



Division of Comparative Biomechanics

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Andrea Ward
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Jake Socha
Program Officer 2016-2018

Brett Aiello
Student/Postdoc Representative 2017-2020

Message from the Chair

Sheila Patek, Chair.DCB@sicb.org

Amidst beignets, jambalaya and lots of coffee, the comparative biomechanics community came together at this year's New Orleans SICB with an inspiring diversity and quality of presentations. This conference brought in 280 DCB/DVM talks, 190 posters, and an impressive suite of presentations for the Best Student Presentation competition. Before diving into the details, I first want to thank Melina Hale for her leadership as Chair of the Division of Comparative Biomechanics, which ended at the close of this meeting. We are all grateful to her for her extended and outstanding service to the division. We are also deeply grateful to the amazing and ongoing service and leadership by DCB Program Officer [Jake Socha \(Virginia Tech\)](#), Secretary [Andie Ward \(Adelphi University\)](#), and Student/Postdoctoral Affairs Representative [Sandy Kawano \(Royal Veterinary College\)](#). The work of these individuals, and many others, made this meeting outstanding and is the foundation of our vibrant division.

Student Awards

The Best Student Presentation competition offered a remarkable glimpse into the up and coming research of the graduate students in our division. This year's winners were Isaac Yeaton (Virginia Tech) for best oral presentation and JD Laurence-Chasen (Brown University) for the best poster presentation. Yeaton's talk focused on the biomechanics of flying snakes during their gliding behavior and offered stunning quantitative and visual analyses of snakes moving through the air. Laurence-Chasen presented his work based on XROMM (X-ray Reconstruction of Moving Morphology) analysis of stingray prey processing that enabled quantitative analyses of their highly mobile jaw elements. All of the finalists presented fascinating and significant work. We want to acknowledge Jake Socha for his impeccable organization of this year's competition. We are already looking forward to hearing from next year's new talent.

Carl Gans Award

This year's Carl Gans Award was given to [Dr. Brooke Flammang \(New Jersey Institute of Technology\)](#). Dr. Flammang was recognized as an outstanding young investigator who completed her doctorate within the past seven years and has made distinguished contributions to comparative biomechanics. Flammang's research focuses on locomotion in fishes, with particular emphasis on their fluid dynamics, fin mechanics and the interface of biology and robotics. Her research program represents the wonderful integrative nature of comparative biomechanics and spans physics, engineering and biology.



Elections

Every year we have elections to populate our next team of leaders in DCB. This year both the Secretary position and Program Officer positions are up for election. Please take the time to read about your colleagues who have offered to serve in this capacity and remember 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 "The ecology of exercise: mechanisms underlying individual variation in movement behavior," "Integrative life-history of whole-organism performance," and "Physical and genetic mechanisms of evolutionary novelty." It is time to start thinking about and proposing new symposia topics for the 2019 conference (due August 24, 2017). If you have ideas for symposia, please contact Jake Socha (dpo.dcb@sicb.org).

Do you like to party?

We would like to continue the new tradition of a rousing joint DCB/DVM social at next year's SICB conference in San Francisco. If you or someone you know is great at planning awesome parties, please send ideas and names to me (CHAIR.DCB@sicb.org).

2017 Carl Gans Award



Brooke Flammang, winner of the 2017 Gans Award

Dr. Brooke Flammang became an Assistant Professor at the New Jersey Institute of Technology in 2015, after completing her PhD and an Office of Naval Research postdoctoral fellowship appointment under the guidance of Dr. George V. Lauder at Harvard University. Research in her Fluid Locomotion Lab at NJIT

focuses on understanding the performance attributes inherent in the morphological diversity of fishes, with particular attention to the biomechanics of fish fins. The question that plagues lab members on a fairly

regular basis is, "Why are there more than 33,000 species of fishes, and why do they have such varied fins?" A major, on-going research initiative in the lab is focused on understanding the evolution, functional morphology, and bioinspired applications of the remora adhesive disc. This endeavor currently involves collaborators from six universities, integrating researchers in functional morphology, ecology, evolution, mathematics, fluid dynamics, polymer science, and mechanical engineering. In addition, lab members are encouraged to undertake their own personal independent research projects, which encompass a broad spectrum of fish research united primarily by the fluid biomechanics capabilities of the Fluid Loco lab. Dr. Stephanie Crofts, a postdoctoral research fellow, is studying the biomechanics of ichthyosaur swimming using a combination of fossil morphology, shark tail material properties, and bioinspired robots. Doctoral student Callie Crawford is studying the evolution of tetrapodal walking in fishes and the origin of the vertebrate pelvic girdle. Leann Winn is focusing her research on the fluid dynamics of chondrichthyan egg cases. The Fluid Locomotion lab continues to welcome new members, so stay tuned for many new exciting discoveries and research initiatives!

2018 Gans Award Nominations

DCB is soliciting nominations for the 2018 Carl Gans Award. This prestigious award can be given in two contexts: (1) for an outstanding young investigator in the field of biomechanics, or (2) for a significant contribution to the literature (book, research paper, or other) on biomechanics by a member of SICB at any career stage.

For awards for outstanding young investigator. Nomination materials: A short description of the nominee's work, relevant reprints, a CV, and three letters of support. Eligibility: Candidates must have received their doctorate in the past seven years and be current members of SICB. Candidates cannot have previously won the Bartholomew Award.

For awards for a highly significant contribution to the literature. Nomination materials: A copy of the work, a CV, and three letters of support. Eligibility: Nominees must be current members of SICB and not have won the Bartholomew Award.

The award covers appropriate expenses for travel to the SICB annual meeting, an award certificate and, depending on availability of funds, potential addition-



al research support for the winner. Questions about the process can be directed to John Long, the chair of the Gans Award Committee (jolong@vassar.edu) or the DCB Chair. Nominations should be submitted to me (CHAIR.DCB@sicb.org). **The deadline for nominations is 24 August 2017.**

DCB Best Student Presentation Awards



Isaac Yeaton, winner of the Mimi A.R. Koehl and Stephen A. Wainwright Award. Photo Credit: Mike Diersing



JD Laurence-Chasen, winner of the Steven Vogel Award

The Steven Vogel Award for the Best Student Poster in biomechanics

Winner: JD Laurence-Chasen (Brown University)

Finalist: Kevin Travis (University of Tampa)

We encourage applications for the 2018 student presentation awards competition!

The information on submissions can be found here (<http://www.sicb.org/students/awards.php3#bspdcb>).

Message from the Divisional Program Officer

Jake Socha, DPO.DCB@sicb.org

The New Orleans conference was fantastic. Thanks to all of you who participated. Along with DVM, we sponsored 40 talk sessions with nearly 300 talks, hosted almost 200 posters, and co-sponsored three symposia. The off-site DCB/DVM social was a blast, put on once again by Melina Hale and Callum Ross; we look forward to a repeat performance next year. Thanks also to Rick Blob, who is both the society-wide Program Officer and one of our own, and Joe Thompson, who helped make the symposia possible.

At next year's conference in San Francisco, we have a number of symposia sponsored by the DCB. The technical ones are "Spatial Scale and Structural Heterogeneity in Skeletal Muscle Performance," organized by David Williams & Natalie Holt, and "Sensory Feedback and Animal Locomotion: Perspectives from Biology and Biorobotics," organized by Brett Aiello, Jessica Fox & Gary Gillis. We also have two fascinating, public outreach-style symposia: "Story and Art in Science Communication," organized by Sara Elshafie, Stuart Sumida & Bram Lutten, and "Science in the Public Eye: Leveraging Partnerships," organized by Martha Merson, Nick Hristov & Louise Allen. Be sure to keep these in mind!



Finalists for the DCB Best student presentation award

The Mimi A. R. Koehl and Stephen A. Wainwright Award for the Best Student Presentation in biomechanics.

Winner: Isaac Yeaton (Virginia Tech)

Finalists: Diana Chin (Stanford University), Glenna Clifton (Harvard University), Nick Durston (University of Bristol), Molly Gear (University of Washington), and Mena Klittich (University of Akron)



I highly encourage you to consider organizing your own symposium, and now is the time to start planning. Applications are due 24 August 2017 for the 2019 conference. Keep in mind that it is possible to get support for symposia from both the division, NSF, or other agencies, and this is a good way to bring in people who don't normally attend SICB. Please let me know as soon as possible if you are thinking about submitting. Rick Blob has also offered to help discuss your ideas, so feel free to use him as a resource as well.

Lastly, if you plan to give a talk or poster at the 2018 meeting, make sure to think carefully about your abstract topic choices. The DCB and DVM Program Officers organize abstracts submitted with the primary topic "Morphology." If you want your presentation to be handled by the DCB, please select "Morphology" as the first topic. Spread the word—it makes your and our lives easier.

I look forward to reading your abstracts in September. See you in San Francisco!

Message from the Student/Postdoctoral Affairs Committee Representative

Sandy Kawano

Promoting and retaining diversity in science:

Greetings DCBers! An important topic that affects our society is diversity, and there is increasing concern about developing initiatives to provide access to equitable educational and professional outcomes. We are often taught that diversity plays an important role in nature, including promoting stability and resilience, but there is sometimes less discussion about its importance in the workforce. As Nielsen and colleagues wrote, "Encouraging greater diversity is not only the right thing to do: it allows scientific organizations to derive an 'innovation dividend' that leads to smarter, more creative teams, hence opening the door to new discoveries" (Nielsen et al. 2017: <http://www.pnas.org/content/114/8/1740.long>; see also <https://www.scientificamerican.com/article/how-diversity-makes-us-smarter/>). It is a challenging subject to address due to its complexity, but one that needs mentioning because it affects every single one of us, and conditions will not improve if these discussions are brushed under the rug.

While diversity often gets incorporated into Broader Impact statements for NSF, sometimes the first serious discussion on diversity that students and

post-docs face is during the process of applying for permanent jobs, where they are tasked with demystifying the "diversity statement" (read this blog post for more info: <https://chroniclevitae.com/news/266-the-professor-is-in-making-sense-of-the-diversity-statement>). For those seeking positions in academia, some faculty job search committees are also requiring (or preferring) applicants to submit a "diversity statement" to help recruit scholars who can contribute towards university initiatives to promote diversity and inclusive excellence. What would you write in your diversity statement? How can you help eliminate societal or hidden obstacles marginalizing certain groups? When situations arise that prevent students or colleagues from achieving similar professional outcomes as others, where will you stand?

As students and early career researchers, we are at particularly important stages in our careers where we must start developing or further maturing our academic identities and laying down a foundation for the ideals and visions that we will uphold in the future. With deadlines looming on the horizon, it can be difficult to think about anything besides your research, but there are many aspects to being a scientist. An article in the American Scientist (<http://bit.ly/21stCenturyScientist>) described a changing landscape of scientists and that the 21st century scientist must have a diverse repertoire of transferable skills that primes them to play important roles in a variety of workplaces, including business and industry. The term "scientist" can encompass a range of broadly trained individuals who can practice and communicate science, and non-academic jobs can be better described as "diverse careers in science," rather than "alternative careers" (the latter can give the impression that the main trajectory is academia and anything else is less common or even inferior). There are many professions that a scientist can pursue, both within and outside of academia. Scientists collectively bring a wide range of skills; however, there are potential biases about scientists that may limit individuals from pursuing their career goals due to lack of support.

Consequently, it can be useful to be aware of and combat your implicit bias(es): <http://blogs.nature.com/naturejobs/2016/07/08/how-to-combat-implicit-bias/>. This can help identify potential areas of prejudice. Implicit biases can emerge in the workplace as: 1) assigning women to secretarial duties in the lab, while the men continue on with their research;



2) excluding persons with disabilities from field work (lab members should discuss options to participate in the project; see info about the negative effects of non-events: <http://bit.ly/SpeakUpForEquality>); 3) enforcing gender-segregated living arrangements during conferences or field work (as well intentioned as this may be, it can potentially present cis-gendered biases and introduce uncomfortable or unwelcoming environments for transgender individuals). These are only a few examples to help illustrate that, while our hearts may be in the right place, our actions can have damaging effects on others that could exclude them from participating in future science activities. There is no simple solution, but one approach is to have open lines of communication to listen to the concerns of others and take action to accommodate everyone equally.

Many people may wonder, "How can I be an advocate for diversity when I'm not a minority?" In addition to being open-minded and welcoming discussions from people from diverse backgrounds, it is important to internalize their messages and learn from their experiences. For instance, here is how one teacher responded when "a student told me I couldn't understand because I was a white lady": <http://bit.ly/TeachStudentsEmpathy>. Although Emily Smith focused her article on children, her message is directly transferrable to students: "Be the teacher your [students] of color deserve. In fact, even if you don't teach [students] of color, be the teacher America's [students] of color deserve, because we, the teachers, are responsible for instilling empathy and understanding in the hearts of all [students]. We are responsible for the future of this country." I would highly recommend that you read a recent post by John Hutchinson that goes into more detail about how curiosity and empathy can be great starting points towards embracing diversity and promoting equality (<https://whatsinjohnsfreezer.com/2017/01/22/curiosity-empathy/>). We may not be able to walk a mile in another's shoes, but we can take a step back to listen to the challenges that others face, reflect upon ways that we can change our behaviors to better accommodate them, and learn from these experiences to promote a better and more supportive environment so that we can all be successful in our careers.

There are programs targeted at students and post-docs who are committed to promoting diversity in higher education and offer fully-funded initiatives to train such scholars in achieving those goals. For instance, some annual programs include:

1. Building Future Faculty program at NC State University (<https://oied.ncsu.edu/faculty/building-future-faculty-program/>),
2. NextProf Science Workshop at the University of Michigan (<http://sites.lsa.umich.edu/nextprof-science/>),
3. NSF post-doctoral fellowship for Broadening Participation in Biology (https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=503622).

These programs may have preferences for selecting underrepresented minorities in science in order to directly promote a diverse workforce, but will also consider other individuals who are committed to promoting diversity in science.

But how can an individual actively contribute towards positive change in science? Jacquelyn Gill provides some excellent advice on ways to get involved locally: <https://contemplativemammoth.com/2016/01/07/ten-easy-ways-to-support-diversity-in-academia-in-2016/>. Although the information provided on this blog post may be more applicable to professors or other team leaders, it highlights many important points that everyone should consider, such as recognizing the achievements of underrepresented minorities, opening discussions on how to promote a more inclusive environment that promotes equitable outcomes for everyone, and identifying how our behaviors may be inadvertently creating a hostile environment for others. In addition, other methods to promote diversity and inclusion include:

1. *Recruit underrepresented minority students.* Terry McGlynn has written some excellent advice on this topic: <https://smallpondscience.com/2016/09/05/recruiting-underrepresented-minority-students>. Even as students and post-docs, there are opportunities to recruit high school and undergraduate researchers from diverse backgrounds to assist or even lead portions of work related to your research. It can even be as easy as delivering a short presentation at a local classroom or public event where you talk about what it is like being a scientist,



so that children learn from an early age that scientists have a wide range of backgrounds that encompass different races, genders, degrees of ableness, ages, etc.

2. *Nominate women and underrepresented minorities for awards, talks, and other accolades.* Is your department seeking nominations for seminar speakers? Is there an upcoming award that is soliciting nominations? What about openings to serve as the student representative for a faculty search or a professional society? There are many ways that we can all promote diversity, inclusion, and equity by supporting our peers and recognizing their achievements.
3. *Stand up for others.* Be an advocate for those who are suffering from unjust marginalization or harassment. Sometimes those individuals are not able to stand up for themselves or may be too afraid to; speak to them about their concerns and ask them if there are ways that you can help. Not everyone wants help, but for those who do, it can make a big difference to know that there is a supportive network for them. Those who hold any sort of authority are particularly important advocates because they can set a good example for others to follow.
4. *Discourage microaggressions.* What some people consider “playful banter” can actually be a form of microaggression, which can be defined as “brief and commonplace daily verbal, behavioral, and environmental indignities, whether intentional or unintentional, that communicate hostile, derogative, or negative racial, gender, sexual orientation, and religious slights and insults to the target person or group”. Like the “death of a thousand cuts”, these microaggressions can have damaging impacts on a person’s self-esteem, self-respect, and motivation that could hinder their professional development. Additional information on understanding and combating microaggressions can be found here: <http://bit.ly/CombatMicroaggressions>
5. *Remove implicit biases in your writing.* Studies have shown that people can subconsciously communicate implicit biases in letters of recommendation, for instance, that can potentially disadvantage certain groups from advancing in

their careers (<http://www.sciencemag.org/careers/2016/10/recommendation-letters-reflect-gender-bias>). Brian O’Meara provided an online tool to check whether your letters of recommendation contain language that would communicate implicit biases (<http://brianomeara.info/lab/better-letter/>).

6. *Stay informed.* Much like science, diversity is a complex topic and is best understood by keeping up to date. Below are a few resources that discuss important topics related to science, professional development, and diversity.
 - a. Danielle Lee (a SICB member!): <https://about.me/DNLee>. For instance, read this post about why minority role models matter in STEM (<https://blogs.scientificamerican.com/guest-blog/under-represented-and-under-served-why-minority-role-models-matter-in-stem/>).
 - b. Jacquelyn Gill: <https://contemplativemammoth.com/>. In addition to her post about being an advocate, here is a post about how she cured her imposter syndrome (<https://contemplativemammoth.com/2012/04/25/how-i-cured-my-imposter-syndrome/>).
 - c. Dynamic Ecology, a blog curated by Jeremy Fox, Brian McGill, and Meghan Duffy: <https://dynamicecology.wordpress.com/>. For instance, this post has advice from Hope Jahren for women facing sexual harassment at work, shadow CVs, and gender balance in college graduates (<https://dynamicecology.wordpress.com/2016/03/11/friday-links-80/>).
 - d. Small Pond Science, a blog curated by Terry McGlynn, Amy Parachnowitsch, and Catherine Scott: <https://smallpondscience.com/>. See this post on talking about mental health in academia: <https://smallpondscience.com/2017/02/01/lets-talk-about-mental-health-in-academia/>.
 - e. The Professor Is In, a blog by Karen Kelsky: <http://theprofessorisin.com/>. She covers a range of topics including mental health, gender disparity, etc. If you are interested in pursuing a career in academia, I highly recommend reading through her blog and even purchasing her book. While some advice may



be specific to the social sciences (e.g., leading panels), she offers excellent feedback into the academic job process.

- f. The Chronicle of Higher Education: <http://www.chronicle.com/>
- g. Vitae: <https://chroniclevitae.com/news>
- h. American Institute of Biological Sciences has an extensive list of diversity programs: https://www.aibs.org/diversity/diversity_outreach_directory.html

The information covered in this article only touches on the tip of the iceberg, but hopefully it will open some new avenues to learn more about the challenges that women and underrepresented minorities face and possible ways that we can each help to promote diversity, inclusion, and equity in our field. Want to get more involved? Consider getting in touch with the SICB Broadening Participation Committee (<http://www.sicb.org/resources/diversity.php3>)! Thanks for reading!

Message from the Secretary

Andie Ward, Secretary.DCB@sicb.org

Greetings fellow DCB members! Wow, wasn't the meeting in New Orleans a fantastic one? I am especially proud of the extraordinary work being done by the student members of our division and society. The abstracts that we received for the best student presentation competition are high quality and it is always hard to narrow the pool down. This year's group of both oral and poster presentations were excellent. Congrats to all of the finalists! Keep up the incredible work!

This spring we will be electing a new program officer and secretary. Please take some time to review the biographies at the end of the newsletter and vote! If you are interested in becoming more involved in the society, please let me or one of the other officers know.

If there are events that you would like to advertise to either the DCB community or larger SICB community, please send that information to me. We can add it to Monthly Member Updates, put it in the newsletter, or send a direct mailing to members of DCB.

[Minutes of the 2017 DCB Business Meeting](#)

Election Information: Candidate Biographies

Candidates for DCB Program Officer

Philip Anderson



Philip Anderson, candidate for DCB Program Officer

Current Position: Assistant Professor, School of Integrative Biology, University of Illinois, Urbana-Champaign, IL (2016-present).

Education: Ph.D., Geophysical Science, University of Chicago (2001-2007); B.A., Geology, Carleton College (1997-2001).

Professional Experience: Post-doctoral researcher, Duke University (2013-2015); Senior Research Fellow, University of Massachusetts, Amherst (2012-2013); Lecturer (2011-2012), Marie-Curie Fellow (2009-2011) and Royal Society Fellow (2007-2009), University of Bristol, UK.

SICB Activities: DCB Best Student Talk and Poster Judge (2012-2014).

Other Memberships: Society for Vertebrate Paleontology; Geological Society of America.

Research Interests: The fundamental question of my research program is how the laws of physics and mechanics have influenced evolution. I approach this problem using a variety of biomechanical and evolutionary methods on a range of taxa. Current work includes: 1) studying the effects of size, speed and materials on biological puncture dynamics, 2) surveying the functional morphology of puncture tools across phyla, and 3) investigating patterns of evolution in the linkage systems of both fishes and mantis shrimp. This work involves collaborations with a range of scientists across the fields of biology and engineering.

Goals Statement: I first attended SICB as a graduate student back in 2004. As a vertebrate paleontologist who had begun applying biomechanical methods to fossil organisms, I was uncertain how my work



would be received. To my delight, I found a community of biologists and biomechanists who were interested and excited about my work. In the decade-plus since then I have been happy to be part of a society that embraces the 'integrative' and 'comparative' aspects of science. DCB embodies this tradition by welcoming researchers with a wide variety of taxonomic and methodological interests to address broad questions concerning how organisms function. As Program Officer, I would work to organize organic sessions that strike the right balance between having a strong common theme amongst speakers while also offering opportunities for cross-disciplinary interactions. I will also work to attract potential symposia that are both forward thinking and question-based. DCB already has a strong track record for this sort of symposia, and I want to maintain that tradition with sessions that bring in new people from other biological (evolution, development) and technical (engineering, physics) fields.

Tonia Hsieh



Tonia Hsieh, candidate for DCB Program Officer

Current Position: Assistant Professor, Department of Biology, Temple University.

Education: A.B., Integrative Biology, U.C. Berkeley (1999); A.M., Biology, Harvard University (2002); Ph.D., Biology, Harvard University (2005).

Professional Experience: Assistant Professor,

Temple University (2010-present); Assistant Professor, University of Florida (2008-2009); Post-doctoral researcher, Harvard University (2007-2008); Post-doctoral fellow, Brown University (2006-2007).

SICB Activities: Public Affairs Committee, member (2013-2017); "Vertebrate Land Invasions" symposium co-organizer (2013); Student Awards Committee, member (2008-2011); Judge for best student presentations (2015, 2017).

Research Interests: Comparative biomechanics of locomotion and mechanisms of control during movement across complex, natural surfaces. Recent re-

search includes investigations on the effects of limb loss on locomotion, and foot-ground interactions on non-Newtonian media.

Goals Statement: SICB has become the preeminent conference for comparative biomechanics research. With this amazing reputation also comes a shocking onslaught of conflicting sessions and end to end scheduling of talks throughout the duration of the conference. As DCB's Program Officer, I will first and foremost strive to follow in current DPO Jake Socha's footsteps, and arrange talks and sessions in a way that would minimize these conflicts whenever possible (drawing heavily from the wisdom of past and present Program Officers). Second, I encourage new biomechanics symposia and workshops from our membership, especially those highlighting big ideas that will inspire new collaborations and continue driving innovation in our field.

Candidates for DCB Secretary Henry Astley



Henry Astley, candidate for DCB Secretary

Current Position: Assistant Professor, Biomimicry Research & Innovation Center, University of Akron.

Education: Ph.D., Biology, Brown University, 2013; M.S., Biology, University of Cincinnati, 2008; B.S., Biology, University of Cincinnati, 2005; B.S., Aerospace Engineering, Florida Institute of Technology, 2001.

Professional Experience: 2013-2016 - Postdoctoral Researcher, Georgia Institute of Technology.

SICB Activities: Organizer for Southeastern Regional Society for Integrative & Comparative Biology



meeting, October 2015, Atlanta, GA; Session Chair 2011, 2012, 2014, & 2015; Annual attendee since 2006.

Other Memberships: Society for Experimental Biology; American Society of Biomechanics; American Society of Ichthyologists and Herpetologists; Sigma Xi, Associate member.

Research Interests: My research focuses on the biomechanics of animal locomotion, at the intersection between biology and physics. In order to move through their environment, animals must use physiological processes to generate force, transmit this force via the musculoskeletal system and morphology, and control it via the nervous system, all while navigating through sometimes mechanically complex and heterogeneous environments. I use a variety of systems to study these principles, including snakes, frogs, and early tetrapods. Snakes are capable of traversing a tremendous range of environments with a greatly simplified body plan, dramatically changing their interactions with the environment using different control strategies and gaits, such as sidewinding, lateral undulations and concertina locomotion. Frogs use elastic tendons in catapult mechanisms, allowing them to generate jump power outputs far beyond the limits of muscle power, showing the potential for musculo-skeletal morphology to dramatically alter function. And early tetrapods moved through a novel and challenging mechanical environment with primitive limbs and limited control, posing an intriguing biomechanical puzzle. I study these and other systems using a variety of techniques (e.g., motion capture, high-speed video, inverse dynamics, in vitro muscle testing), along with construction of biomimetic robots and robophysical models, which allow us to command different control schemes and experimentally manipulate morphology in a controlled, repeatable manner.

Goals Statement: SICB was my first scientific conference, and has remained my favorite ever since; through this society, I've met colleagues, advisers, collaborators, and friends, and every meeting brings so many brilliant conversations and fresh ideas. SICB and the DCB have been tremendously influential on my development as a scientist, and I would love an opportunity to give back to the society and division, and to 'pay it forward' by helping the next generation of aspiring comparative biomechanics students.

Sandy Kawano



Sandy Kawano, candidate for DCB Secretary

Current Position: Marie Skłodowska-Curie Fellow, Royal Veterinary College.

Education: Ph.D., Biological Sciences, Clemson University (2014); B.S., Evolution, Ecology and Biodiversity, University of California Davis (2008); A.S., Biological Sciences, De Anza College (2005).

Professional Experience: Assistant Professor, Department of Biological Sciences, California State University Long Beach (starting August 2017); Marie Skłodowska-Curie Fellow, Royal Veterinary College (2016–present); Post-doctoral Fellow, National Institute for Mathematical and Biological Synthesis (2014–2016).

SICB Activities: DCB Student / Post-doc Representative (2016–present); Judge, DVM best student presentation (2017); Judge, DCB best student presentations (2016); Finalist, DCB Best Student Talk competition (2015); Participant, DVM Best Student Talk competition (2014); Speaker "Vertebrate land invasions" symposium (2013).

Other Memberships: American Society of Ichthyologists and Herpetologists; International Society of Vertebrate Morphologists; Society for Experimental Biology; Society for the Study of Evolution.

Research Interests: My research investigates the comparative physiology and biomechanics of animal movement, in ecological and evolutionary contexts, to address the origin and maintenance of morphological and functional diversity. Common research themes include: 1) the locomotor biomechanics across the fin-limb transition in vertebrate evolu-



tion, 2) morphological diversity driven by phenotypic selection, and 3) the ecomechanics of locomotion across different environments. My interdisciplinary research integrates empirical and theoretical approaches, including force platform experiments, high-speed videography, materials science and engineering, statistics, mathematics, and computer modeling. Additional information available here: <http://sandykawano.weebly.com>.



Goals Statement: The Division of Comparative Biomechanics and the broader SICB community have been my academic family since I began graduate school, and it would be my pleasure to give back to a such a community that gives so much to its members. One of my goals as a DCB officer is to communicate information that is of broad interest to our members and share professional development resources to our students and other early career researchers. As the DCB student / post-doc representative, I used the divisional newsletter to answer professional development questions asked by our early career researchers. In the future, I would increase the visibility of DCB through additional networking avenues (e.g., Twitter, Facebook) to enhance interactions among members, announce funding opportunities, promote accomplishments by our members, and heighten public awareness of the importance of biomechanics to society. As DCB Secretary, I would also work with fellow DCB officers to recruit new members, encourage symposium proposals, and increase attendance at business meetings, particularly from students and other early career researchers / educators.

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>