



Division of Comparative Biomechanics

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DCB Officers & Representatives

Sharon Swartz
Chair 2011-2013

Mark Denny
Chair-Elect 2011-2013

Robert Full
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Miriam A. Ashley-Ross
Secretary 2006-2012

Stephen M. Deban
Program Officer 2010-2012

Marianne Porter
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2010-2013

Adam P. Summers
ICB Editorial Board Representative
2007-2012

Message from the Chair

Sharon Swartz

I write to you as our fall semester is well underway, and students, postdocs, and faculty are looking ahead to sharing science and camaraderie in Charleston in only a few weeks! By the time you read this newsletter, the Joint Division of Vertebrate Morphology/Division of Comparative Biomechanics Southeastern Regional meeting, held Saturday, October 22 at Wake Forest University and hosted by Miriam Ashley-Ross at Wake Forest University and the Center for Design Innovation's Nick Hristov will be just a happy memory.

Here in the Northeast, we'll have just concluded the November 5 Northeast Regional Meeting of our Division and the DVM at the University of Rhode Island, generously hosted by Cheryl Wilga. These informal, intimate meetings are a fabulous way to start the academic year, to bring students into our discipline, and to exchange ideas and news. I hope the idea will spread, and encourage those of you in other parts of the country to talk to some of our East Coast members about our experiences with these casual local meetings.

NSF News

Among the most interesting and noteworthy news items in the last few months for practitioners in our field is the recent change to procedures for submission and review of regular research proposals for core programs at NSF, including those dealing with subjects of biomechanical nature. Two divisions of the Directorate for Biological Sciences, IOS (Integrative Organismal Systems) and DEB (Environmental Biology), have begun an annual cycle of preliminary and full proposals that will begin in January 2012. This is a profound and fundamental change for all of us seeking NSF support, and NSF offers a number of resources describing and supporting these changes. The Dear Colleague letter describing the changes can be found at:

<http://www.nsf.gov/pubs/2011/nsf11078/nsf11078.jsp?org=NSF>

The full solicitation is found here: http://www.nsf.gov/publications/pub_summ.jsp?WT.z_pims_id=503623&ods_key=nsf11572

And an uploaded IOS webinar, with complete transcript and slides, describing the new changes, can be found at http://www.nsf.gov/events/event_summ.jsp?cntn_id=121737&org=IOS



Elections

This spring, we held elections for both our Secretary and Program Officer positions, as both Miriam Ashley-Ross and Steve Deban prepare to step down after their outstanding service to the division. We're honored to have Tim Higham, from the Department of Biology, University of California-Riverside, as our new Secretary, and Laura Miller, from the Department of Mathematics, University of North Carolina, stepping up as Program Officer. Their terms will begin at the end of the 2012 annual meeting in Charleston. I'm looking forward to working with Tim and Laura; we are lucky indeed to have such talent and commitment at hand in the division! Many thanks to our other excellent candidates, and to our nominating committee, Bill Kier, Sheila Patek, and Jeff Walker.

Meetings

We look forward to a great meeting Jan. 3-7 in Charleston, SC. Jake Socha has, in a moment of weakness, agreed to oversee our student competition for a second consecutive year, and we encourage the experienced judges among you to volunteer service to reviewing student presentations and posters.

Start thinking now about novel, creative ideas for symposia for our 2014 meeting in Austin, Texas! We'll be accepting proposals before the end of August 2012, and if you begin to hatch some plans now, you'll have opportunities to caucus with possible co-sponsors and speakers during the January meeting. We'd love to see the Division involved in memorable symposia. It's not necessary to be a faculty member to initiate a symposium; postdocs and advanced graduate students are eligible organizers too, and often see interdisciplinary or innovative possibilities that more established researchers do not. Putting together a symposium proposal can be a great way to stretch your organizational

muscles, and to meet leaders in diverse, fascinating fields! The best starting point for those contemplating a symposium is a conversation with a current or recent program officer!

Call for Discussion about Multimedia Content at SICB

Not only design and computer artists create videos and interactive simulations! However, this type of multimedia content often is a poor fit for either conventional talks or poster presentations. That's why we want to give it some attention. With the increased interest and production of such work, we would like to open a line of discussion on allocating a segment of SICB to displaying and presenting such visualization on its own merit. To comment on these ideas (both for and against) and for suggestions on how this might be accomplished in the future please contact Rhea von Busse (rhea_vonbusse@brown.edu) or Attila Bergou (attila_bergou@brown.edu).

Upcoming Conferences

Society of Experimental Biology
Annual Main Meeting 2012.

The Society for Experimental Biology 2011 Annual Main Meeting will be in Salzburg, Austria from June 29 to July 2, 2012. This meeting is open to members and non-members alike. Abstract submission opens in October, and registration for the meeting will open in November.

Scientific Topics:

There are a range of Animal, Plant and Cell Biology sessions taking place at the meeting, including sessions on General Biomechanics, Biomechanics of Locomotion in Flocks, Schools and Swarms, Structural modulators of muscle contraction affecting animal locomotion and behaviour, and Towards a new synthesis of the physiology and evolution of diving.



Special Opportunities

Biomechanics at UW Friday Harbor Laboratories in Summer 2012

A five-week, 9 graded credit BIOMECHANICS course for graduate and advanced undergraduates will be offered July 23-Aug 24, 2012. Instructors are Emily Carrington (UWash), Michael O'Donnell (UWash) and Patrick Martone (UBC). The first three weeks of the course will introduce biomechanical theories and techniques ("fluids and solids") through lectures, laboratory exercises, and field activities. The final two weeks of the course are devoted to independent student research projects. The 2012 course will emphasize mechanical design of marine invertebrates and plants, focusing on two major themes: ecomechanics and biomaterials. The application deadline is February 1, 2012. Enrollment is limited to 15 lucky students and FINANCIAL AID IS AVAILABLE. For a description of fees and online application instructions, see <http://depts.washington.edu/fhl/studentSummer2012.html>. Late applications will be considered if space is available. Questions? Contact Emily Carrington at ecarrington@uw.edu.

Graduate Study

UNIVERSITY OF CALIFORNIA, BERKELEY NSF Integrative Graduate Education and Research Traineeships (IGERT) in Bio- and Bio-inspired Motion Systems Operating in Complex Environments.

UC Berkeley Graduate Traineeships for biologists and engineers in the field of biomimetics.

Facilitated by the Center for interdisciplinary Biological inspiration in Education and Research (CiBER; <http://ciber.berkeley.edu>), trainees will learn to translate biological discoveries into engineered devices and apply new engineering approaches to biological research.

- Trainees receive:
- * \$30,000 stipend
 - * Full tuition, fees & health insurance
 - * Mentoring by interdisciplinary faculty team
 - * Unique CiBER-IGERT classes & seminars
 - * Use of CiBER's research equipment and facilities
 - * Access to industrial internships
 - * International research abroad

Research areas in Motion Science include:

- * Mechanics of Motion Systems
- * Control and Learning
- * Function of Materials, Sensors and Actuators
- * Evolution of Motion Systems in the Natural World

Apply to the PhD program of a participating graduate program:

- * Integrative Biology
- * Molecular & Cell Biology
- * Bioengineering
- * Electrical Engineering & Computer Science
- * Mechanical Engineering
- * Civil Engineering
- * Psychology
- * Biophysics Graduate Group

Applications are encouraged by November 30.

For more information or to apply online please visit: <http://ciber-igert.berkeley.edu> or contact Professor Robert J. Full, e-mail rjfull@berkeley.edu

DCB Website

Our Divisional website is undergoing reorganization, reconstruction and renovation, under the capable stewardship of our incoming Secretary, Tim Higham. If you have ideas you'd like to see implemented in the new website, or materials posted,



please share them with one of the DCB officers, and we'll see to it that they make their way to the new site. Stay tuned for a bigger and better DCB presence on the internet!

Looking forward to January in Charleston!

Message from the Program Officer

Steve Deban

We have over 170 contributed talks and 100 posters related to biomechanics at the upcoming SICB meeting in Charleston, covering a wide range of topics — scaling, structure, feeding, sound production and many others — and the most locomotion papers in recent memory. New at the Charleston meeting are 5-minute "Lightning Talks" with a short but wide-ranging DCB/DVM session on the afternoon of the first day. In addition, DCB is sponsoring two symposia related to locomotion: "Novel methods for the analysis of animal movement," organized by Doug Altshuler, and "Combining experiments with modeling and computational methods to study animal locomotion," organized by Laura Miller and Silas Alben, along with associated complementary sessions. After a day packed with interesting talks you can head to Charleston's lovely downtown area for dinner and sightseeing. There will be a complimentary shuttle service to take registrants back and forth on the evenings of January 4, 5 and 6. The shuttles will run from 6:30-11 pm and will leave from the Convention Center. Check the website for "Notes From the Underground" regarding restaurants and things to do and see as the meeting gets closer. Finally, if you are interested in having a babysitting service during the meeting, please fill out the babysitting survey form on the SICB registration form. Remember, if you are presenting at the meeting, you are required to register by November 12, 2011.

Message from the Secretary

Miriam Ashley-Ross

It's hard to believe that this will be my last Newsletter message as DCB's secretary — it's been a fun run! Though once I leave office, I am by no means done with organizational tasks on behalf of SICB — by the time you read this, Nick Hristov and myself will have hosted, hopefully successfully, the Southeast Regional DCB/DVM Meeting, and I am working with my energetic colleagues Tonia Hsieh, Rick Blob, and Alice Gibb to organize a symposium for the 2013 meeting on vertebrate land invasions. As I look forward to January's meeting in Charleston, I am once again impressed with the vitality of our Division: the number of contributed papers and posters in the area of biomechanics grows each year. Once again I'll ask faculty/postdoctoral members of the Division to be willing to judge student talks and posters — they are always among the best (and most enthusiastic) presentations at the meeting, and the students are our Division's future. If you're willing to help with judging, please contact our Division Chair, Sharon Swartz (sharon_swartz@brown.edu).

Election Results

In April we held elections for two positions: Program Officer and Secretary. Laura Miller and Darrin Hulseley stood for PO, and Tim Higham and Tonia Hsieh ran for Secretary. Laura and Tim were elected to their respective offices; congratulations (or condolences?) to them, and thanks to Darrin and Tonia for their willingness to serve.

Yet another election

We simply cannot let a year go by without an election (seriously, it's in the bylaws). This year we need to select our next Chair-Elect, who will step into the shoes (figuratively) that Mark Denny currently occupies when Mark succeeds Sharon as Divisional Chair at the end of the



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2013 annual meeting. As you all know, this is an extremely important position – not only does the Chair represent our interests on the Executive Committee of SICB, but the energy of the Chair sets the tone for the entire Division. Give some serious thought as to who would be a capable Chair, and share your thoughts with your Divisional officers.

Southeast Regional DVM/DCB Meeting

The Southeast Regional DVM/DCB Meeting was held on October 22 at Wake Forest University in Winston-Salem. We had 32 attendees, and 19 total talks, which was a great number because it allowed time for questions and discussions. After the talks were over, we headed downtown to the Center for Design Innovation, which is (currently) on the 21st floor of Winston Tower. The attendees got some information on the capabilities and reason-for-being of the Center and got to see their cool toys (3D printers and scanners; lots and lots of graphics workstations.)



Carolyn Roberts, Sandy Kawano, Rick Blob



Jeremy Greeter



Carol Strohecker, director of CDI, addresses the group.