Experiences in Science Education: Teaching with a Beginner’s Mind

Chris Gillen, Kenyon College, recipient of the 2017 M. Patricia Morse Award for Excellence and Innovation in Science Education

Reflecting on the talented and generous scientists who have been my mentors, role models, and colleagues is a humbling experience, but especially so in the context of the M. Patricia Morse Award from the Society for Integrative and Comparative Biology, for reasons that I hope will be apparent by the end of this essay.

A few years ago, a colleague and I were discussing how we teach a difficult concept - chemical equilibrium I think it was - in our introductory biology lecture course when she remarked, “It’s so frustrating. We go over this year after year, and they never seem to get it.” On one level, she was kidding. We both knew - intellectually at least - that the students in our classrooms are new each year, so they weren’t present for last year’s explanation. But on another level, she was pointing at one of the trickiest challenges that teachers face: putting ourselves in the place of our students.

As teachers and scientists, we try to understand our disciplines as well as possible. However, as we become more experienced, we often lose touch with what it is like to be a student. Chris Gillen with Kenyon College students Jiayu Chen ’17 and Alec McQuiston ’16 at the 2016 SICB meeting in Portland, OR.

It has been an action-packed few months since the SICB annual meeting with a new administration in Washington, D.C., and a March for Science coming up in April. SICB officers and committee members have been very busy on all fronts and I want to highlight for you a few of these activities. I also want to thank those many members who make SICB run so smoothly!

Letter to President Trump. In late December, SICB signed on to a letter to the then President-Elect Donald Trump to make scientific research and education a priority in the new administration. The letter specifically urged the appointment of a Presidential Science Advisor with strong scientific credentials and urged the use of peer-reviewed scientific information to inform decisions. SICB was one of a number of groups that signed this letter and a link to the letter can be found on the SICB website.

March for Science. The SICB Public Affairs Committee and the Executive Officers communicated directly with members about the March for Science, scheduled for April 22. The SICB statement put out to our members made a very strong case for science as a “rigorous process of discovering evidence-based truth through intensive research and experimentation.” Furthermore, it highlighted that “SICB stands with and is strengthened by people of all genders, gender identities and expressions, races, ethnicities, religions or religious beliefs, sexual orientations, disabilities, and national origins." The March for Science is an opportunity to voice our support for diversity, academic freedom, science-based policy, and inclusiveness.

Students Are Our Strength. Anyone who has ever been to a SICB meeting knows how important students are to our enterprise. And we put our money behind such a statement – to the tune of about $250,000 per year! We have a
SOMETHING new for Integrative and Comparative Biology –
ICB Editor, Marty Martin

We at *Integrative and Comparative Biology* are excited to initiate a new series in the journal, the **Editors’ Challenges**. These challenges will resemble the ‘Editor’s Forum’ from the journal *Behavioral Ecology*. They are intended as a mechanism to generate cross-disciplinary discourse on topics of broad importance, and advance the field by generating ideas on gaps to address in future research. In other words, our aspiration is to create an enduring outlet for products resembling the ‘Grand Challenges’ papers published several years ago.

Our first Editor’s Challenge will address ‘Stress.’ To generate material on which to base this first Editors’ Challenge, we encourage you to give us your definition of ‘stress’ and express your interest in participating in a follow-up workshop on these definitions at the following SurveyMonkey link, which will be open until June 30, 2017:

[LINK HERE](#)

1. How do you define stress?
2. Would you be interested in attending a workshop on the morning of January 3, 2018, at the annual meeting venue in San Francisco addressing results from this survey?
3. Please provide other feedback about the Editors’ Challenge initiative, including recommended topics for future Challenges.

Shortly after the survey closes, the Associate Editors and I will summarize the survey results (and post the responses online). That summary and the associated stress definitions will serve as the basis of a workshop on the first day of the SICB meeting (before the opening Plenary Talk on January 3, 2018). At that workshop, participants will seek a level of conceptual synthesis for the concept, stress, or at least opportunities for important future research. Workshop proceedings and outcomes will be described in manuscripts by 2-3 groups of authors (to be decided at the meeting), with (ideally) one manuscript attempting to synthesize the entire effort (i.e., stress definitions, Editors’ Challenge, and the other manuscripts arising from the workshop). The entire series will then be published in 2018 (after typical peer-review) in ICB.

Importantly, we editors see this effort as the first of many of its kind. To that end, if there is an integrative, complex topic that you’d like to see covered in a future Editor’s Challenge (e.g., health, inheritance, etc.), please contact one of the journal editors. In the future, we hope that other SICB members lead other Challenges; they (and other ICB editorials) are open to consideration from all SICB members.

On behalf of the ICB Associate Editors, thanks for your participation!

March for Science, a message from the SICB Executive Officers and Public Affairs Committee:
SICB is a **partner organization** in the March for Science. Please **register for marches** all over the world at [www.marchforscience.com/rsvp](http://www.marchforscience.com/rsvp). SICB members can make a donation to support the March at [www.marchforscience.com/donate](http://www.marchforscience.com/donate).
The Society continues to be financially healthy. As you may know, the financial welfare of the society is met by three different sources of revenue: 1) membership dues, 2) the annual meeting, and 3) the journal *Integrative and Comparative Biology*.

The third source of revenue, the journal, provides an income based on a split with the publishers, Oxford University Press, of which 70% goes to SICB and 30% stays with the publishers. In FY 2016, $338,151 was paid to SICB by Oxford. From this revenue, however, expenses for the subscriptions to the members are paid, along with the expenses for the editor and assistant editor for travel and stipends.

In recent years, the subscription costs have been higher than anticipated, because of continued restitution for underpaid subscription fees in previous years when not all members were accurately reported to Oxford. Thus the expenses for subscriptions in 2014 were $69,838 rather than the anticipated $43,000. In 2015, the subscriptions cost $122,866 rather than the anticipated $49,000; last fiscal year the expense for subscriptions was $111,479 rather than the budgeted $55,000. This means that over the past 3 fiscal years, expenses for subscriptions were $157,183 higher than anticipated, essentially double the expected amounts, because of the need to make this correction.

Journal expenses also include stipends for the editor and assistant editor, $44,392 in FY 2016 with travel expenses of $3,876. Thus the total revenue realized from FY 2016 from the journal was $178,403. If one calculates the initial revenue provided to SICB, $338,151 as 70% of the total revenue, then in reality the net revenue to SICB after expenses in 2016 was only about half that, or approximately 37% of the total revenue. In 2015, the net revenue after expenses was $159,845 or 34% of the total, and in 2014 the net was $217,588 or about 48% of the total revenue from the journal.

In the future, expenses for subscriptions will decrease. Starting this year, online subscriptions will cost less than print subscriptions and will decline in cost over the next few years, from $20 each, down to $0 in $5 per year increments. On the other hand, print subscriptions will increase in cost from $40 per year to $50 per year. So as more members subscribe online, subscription expenses are expected to decrease (see Figure 1).

Revenue from the journal is important for funding other parts of the SICB budget, including administration of the society and support for student research and travel.

| Figure 1. Journal subscription costs per member have been equal for print and online, but will diverge starting this year. In 5 years, online subscriptions will be provided to members at no cost to the Society. |
Thank you to everyone who attended and worked to make the 2017 SICB meeting a success. It was wonderful to return to the city of New Orleans, which was a great environment for science as well as music, food, and nightlife. I hope that everyone had an enjoyable and productive meeting and is already looking forward to next year!

Attendance at the 2017 meeting continued a sustained upward trend. If you thought last year was a big meeting, New Orleans beat Portland by a considerable margin, easily becoming the largest SICB meeting ever with 1917 submitted abstracts and 2240 preregistered attendees – increases of 12% and 7%, respectively over last year. This is more than double the abstracts from as recently as 2008! Such growth forecasts a promising future for our Society and an exciting outlook for the science we conduct, but may also carry challenges as we strive to maintain opportunities for interactions that are such an important part of coming together as a Society each year. In that spirit, we are grateful to everyone (715 of you – up 36% from last year!) who gave us feedback through the online Post-Meeting Survey. Results from the survey are now in, and give lots of helpful insights and suggestions.

First, respondents generally shared a very positive overall view of the meeting (see Figure 1) - 85.9% of survey respondents felt that the meeting was very good or excellent, keeping pace with the strong positive ratings from last year (87.1%). The strength of the overall scientific program was a major factor in the positive view of the meeting, but the chance to network and discuss ideas with old friends and new colleagues was also regarded as very important. New Orleans also received high ratings as a conference venue, with several respondents mentioning that they were happy to see SICB return to the city.

The Broadening Participation Committee met on January 6th to discuss broadening and clarifying our definition of diversity, expanding the BP program’s presence on the SICB website, and expanding the new BP Meeting Mentor program. The committee also reviewed our judging criteria for travel awards and discussed ways of encouraging more post-docs and junior faculty to apply for BP travel awards. Members of the BP committee for 2016-17 included Clare Adams (grad student rep), Stacey Combes (chair), Maya deVries (post-doc rep), Karen Maruska, Rita Mehta, Gabri- el Rivera, Sharlene Santana, Brian Tsukimura and Walter Wilczynski, as well as ex-officio members Zen Faulkes, Richard Blob, and Louis Burnett.

The BP Committee will be granting travel awards of up to $500 for the 2018 meeting in San Francisco, and encourages any SICB members who are under-represented and/or who enhance the diversity of experiences and perspectives within their field, geographic region, or institution to apply for these awards. Note that these awards are not restricted to students, and we are especially interested in ensuring that post-docs and junior faculty members have the support they need to attend the SICB meeting.

The pilot BP Meeting Mentor Program initiated at the 2017 meeting in New Orleans will be expanded next year, providing all members of the BP community (not just travel awardees) with the opportunity to be matched with a “meeting mentor” - a more experienced student, post-doc, or faculty member who has attended SICB several times. Mentors will help their mentees make the most of the meeting, offering tips on which sessions and events to attend, providing general career-related advice, and attending events with their mentee to help expand their professional network at SICB. Keep an eye out in the fall for opportunities to join this program, if you are interested in being matched with a mentor or in volunteering to mentor a newer SICB...
2017 Educational Council Report
Chair, Bram Lutton

2017 TALX Workshop: Teaching and Learning, the Partnership for Undergraduate Life Science Education (PULSE)

Science departments nationwide have been working to align their teaching practices with the AAAS Vision & Change recommendations since its initial publication in 2011 (http://visionandchange.org/). In 2013, the SICB Educational Council hosted its first Teaching and Learning workshop, which was focused on the goals and challenges of implementing Vision & Change, specifically in Introductory Biology. The Partnership for Undergraduate Life Sciences Education (PULSE), a network of more than 50 faculty leaders from varied institutions across the country, has also been working to catalyze the implementation of Vision & Change recommendations and to transform STEM education. PULSE activities focus on departments, and the 2017 TALX workshop introduced participants to the PULSE Vision & Change rubrics, the PULSE Vision & Change Recognition Program, and the PULSE Ambassadors Program as mechanisms to stimulate transforming STEM education at the department level. Teaching & Learning Workshop - SICB 2017

Rosalind Reid gives an outstanding Moore Lecture

Among her many accomplishments, Rosalind Reid now serves as the Executive Director of the Council for the Advancement of Science Writing, an educational nonprofit dedicated to improving the quality and quantity of science news reaching the public. For over 15 years, Mrs. Reid was Editor of American Scientist, the interdisciplinary magazine of Sigma Xi, The Scientists.
Donations to SICB provide needed funds in support of students to attend the annual meeting, grants-in-aid of research, symposia, speakers and recognition of our members. The Endowment is comprised of a number of funds, some named in honor or memory of SICB members, and donors may specify that their contributions be applied to the fund(s) of their choice. We strongly encourage all members of the Society to make a donation in the coming year; no amount is too small and every contribution makes a difference. Since 2014, the Society has recognized donors both through ribbons attached to badges at the annual meeting and by listing donors in the Spring Newsletter. Five levels of giving during the period from the beginning of the 2016 annual meeting in Portland to the beginning of the 2017 meeting in New Orleans (essentially donations made during the 2016 calendar year) are acknowledged here. On behalf of the Executive and Development Committees, thank you for your generous support. Your contributions have a significant and important impact on the Society.

**Donations Report**

*Robert Roer, Chair of the Development Committee*

Donations to SICB allow the Society to offer a superb program at its annual meetings and make this a student-friendly and family-friendly organization. At the 2017 annual meeting in New Orleans, attendees sported different kinds of ribbons showing their support of SICB through their donations. This will be done again for the 2018 meeting in San Francisco. Show your support!

<table>
<thead>
<tr>
<th>Diamond ($500 and up)</th>
<th>Gold ($100-249)</th>
<th>Silver ($50-99)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Jarid Simons</td>
<td>Dr. Fances Bonier</td>
<td>Dr. Danielle Lee</td>
</tr>
<tr>
<td>Drollinger Family Charitable Foundation - Ken Dial</td>
<td>Dr. Sherry Tamone</td>
<td>Dr. Zvi Yaron</td>
</tr>
<tr>
<td>Dr. Thomas Daniel</td>
<td>Dr. Susan Williams</td>
<td>Dr. Sarah Woodley</td>
</tr>
<tr>
<td>Dr. Dianna Padilla</td>
<td>Dr. Sandra Gilchrist</td>
<td>Dr. Sara O’Brien</td>
</tr>
<tr>
<td>Dr. Robert Roer</td>
<td>Dr. Robert Podolsky</td>
<td>Dr. Linda Woodley</td>
</tr>
<tr>
<td>Dr. Billie J. Swalla</td>
<td>Dr. Kristi Montooth</td>
<td>Dr. James Clegg</td>
</tr>
<tr>
<td>Dr. Peter Wainwright</td>
<td>Dr. Judith Grassle</td>
<td>Dr. Duane McPherson</td>
</tr>
<tr>
<td>Drs. Louis and Karen Burnett</td>
<td>Dr. Ignacio Moore</td>
<td></td>
</tr>
<tr>
<td>Dr. Brian Tsukimura</td>
<td>Dr. Duncan Mackenzie</td>
<td></td>
</tr>
<tr>
<td>Dr. Michael Hadfield</td>
<td>Dr. Kathy Dickson</td>
<td></td>
</tr>
<tr>
<td>Dr. M. Patricia Morse</td>
<td>Dr. Sheila Patek</td>
<td></td>
</tr>
<tr>
<td>Drs. Kenneth Sebens and Emily Carrington</td>
<td>Dr. Marvalee Wake</td>
<td></td>
</tr>
<tr>
<td>Dr. David Wake</td>
<td>Dr. Bernard Rees</td>
<td></td>
</tr>
<tr>
<td>Dr. Amy Moran</td>
<td>Dr. Amy Moran</td>
<td></td>
</tr>
<tr>
<td>Dr. Alan Kohn</td>
<td>Dr. Alan Kohn</td>
<td></td>
</tr>
<tr>
<td>Dr. Mark Chappell</td>
<td>Dr. Mark Chappell</td>
<td>Dr. Timothy Greives</td>
</tr>
<tr>
<td>Dr. Paul Maderson</td>
<td>Dr. Paul Maderson</td>
<td>Dr. Rosemary Knapp</td>
</tr>
<tr>
<td>Dr. Michael LaBarbera</td>
<td>Dr. Michael LaBarbera</td>
<td>Dr. Michael Greenberg</td>
</tr>
<tr>
<td>Dr. Michael Baltzley</td>
<td>Dr. Michael Baltzley</td>
<td>Dr. Stephen Schoech</td>
</tr>
<tr>
<td>Dr. L. Michael Romeo</td>
<td>Dr. L. Michael Romeo</td>
<td>Dr. Dominique Adriaens</td>
</tr>
<tr>
<td>Dr. John Pearse</td>
<td>Dr. John Pearse</td>
<td>Dr. Alan Toussignant</td>
</tr>
<tr>
<td>Dr. Frank Fish</td>
<td>Dr. Frank Fish</td>
<td>Dr. Harvey Lillywhite</td>
</tr>
<tr>
<td>Dr. Erica Crespi</td>
<td>Dr. Erica Crespi</td>
<td>Dr. Charles Booth</td>
</tr>
<tr>
<td>Dr. Colin Olmsted Hermans</td>
<td>Dr. Colin Olmsted Hermans</td>
<td>Dr. Dimitri Smirnoff</td>
</tr>
<tr>
<td>Dr. Ana Christensen</td>
<td>Dr. Ana Christensen</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Platinum ($250-499)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Donald Mykles</td>
</tr>
<tr>
<td>Dr. Darwin Jorgensen</td>
</tr>
<tr>
<td>Dr. Richard Blob</td>
</tr>
<tr>
<td>Dr. Jon Harrison</td>
</tr>
<tr>
<td>Dr. Andy Baxevanis</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bronze (up to $49)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Timothy Greives</td>
</tr>
<tr>
<td>Dr. Rosemary Knapp</td>
</tr>
<tr>
<td>Dr. Michael Greenberg</td>
</tr>
<tr>
<td>Dr. Stephan Schoech</td>
</tr>
<tr>
<td>Dr. Dominique Adriaens</td>
</tr>
<tr>
<td>Dr. Alan Toussignant</td>
</tr>
<tr>
<td>Dr. Harvey Lillywhite</td>
</tr>
<tr>
<td>Dr. Charles Booth</td>
</tr>
<tr>
<td>Dr. Dimitri Smirnoff</td>
</tr>
</tbody>
</table>

**Special recognition for individuals who contributed substantially beyond the $500 level:** Dr. Jarid Simons, Drollinger Family Charitable Foundation - Ken Dial, Dr. Thomas Daniel, Dr. Dianna Padilla, Dr. Robert Roer, and Dr. Billie J. Swalla

**Wear a Ribbon at SICB**

Last year we encouraged the members of the Society to wear a ribbon showing their support of SICB at the annual meeting. This year we will continue to do this. The Society was able to offer a superb program due to the generosity of those who donated to the various individual funds. The ribbons recognize donors for their generosity in supporting SICB. The new or improved ribbons will be available at the 2018 Annual Meeting in San Francisco. Join us as we recognize donors through ribbons!
The George A. Bartholomew Award. Each year the SICB Division of Comparative Physiology and Biochemistry recognizes a young investigator for distinguished contributions to comparative physiology and biochemistry or to related fields of functional and integrative biology. Eligible candidates are those who have completed their doctorate within the past seven years and who are members of SICB. The person chosen as the recipient of this award will be invited to present a special address at the 2018 SICB Meeting in San Francisco. The deadline for nominations and applications is 24 August 2017.

The Howard A. Bern Lecture was created by SICB to honor the outstanding contributions of Professor Howard A. Bern to the field of comparative endocrinology and to the society. The lecture is given annually at the SICB meeting by a scientist who has made significant contributions to the field of comparative endocrinology. Scientists from around the world are eligible, and affiliation with SICB is not required. The deadline for nominations is 24 August 2017.

The Carl Gans Award, administered by the SICB Division of Comparative Biomechanics, is given annually either to an outstanding young investigator (who has completed the doctorate within the past seven years) for distinguished contributions to the field of comparative biomechanics, or to an investigator at any level for the single most significant contribution to the literature of comparative biomechanics (research paper, review article, or book) published in 2016. Candidates must be members of SICB, and cannot have received the Bartholomew Award. The deadline for nominations and applications is 24 August 2017.

The M. Patricia Morse Award for Excellence and Innovation in Science Education, administered by the SICB Educational Council, is an annual prize awarded to a SICB member at any career stage for significant achievement in science education. This award honors the achievements and contributions of M. Patricia Morse, President of SICB in 1985, to the Society, especially in the area of education. The Morse award winner will be recognized prior to the introduction of the Moore Lecturer at the 2018 SICB annual meeting, and will be expected to write a brief article for the SICB Spring newsletter or journal describing his or her achievements in, or any important aspect of, science education. The deadline for nominations is 24 August 2017.

The John A. Moore Lectureship was established in 1990 by the SICB Educational Council, which invites a nationally-recognized speaker who does not generally attend the SICB annual meeting to offer the society a new perspective on science education. The Moore Lecture is scheduled on the final day of the annual conference and is a 45 minute-long presentation. Nominations should include a curriculum vitae, a one-page description of the nominee’s contributions to science education, and any additional supporting materials related to the nominee’s achievements in science education, along with up to three recommendation letters. A file of each nominated candidate’s materials will be kept for consideration for a total of three years, and candidates may update any component of the file before consideration for that year’s award. The Chair of the Educational Council may authorize funds to help support the winner’s attendance at that year’s meeting. The deadline for nominations is 24 August 2017.

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

www.SICB.org
The following amendments to the SICB Constitution and the Bylaws are proposed by the Executive Committee of SICB in accordance with the procedures outlined in the SICB Constitution and the SICB Bylaws (published below and found on the SICB website – Constitution; Bylaws). The proposed amendments are here presented to the SICB membership one month prior to voting and will be on the May ballot.

The relevant sections describing the proposed amendments are shown below. The revisions indicate the current wording with new wording shown in **bold underline** for additions and **strikethrough** for deletions. The revisions are followed by a rationale, providing relevant background where required.

Comments and questions about the amendments should be addressed to the SICB Executive Officers (execofficers@sicb.org). Substantive concerns will be shared with the membership before the ballots open and during voting through the SICB website.

A summary of the proposed changes under consideration:

1. **Voting** - cleanup of voting mechanisms to reflect current practice.
2. **Integrative and Comparative Biology**, the SICB journal - changes in titles of some editorial board members as requested by the Editorial Board and to reduce confusion.
3. Changes on Committees - two changes on the appointment of Chairs of the Educational Council and the Development Committee.
4. **Absences** - change to deal with absences of key officers or committee chairs, especially at events such as Executive Committee meetings.

**SICB current policy for amendments to the SICB Constitution:**

**Article VII: Amendments**

Section 1. Proposed amendments of the Constitution may be originated by the Executive Committee or by the members of the Society. Proposals from members shall be submitted to the Executive Committee in writing and shall bear the signatures of at least twenty-five members.

**Section 2.** The Constitution may be amended by a two-thirds vote of the members voting by ballot, provided a quorum of the Society membership votes (see Article V). Proposed amendments to the Constitution shall be posted by the Society Secretary on the Web Page at least one month prior to voting. Ballots will be made available to the membership and one month will be allowed for voting. The ballot closing date shall be stated on the ballot.

**Section 3.** Votes will be collected and tabulated and the Secretary will notify the Executive Committee of the results. The Secretary will also post the results on the Society’s Web Page and in the appropriate fall or spring Newsletter.

**Section 4.** Amendments shall become effective following their adoption as stated in Article VII Sections 1-3.

**Section 5. Articles of Incorporation:** The Articles of the Constitution and Bylaws of this Society may be amended except that no such action shall be taken that would adversely affect the qualification of the Corporation under Section 501(c)(3) of the Internal Revenue Code of 1954, as amended (or the corresponding provisions of any future United States Internal Revenue law).

**SICB current policy for amendments to the SICB Bylaws:**

**Article XVII: Bylaws**

Section 1. Proposed amendments of the Bylaws may be originated by the Executive Committee or by the members of the Society. Proposals from members shall be submitted to the Executive Committee in writing and shall bear the signatures of at least twenty-five members.

**Section 2.** The Bylaws may be amended by a two-thirds vote of the members voting by ballot, provided a quorum of the Society membership votes (see Article V of the Constitution). Proposed amendments to the Bylaws shall be posted by the Society Secretary on the Web Page continued on page 9
Proposed changes to the SICB Constitution & Bylaws, continued

continued from page 8

at least one month prior to voting. Ballots will be made available to the membership and one month will be allowed for voting. The ballot closing date shall be stated on the ballot.

Section 3. Votes will be collected and tabulated and the Secretary will notify the Executive Committee of the results. The Secretary will also post the results on the Society’s Web Page and in the appropriate fall or spring Newsletter.

Section 4. Amendments shall become effective following their adoption as stated in Article XVII Sections 1-3.

Article V of the Constitution referenced above: Quorum

Section 1. Fifty members shall constitute a quorum of the Society, and twelve a quorum of the Executive Committee.

Proposed changes to the SICB Constitution and the Bylaws

1. Proposed Amendment on Voting

Constitution Article III: Administrative Organization

Section 4. Elections: Elections of Society-wide Officers, Members-At-Large of the Executive Committee, and Divisional Officers shall be held by both paper and appropriately secure electronic ballots. The Secretary shall make certain that ballots are made available to the entire membership of the Society and allow one month for their return completion, the due date being stated on the ballot. The Secretary shall be responsible for overseeing the counting, tabulation, and recording of the votes and shall notify the candidates and the Executive Committee of the results of the election. The results of the election will be published in the Fall Newsletter of the Society prior to the Annual Meeting. In the event that the vote for any Society-wide candidate should result in a tie, the three Members-at-Large of the Executive Committee shall vote to resolve the tie.

Rationale: The changes reflect our current practice of having exclusively electronic ballots.

2. Proposed Amendments Associated with the Journal, Integrative and Comparative Biology

SICB Constitution

Article VIII: The SICB Journal: Integrative and Comparative Biology

Section 1. The Executive Committee shall appoint the Editor of Integrative and Comparative Biology after consultation with the Editorial Board of the journal. The Editor of Integrative and Comparative Biology shall serve for a term of five years, with reappointment for one or two additional terms permissible, and shall serve as Chairperson of the Editorial Board.

Section 2. The Editor shall have the authority to appoint one or more Associate Editors (to assist with day-to-day editorial duties) and one or more Managing Assistant Editors (to provide administrative and secretarial assistance), subject to approval by the Editorial Board. Remuneration of the Editor and the Managing Assistant Editors, and payment for standard and appropriate journal operating expenses, shall be determined by the Executive Finance Committee and shall be included as items in the annual budget of the Society.

Rationale: The first part clarifies the appointments of the Associate Editors and the Managing Editor(s); some terminology changes were requested by the ICB Editorial Board. Assistant Editors will now refer to members of the Editorial Board and language has been modified in the bylaws covering these changes. Operating expenses (last sentence above) must still be approved by the Executive Committee as they approve the annual budget. As a practical matter, details of the journal operating budget are first worked out by the Finance Committee and then approved by the Executive Committee. Therefore, the structure will be an Editor, Associate Editors, and an Editorial Board (Assistant Editors).

continued on page 10
SICB Bylaws
Article XV: Standing Committees

Section 5. Editorial Board: The Editorial Board of *Integrative and Comparative Biology* shall consist of one **Assistant Editor** member from each Division, each of whom shall serve for a term of five years. Additional **Assistant Editors** may be added to the Editorial Board as Associate members and each shall serve a term of 2, 3, or 4 years, as agreed between the Editor and the appointee. All members of the Editorial Board shall be appointed by the President upon nomination by the Editor and approval of the Executive Committee. The Editorial Board shall advise the Editor in matters relating to journal policy, with particular reference to determining editorial and business policies for the journal in all respects not otherwise specified by the Constitution and Bylaws.

**Rationale:** The change is to now refer to Editorial Board members as Assistant Editors and to remove the somewhat confusing terminology associated with “Associate members” of the Editorial Board. These changes do not affect the methods of appointment for the Assistant Editors. Divisional representatives will be Assistant Editors as will those appointed as “additional” Assistant Editors. Associate Editors have a slightly different process for appointment requiring approval of the Editorial Board; this process has not changed.

3. **Proposed Amendments on Committees**

SICB Bylaws
Article XV: Standing Committees

Section 2. Educational Council: The President shall appoint a Committee consisting of at least six members, each for a term of three years. The President shall appoint the chair of the Committee. The term of the Chair shall be three years and the Chair is a member of the Executive Committee. The President, after consultation with the Executive Committee, shall appoint an Educational Council consisting of five members, and a sixth member who shall serve as Chair will be elected by the general membership of the Society. The Chair is a member of the Executive Committee. Selection of new members will be made by a recommendation of the Council to the President-Elect. Each member shall serve for a term of three years, and initial members will serve staggered terms so that two replacements are made each year. The Council will report to the Executive Committee through the Chair and will meet once a year at the Annual Meeting of the Society. The charge to the Educational Council will be to provide information to the SICB membership on educational issues in the life sciences, to facilitate the development of consortia to respond to opportunities for funding from granting agencies, and to respond to educational issues and questions brought up by members of the Society. The responsibilities of the Educational Council may include, but not be limited to, the following: educational development for graduate students; coordination of outreach activities; liaison with other professional groups with reference to educational issues; and response to proposals from members for particular projects. Ad hoc working groups will be established by the Educational Council to carry out these projects. The Educational Council will communicate with members through the SICB newsletters and *Integrative and Comparative Biology*.

**Rationale:** The proposed change is modeled after the wording in Section 6 for the Student/Postdoctoral Affairs Committee and Section 12 for the Broadening Participation Committee. On these committees, the chair is appointed by the President. Requiring the chair of the Educational Council to be elected by the membership of SICB requires that two candidates be put forth. The best source of candidates for the Ed Council comes from the members of the Ed Council itself because the members are involved deeply with the activities of the group. The chances of having two members of the six-member Ed Council agreeing to stand for election is rather small. It would necessarily force a candidate unfamiliar
Proposed Changes to the SICB Constitution & Bylaws, continued

with the recent history and activity of the Ed Council to run for the chair. Experience with other SICB committees has shown that committee chairs are most engaged when they understand the recent history and activity of the workings of the committee.

Section 11. Development Committee: The President shall appoint a Committee consisting of at least three members, each for a term of three years. The appointment of members of the Committee shall be ordered so that the term of one member shall expire each year. The President shall appoint the chair of the Committee. The senior member of the Committee shall serve as Chairperson and The Treasurer shall serve as an ex officio member. The Committee is broadly charged to assist the Executive Committee to develop and enhance resources for the Society to support its programs.

Rationale: This committee in recent years has been very active and its members have brought to the table different talents and ideas. For a variety of reasons, the best person to chair the committee in any given year is not always driven by longevity of service on the committee.

5. Proposed Amendments on Absences

SICB Bylaws

Article XIV: Vacancies or Absences in Office

Section 1. If for any reason the office of President should become vacant before the expiration of the normal term, the President-Elect shall immediately assume the duties of President.

Section 2. If there is no officer-elect to assume the duties, a vacancy in the office of Secretary, Program Officer, Past Program Officer, or Treasurer shall be filled through appointment by the President for the remainder of the term.

Section 3. If a member-at-large of the Executive Committee shall be unable to serve on the Executive Committee because of election to an office of the Society, resignation, or any other cause, a member-at-large shall be elected at the next annual election of the Society to serve the remainder of the term so vacated.

Section 4. A member-at-large of the Executive Committee shall not be eligible for immediate re-election unless a term of less than three years shall have been served.

New Section

Section 5. In divisions where there is no specific provision in the divisional bylaws for someone to serve as the Divisional Chair when the Chair is temporarily absent from her/his duties, then the Divisional Executive Committee may appoint a representative in place of the absent Divisional Chair, provided that notice is given to the SICB President. The SICB President also has the authority to appoint a representative. The SICB President has the authority to appoint temporary committee chairs.

Rationale: This applies mainly to divisional chairs in divisions where there is no specific provision for another person to represent the division at the Executive Committee meeting when the chair is not present. Vacancies are generally covered in the bylaws, but absences are not always covered. For example, if a division does not have a chair-elect, then who serves in the absence of the divisional chair? But the provision also applies to the committee chairs that sit on the Executive Committee and who may not be able to attend the Executive Committee meeting.
Obituaries

John O. Corliss (Feb 22, 1922 – Dec 21, 2014). John was the President of the American Society of Zoologists (ASZ, now SICB) in 1972. He was a protozoologist serving on the faculty at the University of Illinois, Urbana, and later at the University of Maryland. He was well-known for his work on the taxonomy of the protozoa.

Link to his obituary in The News-Gazette.
Link to his obituary in The Journal of Eukaryotic Microbiology.

Leonard B. Kirschner (November 12, 1923 – May 4, 2016). Len was a long-time member of SICB, well-known in the field of physiology. With a very generous donation, he established the C. Ladd Prosser Symposium Support Fund in 2010 to honor Prosser for his achievements in physiology; Prosser served as the President of ASZ (now SICB) in 1961. Len earned his Ph.D. from the University of Wisconsin and, after a two-year postdoc in Denmark, joined the faculty at Washington State College (now University) in 1953 where he spent his entire and very productive career.

Link to his obituary.

William Dale "Bill" Hummon (July 27, 1932 – January 1, 2017). Bill served as the SICB Program Officer in 1981. Bill was a fixture at the society’s annual meeting for many, many years.

After earning a BA in Philosophy at the University of Montana, Missoula (1955), Bill was a conscientious objector to military service, and served as an attendant at Apple Creek State Hospital in Ohio in lieu of military service (1955-58). He then returned to the University of Montana for a BS in wildlife biology (1960), and an MA in Teaching of Biology (1961). He received a PhD in Zoology at the University of Massachusetts, Amherst (1969). Bill’s teaching career included Olympic College in Bremerton, Washington (1961-65) and Ohio University in Athens (1969-2002), where he was Professor of Zoology. He was an engaged advisor to generations of undergraduates. Bill ran an active research laboratory, supervising eleven MS students, two PhD students, and three post-doc students, with a focus on freshwater and marine invertebrate ecology. His own research was primarily on marine Gastrotricha (microscopic, free-living invertebrates that live between sand grains on beaches). He discovered, named, described, and published several new genera and numerous new species. His research was supported by Ohio University and by federal grants, and included extended periods at marine labs in Scotland, England, Israel, Egypt, Washington, Oregon, the US Virgin Islands, and the Florida Keys. Bill was active in several scientific societies, and was elected a Fellow of the American Association for the Advancement of Science. A founding and active member of Athens Friends Meeting (Quakers), Bill was a lifelong student of biblical history and literature and Quaker history, and did post-graduate work at the Earlham School of Religion (Quaker) in Indiana. He was a draft counselor during times of war. He enjoyed travel, backpacking, and photography. He had a special love for nature and wilderness.
Figure 1. Ratings of SICB members who responded in 2016 and 2017 to the question “Overall, how would you rate the meeting?”

Even with the success of the meeting, several constructive suggestions were provided through the survey. The diversity of workshops available this year was seen as a major strength, though their concentration during lunchtime slots did mean conflicts (and some missed lunches). Most workshops were quite well attended, but we will definitely look into ways to heed survey suggestions and make further effort to promote these events. Scheduling of the evening lectures was also noted as a challenge by several respondents, though the primary alternative timing that was suggested was also during lunchtime. With the growth and success of SICB over recent years, it is hard to avoid the need to make difficult choices in planning which contributed paper sessions, symposia, and special events to attend. However, the committees and officers who build the program make special effort to minimize conflicts and leave open opportunities for socializing and networking that are highly valued by many attendees. Coordination of a subsidized day care service also continues to be regarded as an important feature for SICB to provide at the meeting. In addition, further suggestions for vendors and other activities in the poster hall will also be explored.

With regard to social event programming, in addition to the events held near the conference venue, several divisional socials and the Broadening Participation Social were held in offsite locations. In general, this balance between onsite and offsite locations was viewed positively, letting people stay close if they wanted to, but also motivating a bit more exploration of the city. Survey comments provided useful feedback on several venues. Since many of the socials are organized at the Divisional or Committee level, feel free to also pass suggestions (and thanks!) directly to your divisional officers.

An important new initiative that SICB advanced this year was the publication of a Meeting Code of Conduct, with the goal of fostering open dialog and exchange of ideas in an environment that promotes equal opportunities and treatment for all participants. This was seen as an important step by many respondents, and over 70% indicated they had already reviewed it. Several suggestions were made for refinements to the Code, and we intend to examine these and evaluate revisions that could improve its effectiveness.

For the fifth year, we incorporated a meeting App for use with mobile phones and tablets. A steady proportion of attendees (70-80%) has used the meeting App over the last 3 years, and satisfaction with the App maintained levels that were similar to those from last year (see Figure 2). As noted in survey responses last year, many of the issues with the App stemmed from limits to wireless availability in the conference center. Our choices for future conference sites (see more below) take wireless availability into consideration among the

Figure 2. Ratings of SICB members who responded to the questions concerning the usefulness of the Meeting App in 2016 and 2017.

continued on page 14
2017 - Program Officer’s Report, continued

Factors that are evaluated. Moreover, our survey this year indicated that a majority (56%) of respondents would support a modest, $25 increase in meeting registration fees to support improving the App and wireless availability. Stay tuned as we take steps to consider these results to improve future meetings.

SICB continues to strongly support student participation at the annual meeting, because we recognize that students represent the future of the Society. Nearly 80% of Full Member respondents indicated that they were members as either a student or postdoc, and almost two-thirds of Full Member respondents came to the meeting with at least one student (up from roughly half last year), helping to sustain that tradition. And based on survey responses, student engagement in SICB is strong: nearly two-thirds of respondents were students or post-docs, and nearly 85% of student/postdoctoral respondents indicated that they intend to join as a Full Member in the future. As a result, SICB is strongly invested in facilitating successful conference experiences for student members through financial support opportunities, special workshops, and socials. Several divisions have also now moved to organizing focused sessions for Best Student Paper competitions. These have been very well received, with nearly 60% of respondents indicating they attended such a session, and almost 95% of respondents indicating they would be very or somewhat likely to attend such sessions in the future. These results give a good indication that Best Student Paper competitions are effective venues to highlight the best work of SICB student members.

With continued growth in annual meeting attendance, we have tried to take advantage of opportunities to secure future venues that will provide attractive destinations and amenities, but also allow for potential increases in the number of attendees. As a result, we have secured several exciting locations for SICB through 2021, as well as for 2023 (see SICB Future Meetings), but we are always happy to receive feedback and suggestions.

Many thanks to the organizers of the 11 symposia in New Orleans for their hard work in contributing to the program of the annual SICB meeting, including Alex Gunderson, Jonathon Stillman, Brian Tsukimura, Tony Williams, Shaun Kellen, Ryan Calsbeek, Jill Schneider, Caroline Williams, Greg Ragland, Kevin Kohl, Denise Dearing, Kathleen Lynch, Scott MacDougall-Shackleton, Ariel Chipman, Doug Erwin, Simon Lailvaux, Jerry Husak, Ben Dantzer, Dustin Rubenstein, Thomas Stewart, Stuart Newman, Gunther Wagner, and Anders Garm. If you missed any of these sessions, keep an eye out for their papers in upcoming issues of *ICB*!

Because papers from SICB symposia are published in *ICB*, organizing a symposium is a wonderful opportunity to make a lasting impact on your field that extends well past the duration of the annual meeting - and don’t think you need to wait until after tenure! SICB welcomes symposium proposals from members at all career stages, including junior faculty, postdocs, and graduate students. If you are thinking about organizing a symposium for the Tampa meeting in 2019, don’t delay putting your inspiration into action! It never hurts to get an early start on the application process. Contact your divisional program officers to discuss your ideas and ask for suggestions that could help ensure broad appeal across the Society. I am also happy to answer questions and give feedback (programofficer@sicb.org). There are also SICB SYMPOSIA POLICIES AND GUIDELINES published on the web that you should read. The deadline for symposium proposals for the 2019 Tampa meeting will be in mid-August, 2017. You can find the Call for 2019 Symposia on the SICB Meetings website.

The symposia for the 2018 San Francisco meeting are posted on the SICB web site. There are exciting symposia on each of the 4 days of the meeting (see below).
2018 San Francisco Tentative Symposium Schedule

January 4
1) **From Small and Squishy to Big and Armored: Genomic, Ecological and Paleontological Insights into the Early Evolution of Animals (SICB wide);** Organizers: Erik Sperling & Kevin Kocot; Sponsors: DEDB, DEE, DIZ, DPCB, & AMS

2) **Spatial Scale and Structural Heterogeneity in Skeletal Muscle Performance;** Organizers: David Williams & Natalie Holt; Sponsors: DCB & DVM

3) **Evolution in the Dark: Unifying Understanding of Eye Loss;** Organizers: Megan Porter & Lauren Sumner-Rooney; Sponsors: DEDB, DEE, DIZ, DNNSB, DPCB, AMS, & TCS

January 5
1) **Story and Art in Science Communication (SICB wide);** Organizers: Sara El Shafie, Stuart Sumida, & Bram Lutton; Sponsors: DAB, DCB, DCE, DEDB, DEDE, DEE, DIZ, DNNSB, DVM & AMS

2) **Sensory Feedback and Animal Locomotion: Perspectives from Biology and Biorobotics;** Organizers: Brett Aiello, Jessica Fox, & Gary Gillis; Sponsors: DAB, DCB, DCE, DNNSB, DPCB, DVM

3) **Understanding the Evolution of Endocrine System Variation through Large-scale Comparative Analyses;** Organizers: Maren Vitousek, Jerry Husak, & Michele Johnson; Sponsors: DAB, DCE, DCPB & DEE

January 6
1) **Science in the Public Eye: Leveraging Partnerships;** Organizers: Martha Merson, Nick Hristov, & Louise Allen; Sponsors: DAB, DCB, DCE, DEDE, DNNSB & DVM

2) **Integrative Biology of Sensory Hair Cells;** Organizers: Duane McPherson & Billie Swalla; Sponsors: DEDB, DNNSB & AMS

3) **Inside the Black Box: The Mitochondrial Basis of Life-history Variation and Animal Performance;** Organizers: Karine Salin & Wendy Hood; Sponsors: DCE & DCPB

January 7
1) **Behavioral and Physiological Adaptation to Urban Environments;** Organizers: Jenny Ouyang & Davide Dominoni; Sponsors: DAB, DCE, DCPB, DCPB, DCE & DEE

2) **Measuring Biodiversity and Extinction: Present and Past;** Organizer: Julia Sigwart; Sponsors: DEDE, DIZ & DPCB

In addition to the symposia, there will of course be contributed oral sessions, poster sessions, and workshops across the entire 4-day meeting. Be sure also to arrive in time on January 3 to see the opening evening plenary presentation, which will be given by renowned science writer Carl Zimmer. A regular columnist for the New York Times and contributor to programs including This American Life, he is a dedicated advocate for science communication and the author of several books including A Planet of Viruses, Parasite Rex, Evolution: The Triumph of an Idea, At the Water’s Edge, and the textbooks The Tangled Bank: An Introduction to Evolution (for non-science majors) and Evolution: Making Sense of Life (for biology majors). His awards include fellowships from the Guggenheim and Sloan Foundations, the AAAS Science Journalism Award, and the Stephen J. Gould Prize from the Society. 

continued on page 16
2017 - Program Officer’s Report, continued

for the Study of Evolution. With the need for effective communication of science becoming ever more important, his talk will give an exciting focus to the start of the meeting.

San Francisco and the Bay Area are fantastic travel destinations. Since you won’t want to miss any of the scientific program, how about planning to stay extra time before or after the conference? Check out the SICB meeting webpage for updates on the venue and program throughout the coming year.

2017 Educational Council, continued

Ed Council Chair Bram Lutton, 2017 Moore Lecturer Rosalind Reid, and Trish Morse in New Orleans.

2017 Morse Awardee, Chris Gillen

While the SICB Educational Council had a number of excellent candidates for the 2017 M. Patricia Morse Award for Excellence and Innovation in Science Education, Dr. Chris Gillen of Kenyon College was a standout nominee for the award. Dr. Gillen has had a transformative impact on educational practices at Kenyon and other Ohio-based institutions, as well as on the national stage. His accomplishments have impacted undergraduate education, science writing for the general public, and teaching scientific writing for physicians and biomedical researchers. To offer one example, thanks to Dr. Gillen’s efforts, Kenyon College’s Biology Department has been funded since 2010 by a NSF Scholarships in STEM grant entitled “Building a Culture of Success in the Sciences,” which has enabled faculty and administrators to learn how to best recruit, retain, and serve the interests of science students from ethnic and economic minorities. Dr. Gillen’s unique and innovative charisma is perhaps best summed up by the words of his colleague and Chair of Biology, Drew Kerkhoff, who supported Dr. Gillen’s nomination by saying, “All too often, we lose that rosy glow as the ambiguities and realities of our discovery set in, but Chris exercises and cultivates that sense of wonder so that it somehow resists atrophy.” Be sure to read Chris’ Experiences in Science Education article in this newsletter.

Call for Nominations and Applications for SICB Awards and Lectures:

The M. Patricia Morse Award for Excellence and Innovation in Science Education is an annual prize awarded to a SICB member at any career stage for signifi-

continued on page 17
2017 Educational Council, continued

The John A. Moore Lectureship was established in 1990 by the SICB Educational Council. The aim of this lecture series is to invite a nationally-recognized speaker who does not generally attend the SICB annual meeting to offer the society a new perspective on science education. The Moore Lecture is scheduled on the final day of the annual conference and is a 45-minute-long presentation. Nominations should include a curriculum vitae, one-page description of the nominee's contributions to science education, and any additional supporting materials related to the nominee's achievements in science education, along with up to three recommendation letters. A file including nominated candidate materials will be kept for consideration for a total of three years, and candidates can update any component of the file before consideration for that year's award. The Chair of the Educational Council may authorize funds to help support the winner's attendance at that year's meeting. Please send nominations for this award to the Chair of the Educational Council (Chair.EdCouncil@sicb.org). The deadline for nominations is 24 August 2017.

Broadening Participation Committee Report, continued

New Orleans, 2017 Activities

The Broadening Participation committee held a meet-and-greet breakfast on January 5th, before the first day of talks, to allow mentors and mentees taking part in the BP Meeting Mentor Program to become acquainted, and to meet BP Committee members and SICB officers.

continued on page 18

Participants in the BP Meeting Mentor Program, BP Committee members, and SICB officers chatted at a breakfast meet-and-greet before the first day of talks in New Orleans.
Broadening Participation Committee Report, continued

continued from page 17

The Broadening Participation workshop on “Microaggressions: The big impact of little things,” was held on January 7th. The workshop was attended by approximately 50 SICB members, who shared personal experiences, debated strategies for responding to microaggressions, and discussed ways to increase general awareness within our community about how everyday comments and actions can convey subtle, indirect, and sometimes unintentional discrimination, which add up over time to marginalize underrepresented scientists.

Finally, more than 100 SICB members attended a chilly, crowded, but very fun evening social to honor the BP travel awardees on January 7th at the Dragon’s Den. The BP Committee was able to provide 23 applicants with travel awards of up to $500 to attend this year’s meeting in New Orleans. The awardees consisted of 1 research associate, 7 post-docs, 20 Ph.D. students, 2 M.S. students, 1 post-baccalaureate researcher, and 14 undergraduates, with 15 being Hispanic/Latino, 2 African American, and 1 Native American; 16 of the 23 awardees were women, and 2 awardees were transgender. The evening social provided award winners and other members of SICB the opportunity to mingle and chat over a buffet dinner and drinks, before the awards were presented.

“What is a Scientist?” Middle-school Outreach Program

The Broadening Participation Committee was proud to join the Public Affairs Committee and the Educational Council in supporting a new community outreach effort organized for the 2017 meeting in New Orleans by graduate student members Glenna Clifton and Kari Taylor-Burt. 27 SICB members (including graduate students, post-docs, and faculty) volunteered to take part in the program, arriving a day early or staying a day after the meeting ended to visit 7 Louisiana middle schools. These volunteers delivered 46 presentations, reaching approximately 1200 students in the 5th-8th grades in the New Orleans area.

This program was a huge success. Volunteers commented about how much fun they had with the students and how engaged the students were; 100% of the volunteers rated the program as effective or very effective at helping the students to have fun and showing them that scientists are ‘real people,’ and 80% of the volunteers said that they were likely to volunteer with this program again. Feedback from teachers and students was also overwhelmingly positive, with students saying they learned “about using our senses to get information,” that scientists “help people and research unknown creatures,” and that “there are multiple kinds of scientists.”

The organizers hope to organize a similar outreach effort for the 2018 SICB meeting in San Francisco, and would welcome any SICB members who are interested in volunteering.

The 23 recipients of a 2017 Broadening Participation Travel Award were honored during an evening social at the Dragon’s Den in New Orleans.
President's Report, continued
continued from page 1

number of important SICB programs and funds that support students. We do this by providing meaningful workshops, Best Student Presentation awards, and social functions at the meeting. But we also do this with financial support for meeting attendance and money to support research and travel. We pay for all this by prudent budgeting and we rely heavily on our endowed funds. Last spring we surveyed the membership about these funds and determined that we need to do a better job of explaining what the funds do and how they do it. We promise to do that in the coming months. But we will also ask our members, including and especially our student members, to help out. Our Development Committee has already approved a campaign that we will embark upon, and we will call it something like “Double Your Dues for Student Support.” We will ask each SICB member, including student members, to contribute an amount equivalent to the annual SICB dues over a three-year period; the donations received in this way will be used to support the Grants-in-Aid of Research (GIAR) and the Fellowship of Graduate Student Travel (FGST). There is an existing single fund that supports GIAR and FGST and we have targeted this fund for growth; currently, more than 30 students receive GIAR or FGST support from SICB each year. Each year, SICB awards more than 30 students support for research and travel (see http://sicb.org/grants/research-grant.php3). Our goal is to encourage a pattern of giving among the membership for a society that gives a lot to all of its members.

Broadening Participation. SICB is working hard to broaden its appeal to all individuals as expressed in our March for Science statement. A few years ago, SICB established a Broadening Participation Committee (BPC) to help with these efforts. The BPC brings a strong voice to the programs at our annual meetings. I wanted to highlight one particular accomplishment that reflects on the efforts by a lot of people over the years to broaden the participation of people in our society, especially underrepresented groups. In an upcoming issue of the SICB journal, Integrative and Comparative Biology, you will see an article called “Broadening Participation in the Society for Integrative and Comparative Biology” by Cheryl Wilga, Michele Nishiguchi, and Brian Tsukimura. These three individuals have been champions in this endeavor and I want to thank them and recognize them for their sustained efforts over many years. I urge you to read this article as soon as it is published and share it with your colleagues. The article shows how to set short-term and long-term goals to broaden participation and how to make it happen!

Editor-in-Chief Search for New SICB Open-Access Journal. SICB recently announced that it was searching for a founding Editor-in-Chief for a new journal for the Society. We are pleased to announce that the Search Committee, chaired by Past-President Peter Wainwright, has put forth four candidates who will be interviewed by the SICB Executive Officers and current ICB Journal Editor, Marty Martin, for the position during April and May. The founding Editor-in-Chief will be responsible for working with the SICB officers to identify a publisher, identify associate editors and an editorial board, and for recruiting authors to submit high-quality manuscripts to the new journal. The name of the new journal has not yet been established.

SICB Website 2.0. Soon I will be assembling a group of individuals to plan a new SICB website. Our current website has served us well with rich content that presents our face to the world and helps to serve as our archives. But now it is time to have a good look at another generation of web services with a new face. Stay tuned!

Social Media. The footprint of SICB’s social media has become stronger recently. The New Orleans meeting showed lots of Twitter activity (@SICBtweets). And our Facebook presence has grown largely due to the efforts of Thom Sanger of the SICB Public Affairs Committee, who has made it his mission to post intelligent and meaningful items for our members (https://www.facebook.com/groups/SICBmembers/). So join the growing number of SICB members who view our Facebook page. Even if you don’t like Facebook, have a look at Thom’s postings and you will change your mind!
pert, it gets harder for us to identify with students. We don’t recall how hard it can be to understand how a proton gradient can be used to power ATP synthesis or how a countercurrent multiplier can concentrate salt in the kidney medulla. Even worse, we start to lose the sense of awe and wonder that we once felt towards these concepts. In short, we tend to forget the challenges and joys of being a beginner.

The value of a beginner’s mindset may be easier to appreciate when we step away from our expert domains. Late in migration season many years ago, I was standing with my wife Kathy (a cell biologist who also teaches at Kenyon) among a group of birders in New Haven’s East Rock Park. We were all straining to get a look at a Prothonotary Warbler, a rarity in Connecticut. Suddenly, a beginner in the group yelled, “There it is. Oh my goodness, it’s beautiful.” and pointed to a tree across the river. Before the rest of us could swing and focus our binoculars, someone announced, “No, that’s a Yellow Warbler. They’re common birds.”

I doubt the expert meant to be dismissive. It was a Yellow Warbler and they are common. At that time of year, a good birder couldn’t go more than five minutes at East Rock without hearing one sing. On the other hand, the beginner was right too. The male Yellow Warbler sports red stripes on its yellow breast. It is beautiful. Kathy and I were still relatively new birders, so we, too, readily admired its striking beauty. Now, after seeing hundreds or even thousands of Yellows, it might be harder for us to perceive its grandeur. The beginning birder risks misidentifying a common bird, but the expert risks becoming numb to its beauty. Which is worse?

Or maybe that’s the wrong question. Good teachers of science get the details right but also sympathize with new learners and convey a sense of wonder. They find ways to correct mistakes without crushing spirits. They have deep subject knowledge but also something of the openness, creativity, and insight captured by Richard Baker’s description of the beginner’s mind:

“The mind of the beginner is empty, free of the habits of the expert, ready to accept, to doubt, and open to all the possibilities. It is the kind of mind which can see things as they are, which step by step and in a flash can realize the original nature of everything.”

Perhaps it would be better to ask, How can we become experts and still retain the helpful qualities of the beginner’s mind?

My scientific mentors modeled a healthy mix of expert knowledge and beginner’s playfulness. At Lafayette College, I was drawn to Animal Physiology by the rigorous courses of Chuck Holliday, who gave me the lowest grade of my academic career. But I was hooked on research when he taught me how to extract hemolymph from a feisty Carcinus maenas. Even though he must have handled thousands of crabs in his career, he was still delighted to be holding the pugnacious creature. I was captivated too. It occurred to me then that it might be possible to have a career doing something that I love.

At Yale University, my PhD mentor Ethan Nadel (who, sadly, died of cancer in 1999) was like a kid in a candy shop when he found time to escape from the J.B. Pierce Laboratory director’s office and peer over our shoulders in the lab. He pushed me to pursue a molecular angle on my thesis work, even though we were both beginners in that area. My postdoctoral advisor at Yale, Biff Forbush, seemed always to be tinkering with some new equipment, program, or experimental approach. I remember him enthusiastically showing me the informatively colored cotransporter models he had just tweaked a program to create. (This was not exactly before the Internet, but long before you could send your sequence off to some site and have beautifully formatted diagrams promptly returned.) His lab was a thrilling place to train because there was always something new cooking. These mentors taught me the value of being a permanent beginner.

At Kenyon, I have been fortunate to have departmental colleagues who have encouraged me to try new approaches and make my share of mistakes along the way. The sign on my lab door when I...
Experiences in Science Education, continued

arrived said Comparative Animal Physiology and Invertebrate Biology. I was an expert in neither, but my training had given me the confidence to jump in and do my best. Now that I’ve taught Animal Physiology for 20 years, I find myself looking for chances to stretch into areas where I’m a newbie.

Just recently, at our departmental journal club, I was sitting at a table with a colleague and three students, feeling like a complete greenhorn as I tried to make sense of a difficult study about sexual selection. (At our journal club, you’re not expected to read the paper beforehand - the idea is to work through it with students and colleagues over lunch.) It was helpful to be reminded about how hard it can be to puzzle through a tricky concept, and it was valuable to see my colleague, a developmental biologist, approach the study from a different angle than me. Experiences like these have led to practical changes in the way I teach. I’m more patient in class, giving students the opportunity to work through tricky concepts before expecting responses. And I increasingly structure group work in my classes so that students work with peers whose backgrounds and experiences are different than their own.

As comparative biologists, we seek to uncover fundamental principles by probing questions from different organismal, technical, and theoretical perspectives. As a teacher of writing, I’ve tried to take a comparative approach by cultivating opportunities to discuss writing with colleagues outside the sciences. These enlightening conversations motivated me to seek out further opportunities to explore writing from different perspectives. A bunch of years ago I took the Kenyon Review Writing Workshop, joining a creative nonfiction group led by the terrific writer and teacher Dinty Moore. It didn’t take me long to realize that I was a true beginner surrounded by experts, and that if I worked really hard I might just be able to write something that sounded sophomore in comparison to their polished pieces. Yet despite feeling incompetent for much of the workshop, I emerged from it a much better writer and teacher of writing.

Chris Gillen with participants at the 2016 summer Kenyon Institute in Biomedical and Scientific Writing workshop.

An insight from this comparative approach to writing is that key principles of good writing transcend boundaries of discipline. The similarities between seemingly unrelated genres such as the English reading response and the Biology laboratory paper extend beyond the basics of word use, sentence structure, and paragraph organization. For example, the principle of grounding ideas in specific details extends across nearly all types of writing. This recognition has been priceless in my current work with the Kenyon Institute in Biomedical and Scientific Writing, where I collaborate with colleagues from Kenyon and other institutions to lead writing workshops for graduate students, post-docs, and early career scientists. By emphasizing universal principles of good writing, we are able to help writers even when the content and format of their writing is unfamiliar to us.

As director of an NSF S-STEM grant from 2010 to 2015, I was an earnest beginner, eager to cultivate a more inclusive environment in the sciences at Kenyon, but sometimes unsure about the best way forward. I recognized quickly that I needed to do more listening and learning than talking and teaching. I learned not only from colleagues with more experience than me in matters of diversity, equity, and inclusion, but also from students in the S-STEM program. Our program sought to reach beyond the students awarded S-STEM scholarships to improve the “culture of success” among all science students at

continued on page 22
**Experiences in Science Education, continued**

Continued from page 21

Kenyon. One of the most effective and sustainable approaches to this goal arose from listening to the ideas of our participants. They helped envision a student-led program, now called K-STEM, that provides peer mentoring and organizes professional development workshops for science students.

Despite spending much of my career as a beginner, I still find it uncomfortable and sometimes even painful to start something new. For me, taking on new challenges outside my work has helped make the beginner's role more palatable. In recent years, I've tried to learn telemark skiing, guitar, and swing dancing. Although I'm making good progress at some of these, I will never be very good at others. But becoming an expert isn't the objective. More important is putting myself into a beginner's position, so that I feel the fear and uncertainty of learning something new but also experience the joy of the occasional breakthrough.

I suspect that I'm preaching to the choir. SICB's approach to research and education, as embodied by Trish Morse, creates a healthy environment for real beginners as well as more experienced folks seeking to nurture a beginner's mindset. My students always return from SICB meetings energized and encouraged by the generous and positive interactions with other attendees. And I always find myself in some session so far from my expertise that I feel like a beginner and subsequently learn something that changes the way I think.

2017 Morse awardee Chris Gillen (center) with Ed Council Chair Bram Lutton and Trish Morse in New Orleans. - you can make the Wiley photo smaller to accommodate.
Elections - Society-Wide Offices

Treasurer-Elect
Miriam A. Ashley-Ross

Current Position: Professor of Biology, Wake Forest University, Winston-Salem, NC.


Professional Experience: Assistant through Full Professor, Wake Forest University (1997-2016), Associate Dept. Chair (2013-2014); Program Director, Physiological Mechanisms and Biomechanics Program, Division of Integrative Organismal Systems, National Science Foundation (2014-2015).

SICB Activities: Member for 28 years; Student Support Committee (2012-2015); Secretary, DCB (2006-2012); Chair, Public Affairs Committee (2000-2008); Public Affairs Committee member (1998-2008); co-organized two symposia for SICB.

Other Memberships: International Society of Vertebrate Morphologists.

Research Interests: Functional morphology and biomechanics of animals; locomotion; prey capture; locomotor transitions from water to land.

Statement of Goals: From the time I entered graduate school, SICB has always been my “home” society, largely because it is so welcoming and supportive of students. One of my highest priorities as Treasurer will be to ensure that student support remains strong. To that end, I will work to ensure that SICB remains solvent and makes prudent decisions regarding meeting locations and venues, so that students are able to afford meeting attendance.

Candidates for Treasurer:
- Miriam Ashley-Ross
- Marianne Porter

Ballots will be issued in May.

The "ASB-SICB Joint Symposium: Insights from Animal Biomechanics" will take place at the 41st annual meeting of the American Society of Biomechanics in Boulder, Colorado (Aug. 8 - 11, 2017). The symposium, co-organized by ASB and SICB, aims to stimulate interchange between human-centered biomechanics and comparative biomechanics. For detailed information, please see the conference website: http://asb2017.org
**Elections - Society-Wide Offices**

**Treasurer**  
*Marianne E. Porter*

**Current Position:** Assistant Professor, Florida Atlantic University, Boca Raton, FL.

**Education:** B.S. Northern Arizona University (2000); M.S. Northern Arizona University (2002); Ph.D. University of California, Irvine (2007); Postdoctoral Fellow, Vassar College (2008-2013).

**Professional Experience:** Visiting Assistant Professor, Florida Atlantic University (2013); Visiting Lecturer, Friday Harbor Laboratories, University of Washington (2012); Affiliate Research Assistant Professor, Florida Atlantic University (2011-2013).

**SICB Activities:** Member for 15 years; Member of SICB *ad hoc* committee assessing student career outcomes and diversity (2016); Student Support Committee (2012-2015); DCB Student/Post-doctoral Affairs Committee representative (2010-2012); co-organized symposium (2011); judge for student posters and talks for DVM and DCB at numerous meetings.

**Other Memberships:** American Society of Ichthyologists and Herpetologists; American Elasmobranch Society; International Society of Vertebrate Morphology; American Association of Underwater Scientists.

**Research Interests:** Comparative biomechanics and morphology of marine organisms; biological materials, especially cartilage, bone, and skin; swimming, using volitional swimming to understand kinematics.

**Statement of Goals:** I consider SICB to be my ‘home’ society, and I would be delighted to give back to the society by serving as the Treasurer. As a member of the Executive Committee, I will actively work with the divisions to facilitate their individual missions and goals. Since I was a graduate student, I have been bringing undergraduates to the annual meeting, and I continue to bring undergraduates and graduate students with me now as a faculty member. In the role of Treasurer, I will work closely with the Student Support and Development Committees to contribute to student research and participation in the society, as well as recruiting new members and identifying funding sources.
Elections - Society-Wide Offices

Candidate for Member-at-Large:
- Rachel Collin
- Ulrike Müller

Ballots will be issued in May.

Elections - Society-Wide Offices

Member-at-Large

Rachel Collin

Current Positions: Staff Scientist and Director of the Bocas Research Station, Smithsonian Tropical Research Institute, Panama (primary); Adjunct Professor, Graduate Faculty, University of Louisiana in Lafayette; Adjunct Professor, Department of Biology, McGill University, Canada.

Education: Sc.B. Aquatic Biology, Brown University, Magna cum Laude and departmental honors (1993); M.Sc. Department of Zoology, University of Washington 1996); Ph.D. University of Chicago, Committee on Evolutionary Biology (2002).

Professional Experience: Nothing in addition to those listed above.


Research Interests: I am interested in the evolution of marine invertebrate life histories. This includes studies of sex allocation and reproductive behavior, larval ecology, and comparative analyses of embryology and life histories. I also pursue investigations on taxonomy and systematics of calyptraeid gastropods, and use my position as the director of a marine laboratory to promote diversity and foster diffusion of knowledge.

Statement of Goals: I have been attending SICB meetings since I was a graduate student and participating as a divisional leader for almost as long. The diversity of integrative research and the diversity of the membership and conference participants is a compelling combination. This unique strength of SICB makes it my favorite conference to attend and the one I recommend most strongly to students. It is a great honor to be nominated to run for Society-wide Member-at-Large. As SICB Member-at-Large, I will work to further the goals of the society and help the Executive Committee in any way I can. Within the society I will work to solicit input and participation from the membership at large, and to foster interactions amongst the divisions. I will focus my efforts both inside and outside the society to raise awareness of the educational tools and training opportunities provided by the society for both students and faculty. I believe these under-recognized resources, a unique benefit of SICB membership, are key to fostering vital future generations of SICB members.
EleCtIons - SoCIeTy-WIde oFFICes

Member-at-Large
Ulrike Müller

Current Position: Associate Professor of Biology, California State University Fresno, CA.

Education: B.S. equivalent Universität der Saarlandes, Germany (1987); M.S. equivalent Universität Bielefeld, Germany (1992); Ph.D. Groningen University, Netherlands (1997); Postdoctoral Fellow: Cambridge University, U.K. (1997-2002); Wageningen University, Netherlands (2002-2007); Chiba University, Japan (2005).

Professional Experience: Assistant Professor, California State University Fresno, CA (2007-2013), Associate Professor (since 2013); Associate Editor, Proceedings of the Royal Society of London B; Editorial Board Member, Journal of Experimental Zoology A.

SICB Activities: Member since 1995; Best Student Presentation Judge for DCB (2010-2012); Student Support Committee (2010-2012); Co-Organizer of Data Management Workshop (2017).

Other Memberships: Member of the American Association for the Advancement of Science (AAAS).

Research Interests: biomechanics of swimming, flying, and suction feeding; functional morphology of swimming; neural control of locomotion; predator-prey interactions in carnivorous plants; science communication and education.

Statement of Goals: The SICB annual meeting is my conference highlight every year and I make a point of bringing as many of my students along to present and participate as I can find funding for. These annual meetings are an important opportunity for budding and established scientists alike to network and shape the future of our disciplines. To me, SICB’s strengths are its commitment to interdisciplinary and integrative science, providing a forum for developing new research initiatives (such as the Grand Challenges initiative), establishing best practices (workshops on career development and professional practices), and showcasing exemplary scientists through awards and plenary lectures. As a Member-at-Large, I will aim to be the voice for SICB members and meeting participants at the executive meetings. I am dedicated to supporting our diversity initiatives. While the participation of women in science has increased steadily, ethnic minorities are still underrepresented at all academic levels; as a faculty at a minority-serving institution, I will add my voice to advocating for minority scientists. To continue to attract (minority) students and postdocs to our meetings (>50% of attendees) and our society, registration fees need to stay low, scholarships need to remain plentiful, and development efforts need to remain effective at attracting donations. I am dedicated also to using SICB as a platform to enhance science education, science advocacy, and science policy making: I support and actively participate in efforts to enhance the SICB Research and Educational Resources, and in our professional development and policy initiatives that help our community to develop better practices and liaise with other professional and funding organizations. SICB has shaped me as a scientist and I would like to help shape SICB as a member at large.
Elections - Society-Wide Offices

Educational Council Chair
Bram V. Lutton

Current Position: Associate Professor of Biology and Biotechnology, Endicott College, Beverly, MA.

Education: B.S. Colby College (1995); Ph.D. Boston University (2007); Post-doctoral Fellow, Massachusetts General Hospital and Harvard Medical School (2008).

Professional Experience: Assistant and Associate Professor, Endicott College (2009-present); Residence Life Director and Visiting Scientist, Mount Desert Island Biological Laboratory (2011-present).

SICB Activities: Member since 2003; co-organized society-wide symposium in 2006 on Ecological Immunology: Recent Applications and Advances for Conservation and Public Health; member of the Educational Council, 2013-2015; Chair of the Educational Council, 2015-2018; organized 2013 Teaching and Learning (TALX) workshop on Vision and Change in Introductory Biology and assisted with the coordination of TALX workshops from 2015-2017; organized John A. Moore Lectures and M. Patricia Morse Awards for Excellence and Innovation in Science Education, 2015-2017; currently co-organizing society-wide symposium on Story and Art in Science Communication for the 2018 conference in San Francisco, along with coordinating the Moore Lecture, the Morse Award, and the TALX workshop.

Other Memberships: American Physiological Society; Massachusetts Academy of Sciences; National Science Teachers Association; North Shore Chapter of Sigma Xi.

Research Interests: My research with sharks, skates, and stingrays focuses on the evolutionary, cellular and molecular mechanisms of endocrine-immune interactions, and on the mechanisms controlling hematopoiesis and angiogenesis.

Statement of Goals: I have served as a member of the Educational Council since 2013, and as the Ed Council's Chair since 2015. My goals moving forward are to continue providing the most enlightening national speakers on science education for upcoming Moore Lectures, prestigious awards for excellence and innovation in science education to SICB members in honor of Trish Morse, and outstanding teaching and learning workshops for members to acquire the necessary knowledge about implementing effective and novel methods in the classroom, in the laboratory, and in the field. Another major goal, which has been a work-in-progress for several years, is the development of the Research and Education Resources database on the SICB website from which members can obtain informative examples of protocols, case studies, teaching strategies, and other resources. To this end, I have met with all SICB division representatives multiple times and the Ed Council has begun a pilot project with several divisions to acquire materials for the database. Once these materials have been accumulated, I will continue to work with the SICB webmaster to develop the database on the SICB website.

Candidate for Educational Council Chair:
• Bram Lutton

Ballots will be issued in May.