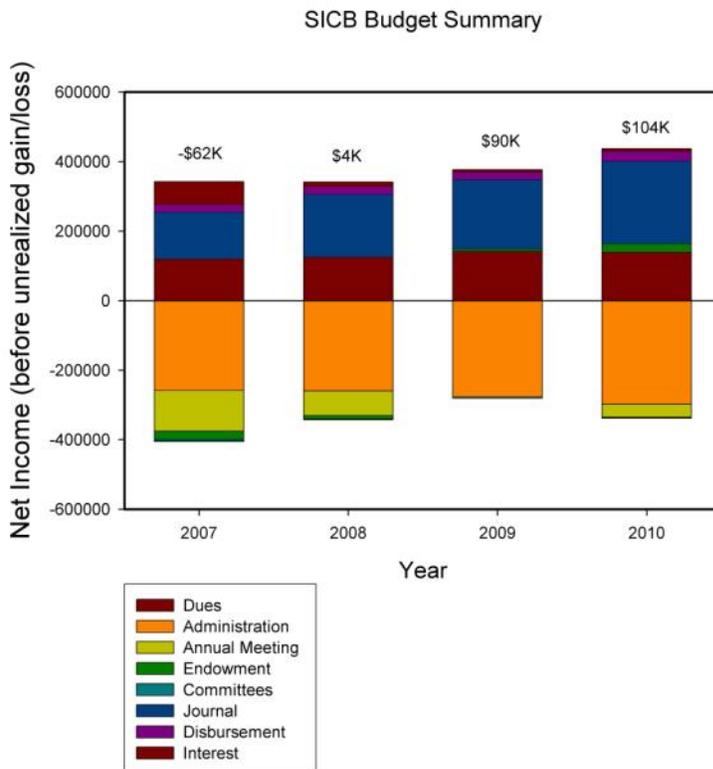


FRESH LOOK AT SICB FINANCES—CONT.

(Continued from page 3)

those dealing with the other operations of the Society. With the assistance of BAI, I have been able to bundle the revenues and expenses of the meeting (including the grants

the BAI fees that are directly involved with the meeting organiza-



tion), and separate them out from the general ledger.

The results of these analyses for the past four years revealed that, in contrast to the treasurer reports that former treasurer Ron Dimock and I had previously presented, the annual meeting has not been the revenue source that we thought it was (see the Annual Meeting figure below). In fact, the annual meeting has operated in the red, with the exception of a small profit for the Boston meeting. The trend for decreasing the deficit for the meeting was due to an increase in the meeting registration and prudent, cost-cutting measures

(Continued on page 16)

for symposia, the divisional budgets that largely support symposia and meeting socials, and that portion of



Endowment Fund	FY 2010 Donations	Balance (06/30/2010)
Carl Gans Fund	\$15,038	\$35,030
George Bartholomew Fund	\$2,093	\$113,499
Libbie H. Hyman Fund	\$1,398	\$25,745
Dwight D. Davis Fund	\$130	\$6,776
John A. Moore Lectureship Fund	\$60	\$3,154
Adrian M. Wenner Fund	\$200	\$8,021
Dorothy M. Skinner Fund	\$513	\$8,194
Symposium Enhancement Fund	\$2,024	\$111,371
Charlotte Mangum Fund	\$4,027	\$262,626
Grants-In-Aid-of-Research Fund	\$2,641	\$179,271
Howard Bern Lecture Fund	\$3,765	\$3,765
C. Ladd Prosser Symposium Fund	\$25,313	\$25,313

FRESH LOOK AT SICB FINANCES—CONT.

(Continued from page 15)

effected by BAI.

The dues that are charged to the membership also do not cover the administrative costs associated with the operation of the Society (see the Operations figure below) to the extent of a \$149K loss this past year. The cost of operating SICB is only brought into the black largely through the revenue we realize from the publication of our journal, *Integrative and Comparative Biology* (see the Operations & Journal figure below). The concern here is two-fold: 1) the revenue from the journal is subject to continued institutional subscriptions and inclusion in consortia, and the increase in the latter has begun to plateau; 2) there has been a trend in membership over the past few years toward a greater proportion of student members (with lower dues) relative to full members. We will need to pay careful attention to these revenue streams over the next few years. The major components of

the revenue and expenses are summarized in the figure labeled "SICB Budget Summary." Good management has slowly turned a net loss of \$62K in FY 2007 into a net gain of \$104K in FY 2010, but an unexpected loss in an annual meeting or another severe downturn in the market could easily reverse this trend. Conservative oversight of the Society's funds will remain the priority of the Finance Committee.

Status of endowments

Fiscal year 2010 saw the establishment of a new endowment fund, the C. Ladd Prosser Fund. The generous donation by long-time and honored SICB member, Len Kirschner, funded this endowment in support of symposia the topic of which falls within the purview of comparative animal physiology and is consonant with Professor Prosser's scientific opus. There were also significant contributions to existing endowment funds this year.

Bob Roer
SICB Treasurer

Member Benefit:
25% Discount on
Oxford University
Press Books
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Biology of Animal Researchers Database Movement

Much of the work in my lab focuses on the functional morphology of vertebrate locomotion. However I am easily excited by other topics, and with the help of interested students often delve into various other aspects of animal form and function. Recently, several students and I had access to newly hatched veiled chameleons and took the opportunity to explore changes in tongue projection kinematics associated with changes in body size. These remarkable photographs were taken by Lauren Bonvini, a lab alum, and show a young chameleon feeding on fruit flies.

Gary Gillis
from the Researchers Database

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**.



ODD AMPHIBIANS AND INTEGRATIVE BIOLOGY — MARVALEE WAKE

(Continued from page 13)

(and frustration) as I pursue the questions about pattern and process of evolution that fascinate me. My ever-expanding and evolving interests in form, function, development, hierarchies and emergent properties, their phylogenetic/evolutionary context, and integration have allowed—in fact, required—me to constantly expand my lab's repertoire of techniques, materials, and approaches to ques-

tions. My students have worked on members of virtually all the major groups of vertebrates as they developed their own foci on evolutionary morphology; I hope that they have benefited from their exposure to a wide range of questions, animals, and techniques in order to gain a breadth of understanding of biology and evolution. Also, although most of my work has been in lab, field work has essential to my research in at least two ways: 1) to obtain the animals that I need for my research, and 2) to broaden my understanding of the animals in their habitats, and the features of those habitats, so that my in-lab maintenance of them and experimental work on them has a "nature-driven" context. I have emphasized the value of the lab-field interaction to my students, and many had, and still have, fieldwork as a component of their research, and all have acquired a respect for museum collections and natural history (I hope). Fieldwork is another aspect of the privilege of being a biologist—I've worked in different habitats throughout the world (I've observed caecilians and habitat in most of Mexico and Central America, and in Vietnam and parts of

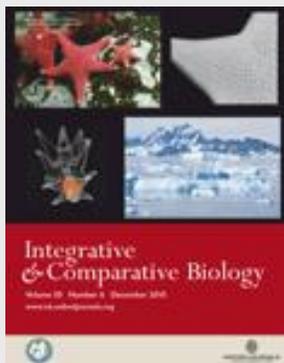
South America, and collected salamanders throughout the US, Mexico and Central America, and Europe). A major collateral benefit that has been most informative is interaction with the people who live in the regions inhabited by the animals, as have discussions with scientists throughout the world, from whom I have learned a great deal about the way that science is done elsewhere, and the individual and governmental interactions involved.

'...I was becoming a "comparative and integrative biologist" long before the term arose, like many of you, and even our predecessors.'

But the main point of this latter commentary is to say that I was becoming a "comparative and integrative biologist" long before the term arose, like many of you, and even our predecessors. My mind-set requires that I study biology in a hierarchical manner, examining many levels of biological organization in order to try to understand structure, function, and development, and especially their interactions, and all this in an evolutionary context. As I practiced that, saw others doing it, and compared those approaches with others, I realized that there might be some general principles that guided and facilitated "integrative" biology, and that new insights emerged from such work. I have tried to organize and promote those principles of integrative biology in my own research, and especially when I chaired the nascent Department of Integrative Biology which resulted from the 'reorganization' of the biological sciences at Berkeley in the late 1980's, and in my work with national and international professional societies (SICB leading in integration), NGOs, and funding agencies. "Integrative biology" is

stand structure, function, and development, and especially their interactions, and all this in an evolutionary context. As I practiced that, saw others doing it, and compared those approaches with others, I realized that there might be some general principles that guided and facilitated "integrative" biology, and that new insights emerged from such work. I have tried to organize and promote those principles of integrative biology in my own research, and especially when I chaired the nascent Department of Integrative Biology which resulted from the 'reorganization' of the biological sciences at Berkeley in the late 1980's, and in my work with national and international professional societies (SICB leading in integration), NGOs, and funding agencies. "Integrative biology" is

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



Students may receive support from SICB to attend the annual meeting for up to 3 years.



STUDENT SUPPORT—NOTICE

(Continued from page 1)

meeting. Over the past six meetings, we have been able to support up to 395 students (2009) in this capacity, which is a truly fantastic amount of assistance. In addition to this program, we have made it a goal to maintain a very affordable registration fee for students attending the meetings. The extended meeting length, starting in 2011, did result in additional costs per student, and will affect the number of students we can support in future years, but we also hope to increase the overall funding for this program so we can accommodate all or most of the students requesting this type of support. For next year's meeting in Charleston, we project that we can support over 300 students in this program. **Note that students can receive support to attend the annual meeting for up to three years, then are no longer eligible.** Please be aware that support will be awarded based on eligibility and date of application, so submit early.

Ken Sebens, President

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 is interested, or anyone who can suggest a nominee, should contact any of the Executive Officers.

PUBMED HERE WE COME!

Notification has been received that the application filed by SICB for ICB to be listed in PubMed has been successful. This will provide greater coverage for all papers with a medically-related content, which now includes quite a number of the papers in our symposia. This is a **major achievement** and thanks are offered to all who worked so hard to bring this about. The details as to which issue will be the first to be included are not available yet, nor do we know yet how far back the back-catalog will reach. You will be notified when further information is available. **In the meantime feel free to celebrate!!**

*Harold Heatwole, Editor
Integrative & Comparative Biology*

ODD AMPHIBIANS & INTEGRATIVE BIOLOGY— MARVALEE WAKE

(Continued from page 17)

still poorly defined (which might be good—it allows growth), but it is getting some attention—and needs a lot more (see Wake, 2001, 2008). In a sense, caecilians helped lead the way, but they will never know it... and I have had both great frustration and great rewards from my eccentric practice of science.

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Wake, M. H. 2008. Integrative biology: Science for the 21st century. *BioScience* 58:349-353.

*Marvalee H. Wake
Department of Integrative Biology &
Museum of Vertebrate Zoology
University of California, Berkeley*

*Candidates for**Treasurer:*

- *Karen Martin*
- *Bob Roer*

Ballots will be issued later in the spring.

CANDIDATE PROFILES—SPRING ELECTIONS

SICB Treasurer **Karen Martin**

Karen Martin

Current Position: Professor of Biology, Frank R. Seaver Chair in Natural Sciences, Pepperdine University; Research Associate, Scripps Institution of Oceanography (SIO)

Education: B. S. and M.S. in Zoology, University of Oklahoma; Ph.D., Biology, University of California, Los Angeles, 1990; Friday Harbor Postdoctoral Fellow, Friday Harbor Labs, University of Washington, 1990-1991.

Professional Experience: 1991-present, Assistant/ Associate/ Full

“Aquatic Organisms, Terrestrial Eggs” and co-organized a symposium in 2011 with Karen Warkentin and Richard Strathmann on “Environmentally Cued Hatching Across Taxa.” Both symposia were funded by NSF. Judge for student papers in DCPB and DEE multiple times. Member also of DVM and DDCB.

Other Memberships: American Association for the Advancement of Science; American Fisheries Society; American Institute of Fishery Research Biologists (Fellow, also Vice Director of Southern California chapter); American Society of Ichthyologists and Herpetologists (Life Member, also Board of Governors); Southern California Academy of Sciences (former Board of Governors); Western Society of Naturalists; Society for the Study of Sandy Beaches; co-founded non-profit Beach Ecology Coalition.

Research Interests: As a physiological ecologist interested in the water/ land interface, I work mainly on intertidal and air-emerging fishes in coastal marine ecosystems, including beach spawning fishes and terrestrial embryo development. In commitment to conservation and public outreach, I have collaborated with over 4000 citizen scientists monitoring coastal wildlife in California along with park rangers, government agencies and beach managers.

Goals Statement: I would be honored to serve as Treasurer for SICB. If chosen to serve the society in this position I will be vigilant about the funds entrusted to this group. I would look forward to supporting student research and travel, as well as symposia, workshops, and information sessions of broad interest to members during annual meetings.



Professor, Pepperdine University; F. R. Seaver Chair since 2000. Research Associate at SIO since 2007.

SICB Activities: Life member of SICB. Secretary, DCPB, 1996-1998. Publications Committee, SICB, 1998-2004 (Chair, 2002- 2004). Co-organized a symposium in 1998 with Richard Strathmann on

*Candidates for**Treasurer:*

- *Karen Martin*
- *Bob Roer*

Ballots will be issued later in the spring.

CANDIDATE PROFILES—SPRING ELECTIONS

SICB Treasurer **Bob Roer**

Robert Roer

Current Position: Professor of Biology & Marine Biology, Dean of the Graduate School & Research, University of North Carolina Wilmington

Education: Sc.B., Aquatic Biology, Brown University (1974), Ph.D., Zoology, Duke University (1979)

Professional Experience: Visiting Scientist, Zoology Department, University of Reading, England, 1975; Assistant Professor, 1979-1985, Department of Biological Sciences (now Biology & Marine Biology), University of North Carolina Wilmington, Associate Professor, 1985-1990, and Assistant Director of the Institute for Marine Biomedical Research, 1981-1986; Professor, 1990-present, and Assistant Chair for Graduate Studies, 1994-2002; Dean of the Graduate School and Research, University of North Carolina Wilmington, 2002-present

SICB Activities:

I presented my first paper as a graduate student at the ASZ meeting in Toronto in

1977, and I have been an active participant in the annual ASZ/SICB meetings ever since. Over the years, I have chaired numerous sessions, participated in symposia, and judged student poster and paper awards. From 1994-98, I served on the DCPB Bartholomew Award selection committee, and was chair of the committee from

1997-98. I served as Treasurer-Elect from 2009-10 and now am serving my first term (2010-13) as Treasurer.

Other Memberships: Sigma Xi, American Physiological Society, The Crustacean Society (Charter Member), American Association of University Professors, Phi Kappa Phi, American Association for the Advancement of Science

Research Interests: Mechanisms of membrane transport in osmoregulation and in biomineralization, crustacean molting physiology and biomineralization, crustacean osmoregulation, control of mineral nucleation in crustacean cuticle

Goals Statement: SICB has served as my principal society, scientific home, and most significant means of interacting with my colleagues for over 30 years. My experiences as a graduate student and new faculty member at the ASZ/SICB meetings helped shape my career and established life-long friendships and collaborations. SICB, more than any other society, has served to promote and showcase comparative biology, and provide both undergraduate and graduate students a welcome introduction to the discipline. It is vital to these functions that the fiscal health that has been restored to SICB be maintained. I have worked closely with the Executive Committee and with Burk and Associates to ensure that this is the case. As a member of the Finance Committee, I have consulted with our investment advisor to steward our portfolio, and I have revised our analysis of the budget to more accurately reflect the costs associated with our annual meeting and the daily operations of the SICB. I pledge to continue to diligently oversee and safeguard the finances of the Society.



*Candidates for
Educational*

Council Chair:

- *Bob Podolsky*
- *Joe Thompson*

Ballots will be issued later in the spring.

CANDIDATE PROFILES—SPRING ELECTIONS

SICB Educational Council Chair

Bob Podolsky

Robert D. Podolsky

Current Position: Assistant Professor of Biology, College of Charleston, Charleston SC.

Education: A.B. with high honors, Biology, Princeton University, 1985; M. S. University of Florida, 1989; Ph.D. University of Washington, 1995; postdoctoral fellow, Hopkins Marine Station, Stanford University, 1996-7.

Professional Experience: Assistant Professor, Biology, College of Charleston, 2005-present; Assistant Professor, Biology and Marine Sciences, UNC-Chapel Hill, 1998-2004.

SICB Activities:

Member and regular meeting contributor since 1992; DIZ student paper award (1992); Adrian M. Wener strong inference award (1995); regular student paper and poster judge for DIZ & DEE; symposium participant 2003 ("Selection and Performance in Nature"); symposium organizer and participant 2006 ("Marine Life Cycles"); symposium organizer and participant 2010 ("Evolutionary Paths among Developmental Possibilities"); Membership Diversity committee 2004-2005; Educational Council member 2008-present and chair 2009-present.

Other Memberships: Society for the Study of Evolution, American

Society of Naturalists, Sigma Xi.

Research Interests: Evolutionary and physiological ecology; life-history evolution and larval ecology; fertilization ecology; phenotypic plasticity; marine invertebrate form and function.

Statement of Goals: Since taking on the role of chair of the Educational Council two years ago I have helped to advance the educational agenda of the society on several fronts. The initiatives I have been bringing forward are inspired by (1) member feedback in response to questions I asked in the SICB society-wide member survey and (2) my participation in an AAAS/HHMI conference on the role of professional societies in undergraduate education. At that conference I learned how far SICB is lagging behind other societies in the promotion of an educational agenda. Our initiatives have included an arrival-day display of undergraduate posters to better highlight their contributions to the society; the repositioning of the Moore lecture as the final talk of the annual meeting to give educational topics a new position of prominence; the development of an annual "Teaching and Learning" workshop to foster exchange about innovative approaches to teaching that will rotate among fields; addition of a statement to the call for symposia with encouragement and ideas for organizers to add educational components to their symposia; development of an online database of teaching expertise to connect society members who teach or are planning to teach similar courses; and defining a role for educational issues in the Grand Challenges initiative. Several of these activities are works in progress and I would appreciate the opportunity to serve one more term as chair to see them completely implemented.



*Candidates for
Educational*

Council Chair:

- *Bob Podolsky*
- *Joe Thompson*

Ballots will be issued later in the spring.

CANDIDATE PROFILES—SPRING ELECTIONS

SICB Educational Council Chair
Joe Thompson

Joe Thompson

Current Position: Assistant Professor of Biology, Franklin & Marshall College, Lancaster, PA.

Education: A.B. with honors in Biology, Bowdoin College (1992); Ph.D. in Biology. University of North Carolina (2000); NIH-SPIRE Postdoctoral Fellow, University of North Carolina (2000-2003).

Professional Experience: Assistant Professor, St. Joseph's University, Philadelphia, PA (2003-2006); Assistant Professor, Franklin and Marshall College (2006-present).

SICB Activities: Member of Divi-

dent papers/posters (DIZ); Participant in NE Regional and SE Regional DVM/DCB conferences.

Other Memberships: Member of the American Physiological Society since 2006;

Research Interests: Structure and function of musculoskeletal support systems, especially those of soft-bodied invertebrates. Ontogeny of muscle function and locomotion in cephalopod mollusks. Hydrodynamics of jet locomotion.

Statement of Goals: I view the prospect of serving as Chair of the Educational Council as an opportunity to repay, albeit in a small way, the numerous members of SICB who have played crucial roles in my development as a teacher and researcher. If elected, I would work to continue development of the SICB Digital Library. We have an impressive array of excellent teachers in our society, and the Digital Library is a fantastic tool for sharing teaching expertise and great ideas. As a complement to the more formal submissions currently required by the DL, I would like to see the DL add an informal series of threaded discussions on practical issues in teaching that might be of broad interest to members of the Society. I would also like to develop an annual workshop on teaching, targeted at grad students, postdocs, and new professors, focused on practical issues in teaching and on using emerging technologies in the classroom and lab. The John Moore lectureship is a wonderful addition to the events at our annual meetings, and we should continue the tradition of inviting high profile educators to address the Society. Finally, I would explore the idea of the Educational Council serving as a liaison between the NSF and the Society with respect to the Broader Impacts portion of NSF proposals.



sion of Invertebrate Zoology (DIZ) since 1995 and Division of Comparative Biomechanics (DCB) since 2008; Member of the team that created the SICB Digital Library (<http://www.sicb.org/dl/index.php3>); SICB Digital Library Advisory Board; Judge for best stu-

*Candidates for**Member-At-Large:*

- *Beth Brainerd*
- *Paula Mabee*

Ballots will be issued later in the spring.

CANDIDATE PROFILES—SPRING ELECTIONS

SICB Member-At-Large

Beth Brainerd

Elizabeth L. Brainerd

Current Position: Professor of Biology and Medicine, Department of Ecology & Evolutionary Biology, Brown University, Providence RI

Education: AB, Biology, Harvard College (1985); PhD, Organismic & Evolutionary Biology, Harvard University (1991); Postdoc, Division of Applied Sciences, Harvard University (1991-1994).

Professional Experience: Assistant Professor (1994-2000), University of Massachusetts Amherst;

Biology, Brown University (2006-present).

SICB Activities: Member, Division of Vertebrate Morphology since 1986; Member, Division of Evolutionary Developmental Biology and Division of Comparative Biomechanics since their founding in 2000 and 2007, respectively; Chair, Committee for Increasing Membership Diversity (2001-2003); Chair, Division of Vertebrate Morphology (2005-2007). Organized (with colleagues and students) two DVM Northeast Regional Meetings at UMass Amherst and two at Brown University.

Other Memberships: Member, International Society for Vertebrate Morphology; Chair, Scientific Program Committee, 7th International Congress of Vertebrate Morphology (2002-2004); Member, Society for Experimental Biology; Life Member, American Society of Ichthyologists and Herpetologists; Life Member, Sigma Xi; Fellow, AAAS.

Research Interests: Functional morphology, comparative biomechanics, and evolution of vertebrates; biological imaging and visualization.

Statement of Goals: I joined ASZ/SICB when I was a first-year graduate student, and the professional contacts that I made through the society have been a great help and joy throughout my career. SICB has always been highly supportive of students and their professional development, and my highest priority is to keep the society and our meetings relevant and valuable for students, postdocs, and junior faculty. Toward that end, I am interested in seeing some reform of our scientific, professional development, and social program formats, and I would like to involve our junior members more fully in such decisions to shape the future of their Society.



Associate Professor (2000-2005), University of Massachusetts Amherst; Director, Interdepartmental Graduate Program in Organismic and Evolutionary Biology (2002-2005); Professor (2005-present), Brown University; Vice Chair, Department of Ecology & Evolutionary



*Candidates for**Member-At-Large:*

- *Beth Brainerd*
- *Paula Mabee*

Ballots will be issued later in the spring.

CANDIDATE PROFILES—SPRING ELECTIONS

SICB Member-At-Large

Paula Mabee

Paula Mabee

Current Position: Professor of Biology, University of South Dakota, Vermillion, SD

Education: B.A. Biology, St. Olaf College (1981); Ph.D. Zoology, Duke University (1987); Postdoctoral Fellow, Smithsonian Institution (1987-1989); NSF Postdoctoral Fellow, Dalhousie University, Halifax, Nova Scotia (1989-1991).

Professional Experience: Assistant Professor (1991-1995), Associate Professor (1995-1997), San Diego State University, San Diego, CA; Associate Professor (1997-2001), Professor (2001-present),



University of South Dakota, Vermillion, SD.

SICB Activities: Organized 'Evolutionary Biology and Ontologies' workshop at SICB 2009 (Boston) meetings; Nominating committee for Division of Developmental and Evolutionary Biology (2003-2004); Nominated as Chair

of the Division of Developmental and Evolutionary Biology (2002); Past-chair, Division of Systematic Zoologists (2000 - 2001); Chair, Division of Systematic Zoologists (1998 - 2000); Chair-elect, Division of Systematic Zoologists (1997 - 1998); Initiated "Phylogenetics for Dummies" workshop series (Atlanta, 2000); Symposium co-organizer (Atlanta, 2000); Divisional representative for Systematic Zoology for Education Committee; Editorial Board.

Other Memberships: American Association for the Advancement of Science (AAAS Fellow 2004); American Society of Ichthyologist and Herpetologists since 1985 and currently Board of Governors (2010-2015). Member of the Society for Systematic Biologists (President from 1996 - 1997); Member of AIBS and Editorial Board Member for *BioScience* (2003-present). Member of Sigma Xi, Society for Biocuration (Editorial Board for *Biocuration*, 2009-).

Research Interests: Development and evolution of fishes and other vertebrates with a focus on the skeleton; Reasoning across organismal phenotypes and genetics using computational methods (ontologies).

Statement of Goals: The deluge of genomic data brings into sharp focus the necessity for its interpretation from an integrative and whole organism view. The Society for Integrative and Comparative Biology (SICB) has the potential, through its legacy and member expertise, to play a major role in the future computational integration of data required to fully understand organisms (e.g., development, form and function, evolution, ecology). As a long time member of SICB, I am committed to the promotion of integrative and comparative biology at this critical juncture in biology.

