

## Division of Comparative Biomechanics

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### DCB Officers & Representatives

**Sheila Patek**

*Chair 2017-2019*

**Stacey Combes**

*Chair-Elect 2017-2019*

**Melina Hale**

*Past Chair 2017-2019*

**Sandy Kawano**

*Secretary 2018-2020*

**Philip Anderson**

*Program Officer 2018-2020*

**Brett Aiello**

*Student/Postdoc Rep 2017-2020*

### Message from the Chair

*Sheila Patek (Chair.DCB@sicb.org)*

The Division of Comparative Biomechanics (DCB) community came together at this year's San Francisco SICB meeting with 240 DCB/DVM talks, 190 posters, and a stellar group of posters and oral presentations as part of DCB's Best Student Presentation competition. We extend a heartfelt thanks to the departing DCB program officer [Jake Socha \(Virginia Tech\)](#) and secretary [Andie Ward \(Adelphi University\)](#) for their hard work and leadership offered to DCB. We are grateful to DCB member Tom Daniel (University of Washington) for heading up a strong and successful fund-raising campaign for a Vogel Award (see below). And we also thank [Joe Bahlman \(Sacramento State\)](#) for spearheading the social activities at SICB's annual meeting. It is inspiring how Jake Socha and Andie Ward — and many other DCB members — continue to volunteer substantial amounts of their time to make the annual meeting outstanding and help lead our vibrant division.

### Welcome aboard

We brought on board two new DCB officers: [Phil Anderson \(University of Illinois Urbana-Champaign\)](#) is now serving as DCB program officer and [Sandy Kawano \(Cal State Long Beach\)](#) is DCB's new secretary. [Brett Aiello \(Georgia Tech\)](#) has been continuing to be active as the DCB postdoc-student representative, particularly by managing DCB's new Twitter feed (@mechsNmorph) and Facebook Page (<https://www.facebook.com/groups/258733714665123/>). If you would like to see the latest news and action in the DCB community, make sure to follow these accounts.

### Best Student Awards

Congratulations to the DCB Best Student Presentation Award winners!

The best student presentation competition offered a remarkable glimpse into the up-and-coming research of the graduate students in our division. All



*Our finalists for the Best Student Talk delivered an excellent session of oral presentations!*



of the finalists presented fascinating and significant work. We again want to thank Jake Socha and the DCB BSP committee for their impeccable organization of this year's competition. We are already looking forward to hearing from next year's new talent.

- Winner of *The Mimi A. R. Koehl and Stephen A. Wainwright Award for the Best Student Talk in Biomechanics*: Alexis Noel, Georgia Institute of Technology, "[How cats groom](#)"
- Honorable Mention for best student talk: Rivers Ingersoll, Stanford University, "[How neotropical hummingbird versus bat species generate lift to hover](#)"
- Winner of *The Steven Vogel Award for the Best Student Poster in Biomechanics*: Michelle Graham, Virginia Tech, "[Gap distance affects the behavior and precision of movement of flying snakes](#)"

### Vogel Fund

With the help of Tom Daniel and the SICB Development Committee, we successfully ran a SICB fundraiser to recognize Steve Vogel's incredible impact on Comparative Biomechanics through his inspiring textbooks and novel scientific contributions. To commemorate his encouragement and guidance for students and colleagues, we created an endowment that supports students through the [SICB Grants In Aid of Research](#). Donors **contributed more than \$20,000**, which will be used to endow future grants to graduate students. The generosity of SICB members, Vogel's colleagues, and students is amazing and reflects their collective enthusiasm and admiration for the contributions that Steve made to the field. Donations can still be made by logging in to the SICB website and clicking on the [donation tab](#) (left side). Enter the amount you wish to donate in the "Grants in Aid of Research" box and then type "Steven Vogel" in the box entitled "In Honor of". When the dust settles, we will apprise you of the final total, which may allow us to fund multiple grants to support students in Steve's name.

### Carl Gans Award

We have published a revised announcement and criteria for the Gans award and include it here (see below). Please take a look and nominate great candidates for this year!

The new guidelines are as follows:

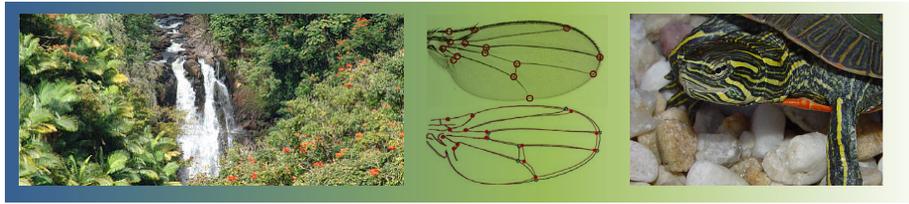
"The Division of Comparative Biomechanics is pleased to announce this year's competition for the annual **Carl Gans Award**. Please send applications/nominations for this award

to DCB Chair, Sheila Patek ([chair.dcb@sicb.org](mailto:chair.dcb@sicb.org)). Questions about the process can be directed to [chair.dcb@sicb.org](mailto:chair.dcb@sicb.org). **The deadline for applications and nominations is 24 August 2018.**

**Guidelines.** The Carl Gans Award is named in recognition of Carl Gans' scientific career and editorial contributions to animal morphology, biomechanics, and functional biology. Annually, one award may be given in either or both of these categories: (1) to an outstanding young investigator for distinguished contributions to the field of comparative biomechanics, and (2) to an investigator at any career stage for a significant contribution to the literature of comparative biomechanics published in the preceding five calendar years, including, but not limited to, research papers, review articles, and published books. For the young investigator award, eligible candidates are those who have completed their doctorate within the past seven years. A maximum of one award from each category may be given per year.

Details for the competition will be announced in the SICB spring newsletter each year. Candidates must be members of SICB and may either apply directly or be nominated. Materials should be submitted to the Chair of the Division of Comparative Biomechanics (DCB) by the annual deadline ([Chair.DCB@sicb.org](mailto:Chair.DCB@sicb.org)). For the young investigator award, applicants shall submit a short description of their research program, selected reprints, and a curriculum vitae. For the literature award, applicants shall submit a copy of their significant contribution to the literature of comparative biomechanics and a curriculum vitae. Applicants must also arrange for three letters of support to be sent to the Chair of DCB. If a candidate for either of these awards is nominated, the nominator must arrange for these same materials to be submitted, except that the three letters of support should consist of one nominating letter and two additional letters of recommendation. Recipients of the Bartholomew Award may not receive the Gans Award. Young investigator candidates and candidates for individual literature contributions can be nominated a maximum of three times.

The Chair of the DCB shall appoint a Gans Award Committee consisting of at least three Full, Emeritus, or Life Members of SICB and the DCB to serve as judges. The Chair of DCB will designate one of the members as the Chair of the Gans Award Committee. Committee members will normally serve



for no more than three years, with at least one member being replaced each year. The Committee may recommend approval of a maximum of one candidate per award to the Chair of the DCB. The committee may decide not to recommend an award in either one or both categories. Depending on the availability of funds, the Chair of DCB may authorize whole or partial reimbursement of appropriate expenses incurred by the awardee(s) in attending the annual SICB meeting. The awardee(s) will be presented with a plaque or certificate. Depending on available funds, the Chair of DCB may also augment awards to further the following themes: (1) field and laboratory work in comparative biomechanics, (2) collaborative work with scientists in Israel, (3) travel to visit Ben-Gurion University (Sde-Boqer Campus) and the Gans Library, and to conduct fieldwork in Israel, and (4) support of collaborative international research. These research themes are in recognition of Carl Gans' efforts to promote and foster international collaborations among scientists, as well as his ability to show that all animals are interesting."

### Elections

Every year we have elections to populate our next team of leaders in DCB. This year the position as DCB Chair-Elect is up for election. Please take the time to read about your colleagues (below) who have offered to serve in this capacity and to cast your vote.

### Symposia

One of the best ways to move a field forward and to bring in key figures to our SICB DCB community is by running a symposium. DCB co-sponsored several symposia at this year's conference, including:

- [Spatial Scale and Structural Heterogeneity in Skeletal Muscle Performance](#)
- [Sensory Feedback and Animal Locomotion: Perspectives from Biology and Biorobotics](#)
- [Science in the Public Eye: Leveraging Partnerships](#)

It is time to start thinking about and proposing new symposia topics for the 2020 conference. If you have ideas, please contact Phil Anderson ([dpo.dcb@sicb.org](mailto:dpo.dcb@sicb.org)). Proposals are due to SICB by August 24, 2018.

### Message from the Program Officer

*Phil Anderson ([DPO.DCB@sicb.org](mailto:DPO.DCB@sicb.org))*

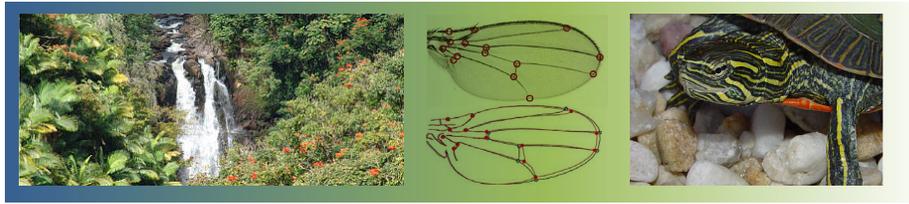
Before I get down to business, I want to take a moment to thank outgoing DCB program officer Jake Socha. For the past couple of years, Jake has worked to make SICB a fantastic conference for the biomechanics community. Please join me in thanking Jake for all his hard work. My main objective as the new PO is to try and continue the work Jake and others before him started by putting together interesting and innovative sessions that allow attendees to experience the breadth of research in our field.

The 2018 conference in San Francisco was another fantastic one for our division. Along with DVM, we sponsored 35 talk sessions with over 240 talks, hosted 190 posters, and co-sponsored 3 symposia. Altogether, this adds up to over 430 presentations on biomechanics and functional morphology. These numbers show the strength of our field, and I want to thank all who presented and helped with the organization of symposia. Here's to increasing those numbers in Tampa!

I want to make special note of the up-and-coming researchers who comprised the finalists for the best student presentation and poster competitions. These young scientists have maintained the high standard set by previous years' finalists with some incredible talks and impressive posters. This is the third year of running the oral presentations as a special session, and it was great to see the division membership come out to support these young biomechanics researchers.

Speaking of next year, the 2019 meeting will be held down in Tampa. DCB will be co-sponsoring 3 symposia of interest: (1) Playing with power: Mechanisms of energy flow in organismal movement; (2) Multifunctional structures and multistructural functions: Functional coupling and integration in the evolution of biomechanical systems; and (3) The path less traveled: Reciprocal illumination of gecko adhesion by unifying material science, biomechanics, ecology, and evolution. Go to [www.sicb.org/meetings/2019/symposia/index.php](http://www.sicb.org/meetings/2019/symposia/index.php) for a list of all symposia scheduled for Tampa.

As explained in the division-wide email sent in February, we were actively soliciting anonymous ideas for future symposia to be sponsored by the division. The goal is to get a sense of what the division as a whole would be interested in seeing future symposia focus on. After looking over recent suggestions, we have compiled a list of general topics that are of interest to the community:



- How it works (the biomechanics of common animal behaviors that have remained unsolved mysteries)
- Limbless locomotion
- Plant biomechanics\*
- Applying functional biology to ecology and conservation\*
- Joint symposium with the American Society of Biomechanics\*

Any of these topics would make for great symposia in the future, and those indicated with an asterisk (\*) are planned to be submitted as symposium proposals.

Speaking of which, if you are interested in officially proposing a symposium for the 2020 conference in Austin, the deadline is August 24th, 2018. The application form is available at <http://sicb.org/meetings/2020/callsymp.php>. This page includes links to the NSF guidelines for funding symposia and important criteria that the program officers use to evaluate proposals. Registration, lodging, and travel expenses for speakers can be funded a number of ways, including divisional funds (usually from multiple divisions) or grants from outside agencies. These symposia are a great way to bring in researchers who don't normally attend SICB. Please feel free to contact me if you plan to submit a proposal and I will do what I can to offer information and assistance.

A final note: If you plan on giving a talk or poster at the 2019 meeting in Tampa, please give the program officers a hand by selecting a specific abstract topic during submission. The DCB and DVM program officers co-organize all biomechanics and functional morphology (and some comparative physiology) abstracts together. If you want us to handle your abstract, the best thing to do is select the primary topic: 'Morphology'. This will ensure that the abstract is directed to us.

I look forward to reading your abstracts and seeing everyone in sunny Tampa next year.

## Message from the Secretary

Sandy Kawano ([secretary.DCB@sicb.org](mailto:secretary.DCB@sicb.org))

Greetings, DCBers! It's an absolute pleasure to be joining the team as the incoming Secretary and I would like to extend my sincerest gratitude to our outgoing Secretary, Andie Ward, for her service to the DCB community over the past four years. Thank you, Andie, for all of your hard work in supporting the division! We are lucky and thankful to have such dedicated and talented members within the DCB community. Over the next two years, I plan to follow in Andie's footsteps to continue promoting our members and showcasing the excellent work biomechanists have accomplished, whether it be research, teaching, and/or service. Please contact me at [Secretary.DCB@sicb.org](mailto:Secretary.DCB@sicb.org) with any events or information that you would like to advertise to the DCB or broader SICB communities. We have options to include the information in the newsletter, Monthly Member Updates, and/or social media (please read the message from Brett Aiello, our Student/Postdoc representative, for more info about our social media outlets).

## DCB Researchers Database

Do you run a research team and want to showcase some of your work? We are looking for new contributions to the DCB Researchers Database! Photos from our database are cycled through the left-hand taskbar on the SICB website and include a range of topics, from burrowing in polychaete worms to the acoustics of bird courtship displays. Check out our database here: <http://sicb.org/divisions/DCB/researchers.php3>.

Please submit all new contributions to [Secretary.DCB@sicb.org](mailto:Secretary.DCB@sicb.org) and include the following:

1. A brief title that describes your research program and / or the submitted photo,
2. A photo or figure of your research (maximum width = 700 pixels), and
3. A caption to accompany your photo.



### National Biomechanics Day

Please join in a world-wide initiative to increase the visibility of biomechanics in the public eye! Biomechanists around the globe will be gathering to host public outreach events at their local institutions for high school instructors and students. This is a great opportunity to showcase biomechanics as a fun and engaging field of study and a potential career pathway for students. National Biomechanics Day is officially scheduled on April 11, 2018, but many events will be scheduled throughout the week. If you plan on hosting an event, please register your lab here: <http://nationalbiomechanicsday.asbweb.org/registration/>. We would love to highlight the wonderful work of our members, so please send any photos and descriptions of your National Biomechanics Day festivities to [Secretary.DCB@sicb.org](mailto:Secretary.DCB@sicb.org)!

### Minutes from the DCB Meeting:

[www.sicb.org/divisions/DCB/minutes.php3](http://www.sicb.org/divisions/DCB/minutes.php3).

### Message from the Student-Postdoctoral Affairs Committee Representative

*Brett Aiello*

A special thank you to everyone for making the 2018 annual meeting in San Francisco such a great success!

The DCB / DVM twitter account is now fully operational and is a great place to regularly check for divisional updates and announcements. We will also be using the account to highlight the amazing research of our student and postdoc members! Please start following and routinely checking the joint DCB / DVM twitter account ([@mechsNmorph](https://twitter.com/mechsNmorph)) for more updates!

For those members that prefer a different flavor of social media, DCB has also recently created its own Facebook group. Similar to the Twitter account, the Facebook group will be used to disseminate divisional updates and announcements. Different from the Twitter account, the Facebook group will also serve as an outlet for discussion among our members. All members of the group will have the ability to post their own announcements and updates, pending approval of an administrator (this is to avoid potential spam that has arisen in other Facebook groups). The Facebook group can be found by searching for the group titled "Division of Comparative Biomechanics SICB" or clicking the following link: [www.facebook.com/groups/258733714665123/](https://www.facebook.com/groups/258733714665123/). Note: you will need a Facebook account in order to view the DCB Facebook group.

Finally, I want to remind the student and postdoc members of DCB to please contact me by email ([brett.aiello@physics.gatech.edu](mailto:brett.aiello@physics.gatech.edu)) or Twitter ([@braiello](https://twitter.com/braiello); [@mechsNmorph](https://twitter.com/mechsNmorph)) with suggestions, comments, concerns, or any other SICB-related feedback. I hope everyone has a productive spring and summer!

### Divisional Candidates

*Candidates for DCB Chair-Elect*



#### Lara Ferry

**Current Position:** Director and Professor, School of Mathematical and Natural Sciences (SMNS), Arizona State University (2015 - present).

**Education:** PhD University of California, Irvine (1998), MS San Francisco State University/Moss Landing Marine Laboratories (1994), BS California Polytechnic State University (1991).

**Professional Experience:** Associate Director, SMNS, ASU (2013-2015); Associate Professor, SMNS, ASU (2010-2015), Visiting Professor (Summer Session), Friday Harbor Labs/University of Washington (alternating summers, 2006-2012); Research Faculty/Lecturer, Moss Landing Marine Labs/San Jose State University (2003-2010); Postdoc, University of California Davis (1999-2002).

**SICB Activities:** DVM Secretary (2010-2011), Editorial Board Integrative & Comparative Biology (2011-2016), Symposium Organizer (2001). Judge, student poster and/or paper awards (1999, 2007, 2014, 2015, 2018).

**Other Memberships:** American Society of Ichthyologists and Herpetologists, British Ecological Society.

**Research Interests:** Through my research I am trying to understand why there is such a diversity in shape or form within the group of organisms we call "fishes". My own research is centered around questions that attempt to broadly address: (1) the evolution of novel and/or specialized forms, particularly in the jaws of fishes, (2) the biomechanical or performance consequence of changes in form; and; (3) how form, typically by interacting with other physiological, behavioral, or genetic variables, affects and can be used to predict functional ecological relationships.

**Goals Statement:** DCB is already a very successful division within SICB, despite its relatively young age, and, first and



foremost, I want to ensure that we stay on that trajectory! One of the things that makes DCB so welcoming is the interdisciplinary nature of our division. As we mature as a division, we will need to contend with issues such as our growing size, and how we maintain the sense of inclusivity for all of our members. Such challenges are easy to contend with so long as we (continue to be) thoughtful in how we plan our events, the symposia we sponsor, and the face we put forward in social media and other visible spaces to represent us.



**John Long**

**Current Position:** Professor of Biology; Chair and Professor of Cognitive Science; Director of the Interdisciplinary Robotics Research Laboratory; Vassar College.

**Education:** Ph.D., Department of Zoology, Duke University (1991); B.A., Human Ecology, College of the Atlantic (1986).

**Professional Experience:** Current chair of Cognitive Science (2017 - present); former chair of Biology, Vassar College (2011 - 2014); Associate Editor, Soft Robotics (2012 - present); Associate Editor, Frontiers in Robotics and AI (2014 - present); Editorial Board, Bioinspiration and Biomimetics (2013 - present).

**SICB Activities:** Secretary, DVM (1998 - 2000); Chair, Gans Award Committee, DCB (2013 - 2017); Member-at-Large, Executive Committee (2006 - 2009).

**Other Memberships:** IEEE Oceanic Engineering; IEEE Robotics and Automation.

**Research Interests:** Biomechanical evolution of fish and early vertebrates; biorobotic modeling.

**Goals Statement:** If chosen to be chair-elect, my primary job will be to support our incoming chair, Stacey Combes, as she takes over the reins from Sheila Patek. Stacey and I have worked together on the committee for the Gans Award. Second, that award's bipartite nature (outstanding paper or person) continues to present the committee with starkly different options that are difficult to compare in practice. I hope that we can all continue to talk about this award, involve the Gans family in some of those talks, and decide if we might want to ask the family to consider changing the terms of the bequest. Third, given the Society's Annual Meeting Code of Conduct and Harassment Policy, I hope that we continue to talk about social events sponsored by the society and its divisions. For example, at our 2018 annual meeting, folks were pondering the various risks involved with events held at bars and clubs. I know I'll sound like a killjoy here, but my view is that we should talk openly about the role of alcohol at any of our events given the range and kinds of power inequities that are present. Fourth, with the replication crisis helping foster an open-science movement, this seems like a great time to talk to people outside of comparative biomechanics about what works, and what doesn't, with our mostly informal ways of sharing ideas, tools, and data.

