



## Division of Evolutionary Developmental Biology

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### DEDB Officers & Representatives

**Kim Hoke**

*Chair 2018-2020*

**Cassandra Extavour**

*Past Chair 2018-2020*

**Julia Bowsher**

*Secretary 2017-2019*

**Yui Suzuki**

*Program Officer 2016-2019*

**Amaneet Lochab**

*Student/Postdoc Representative 2017-2020*

### Message from the Chair

*Kim Hoke (Chair.DEDB@sicb.org)*

Thank you to everyone who made the 2018 meeting in San Francisco a fantastic success! Many of you presented talks and posters with evo-devo links, and we had several symposia in which the evolution of development was a major focus. The meeting was especially enjoyable because no one was frantically trying to finish their NSF preproposals. You'll read more about the great science at the meeting and the symposia we sponsored in the report by our DEDB Program Officer Yui Suzuki. DEDB Secretary Julia Bowsher will tell you all about the DEDB award-winning student presentations.

Both the SICB executive committee and NSF program officers shared important news at our business meeting that impacts our members. For those of you who didn't attend, here's a summary of key updates.

First, as you may know, IOS and DEB have ended both preproposal and proposal deadlines. Expect the release of the a new solicitation later this spring, which will allow us to start submitting full proposals in the summer. The NSF program officers are still working out the details, but the likely plan is that they will collect ad-hoc reviews as proposals come in, and they will convene an in-person panel when enough proposal have accumulated to fill a panel's docket. Although we don't yet have all the details, several other NSF groups have had great success with no-deadline programs.

Our program officers highlighted several other funding opportunities that may work for our members as well. One program to keep an eye on is the Rules of Life (<https://www.nsf.gov/pubs/2018/nsf18031/nsf18031.jsp>), which currently is requesting EAGERs, conference proposals, and RAISE grants that are right up the alley of DEDB members: integrating across levels of biological organization to determine fundamental rules, such as those regulating emergent properties of the genotype-phenotype map. The first Rules of Life EAGER and RAISE deadlines have just passed, but conference proposals are due in June. Also, the EDGE (Enabling Discovery through Genomic Tools, <https://www.nsf.gov/pubs/2018/nsf18506/nsf18506.htm>) has a Feb 2019 deadline; apply to this program if you want to develop tools for genetic manipulations using your favorite organisms.

Other smaller-sized programs continue to be NSF priorities. Encourage postdocs to submit a fellowship application in the areas of Broadening Participation or Biological Collections — these programs have among the best funding rates at NSF! And don't forget that NSF still has several opportunities to apply for supplementary funding for your existing grants. If you are a mid-career investigator (post-tenure, pre-emeritus) who wants to learn new methodology, there's a supplement for you. If you want funding for partners



such as undergrad researchers or teachers, the REU and RET programs are great opportunities. We are especially encouraged to submit supplemental funding requests as part of our standard NSF proposals, rather than applying once funding on the main grant has started. Finally, NSF does want to support SICB symposia despite their budgetary constraints. Symposia that include diverse speakers, have particularly integrative and novel content, and are forward-looking, rather than retrospective, are more likely to be awarded funding.

The SICB Executive Committee also announced several advances in the works. First, the society's new open access journal (*Integrative Organismal Biology*) is in the process of kicking off its first call for papers, and Adam Summers will serve as editor. Adam is looking for co-conspirators if you want to help this journal get off the ground by serving as an associate editor or social media specialist. Another piece of news is that a new division is joining SICB — organismal plant biology! Due to our zoological past, SICB has relatively few plant biologists among the members and meeting attendees. To help the new division succeed, spread the word to all the evo-devo biologists you know who study plants, or (of course) other plant biologists. The society is also implementing changes to make the meeting more accessible to parents. Creagh Breuner is leading that initiative and would be happy for your ideas and input. This effort is linked to a new (still in press) PNAS article spearheaded by Rebecca Calisi on the challenges of parents to participating in conferences, along with concrete action items. As many of you likely belong to multiple societies, please pass this paper onto the organizers of other meetings, once it's available.

Also, as always, the SICB officers encourage you to propose symposia! We have a good set of symposia slated for the 2019 meeting in Tampa, so are now looking for proposals for the 2020 meeting in Austin, which are due on August 24. As the published symposia proceedings provide essential funding that keeps the meeting affordable for all participants, these symposia are incredibly important to the Society — and new incentives for symposium organizers are in the works. Please consider putting together a proposal. We DEDB officers are happy to offer input on your team's ideas to help you construct a compelling proposal, and we are collecting resources to help you seek outside funding for additional symposium support. DEDB Program Officer Yui Suzuki is especially helpful to contact (DPO.DEDB@sicb.org), given his experience gained at the Program Officers meeting. Remember, symposium content should be integrative and draw

in members from multiple divisions. Also, speaker lists should be diverse, including speakers of different career stages, genders, ethnic backgrounds, and scientific perspectives. If you have an idea, let your DEDB officers know when you want feedback or help at any stage of the process.

I wanted to remind you about other relevant meetings coming up this summer:

- The European Society for Evolutionary Developmental Biology (EED) will meet in Galway, Ireland, June 26-29, 2018.
- The Society for Developmental Biology (SDB) will meet in Portland, Oregon, July 20-24, 2018.
- The Joint Congress on Evolutionary Biology (including European Society for Evolutionary Biology, American Society of Naturalists, the Society for the Study of Evolution, and the Society of Systematic Biologists) will take place in Montpellier, France, August 19-22, 2018. The abstract submissions for this joint congress have far outstripped the presentation slots, so this meeting is clearly going to be a great success.

Finally, I wanted to update you on DEDB officers. We welcome Amaneet Lochab as our Student/Postdoc Affairs Committee representative. Despite starting her term in mid-December, Amaneet organized matches for the 'Evo-Devo Dinner Dates' at the San Francisco meeting. This program is extremely popular, and we encourage even greater faculty and postdoc involvement in future to keep up with graduate student demand! Amaneet is especially interested in your ideas to initiate DEDB postdoc activities. In addition, David Plachetzki has taken over as the DEDB Associate Editor for ICB. Thanks so much to David for taking on this job. Please welcome him into this role by saying "yes" to reviewing manuscripts! We also welcome Prashant Sharma as Secretary-Elect and Matthew Rockman as Program Officer-elect. They both came to San Francisco and participated in division meetings to learn the ropes. Meanwhile, two of our divisional members recently rotated out of service. Huge thanks to Robert Zeller for his years of service and hard work as Associate Editor at ICB representing all of us, and also thanks to Cassandra Extavour for her leadership as Division Chair these past two years. As usual, turnover means elections, and this spring we will elect a Division Chair to replace me when my term is up after the 2020 meeting. Fortunately, Dede Lyons, David Angelini, and Julia Bowsher all agreed to run. Thanks folks, for putting your names forward!



## Message from the Program Officer

Yuichiro Suzuki ([DPO.DEDB@sicb.org](mailto:DPO.DEDB@sicb.org))

The 2018 SICB meeting was a successful meeting with many fantastic talks and presentations. Some highlights from the meeting included the DEDB Best Student Paper competition and several DEDB-sponsored symposia. The DEDB Best Student Paper session is always one of my favorite sessions at the annual meeting, and this year's session did not disappoint. Students, including undergraduate students, gave fantastic talks, and the quality of the research presented was outstanding. Science communication was a major theme of this year's meeting, which was kicked off with a plenary given by the New York Times columnist, Carl Zimmer, who discussed the challenges of communicating science to the public. In addition, one of the symposia supported by DEDB was "Science Through Narrative: Engaging Broad Audiences" (organized by Sara Elshafie, Stuart Sumida, and Bram Lutton), which featured speakers from various industries. DEDB also sponsored three additional symposia: "From Small and Squishy to Big and Armored: Genomic, Ecological and Paleontological Insights into the Early Evolution of Animals" (organized by Erik Sperling and Kevin Kocot), "Integrative Biology of Sensory Hair Cells" (organized by Duane McPherson and Billie Swalla), and "Evolution in the Dark: Unifying Understanding of Eye Loss" (organized by Megan Porter and Lauren Sumner-Rooney). These symposia were comprised of rich and diverse talks that provided insights from paleontology to molecular genomics. I am grateful to the symposia organizers for all their work putting together the symposia. The meeting also included many great evo-devo talks in the regular oral sessions as well as posters.

Looking forward, there will be five DEDB-sponsored symposia at the 2019 SICB meeting in Tampa, Florida:

- "Comparative Evolutionary Morphology and Biomechanics in the Era of Big Data" (SICB Wide) (organized by Martha Muñoz and Samantha Price)
- "Allometry, Scaling and Ontogeny of Form" (organized by H. Frederik Nijhout and Kenneth McKenna)
- "Multifunctional structures and multistructural functions: Functional coupling and integration in the evolution of biomechanical systems" (organized by Stacy Farina and Emily Kane)
- "Adaptation and Evolution of Biological Materials" (SICB Wide) (organized by Rob Campbell and Mason Dean)

- "Integrative Plant Biology" (SICB Wide) (organized by Matt Ogburn, Beth Brainerd, Erika Edwards)

These promise to be vibrant and intellectually stimulating symposia, and I am looking forward to the meeting. The Integrative Plant Biology symposium is part of an attempt by SICB to build a new Division of Integrative Plant Biology to expand participation from biologists working in plant systems. I am hopeful that this effort will encourage participation from the plant evo-devo community in the coming years.

In addition, the deadline to request a workshop or another meeting for the 2019 meeting is June 1, 2018. By moving the deadline forward, the Program Committee is hoping to avoid some of the last-minute scrambles to fit in extra workshops and events. If you have any workshop or meeting requests, please email the Program Officer for SICB, Suzanne Williams ([programofficer@sicb.org](mailto:programofficer@sicb.org)).

Lastly, I would like to call your attention to the 2020 SICB meeting, which will be held in Austin, TX. Planning for 2020 symposia is already underway, and the deadline for submission of symposia proposals is **August 24, 2018**. Decisions about symposia proposals will be made at the program officers' meeting in early October. The symposia are the bread and butter of the society, so I hope that you will consider submitting a proposal. If you have any ideas for a symposium, please feel free to get in touch with me ([dpo.dedb@sicb.org](mailto:dpo.dedb@sicb.org)). A list of all of the symposia titles from the year 2000 to 2015 can be found at: <https://docs.google.com/spreadsheets/d/1VYR-6xYgZxUh6ldj-PIWw-Me29S5b4JvfpeqYuA6i08/edit#gid=0>. I would also be happy to provide a sample successful proposal and tips for submitting a successful proposal. Please get in touch with me if you have any symposium ideas. You can visit <http://sicb.org/meetings/2020/callsymp.php> for more information on the submission process. As you will see, the proposal submission form is relatively easy to fill out, but please make sure you follow the instructions.

If you have any questions, please don't hesitate to get in touch with me. I wish you all a wonderful year!



## Message from the Student/Postdoc Representative

Amaneet Locab

Hi DEDB Students and Postdocs! I hope you enjoyed the meeting in San Francisco and had the opportunity to see some great posters and talks. Our presenters did an amazing job!

Thank you to everyone who participated in the “Evo-Devo Dinner Dates” this year. The program was a great success, with 18 faculty hosting 34 students. I welcome feedback you have on this program so that we can incorporate your ideas into our activities for SICB 2019. I am looking to expand our activities to include an “Evo-Devo Coffee Dates” program next year. Hopefully this will provide more networking opportunities for faculty, postdocs, and students. Stay tuned for more details in the fall.

The Student and Postdoctoral Affairs Committee (SPDAC) for the society is planning a workshop or roundtable discussion for the next annual SICB meeting. If you have ideas on programming you'd like to see at the meeting that caters to students and postdocs across divisions, please get in touch with me and I'll bring this feedback to the planning process. The SPDAC also compiles a list of external fellowships and grants for students and postdocs that can be found here: [www.sicb.org/grants/externalgrants.php](http://www.sicb.org/grants/externalgrants.php). One way to directly get involved with SPDAC is via twitter [@SICB\\_SPDAC](https://twitter.com/SICB_SPDAC).

Lastly, we would like to encourage graduate students or postdocs to think about submitting a proposal for a symposium at the SICB 2019. You may have been inspired by the fascinating symposia this year and have an idea for your own topic and some speakers you would like to invite to the next meeting. If so, please get in touch with our program officer, Dr. Yui Suzuki ([dpo.dedb@sicb.org](mailto:dpo.dedb@sicb.org)). Guidelines for symposium proposals are also posted on the SICB website.

I hope you have a productive and enjoyable summer and, as always, feel free to email me if you have any suggestions, comments, or if you would like to get more involved in DEDB.

## Message from the Secretary

Julia Bowsher ([Secretary.DEDB@sicb.org](mailto:Secretary.DEDB@sicb.org))

The best student presentation competitions at SICB 2018 ran smoothly and were a great success. Thank you to the students who participated, and the faculty and postdocs who volunteered

to judge. We had fourteen abstracts submitted for the Best Student Oral Presentation competition. The selection committee chose eight students as finalists: Anne Frances Armstrong, Allan Carrillo-Baltodano, Arun Chavan, William Colgan, Amanda Powers, Amber Rock, Miguel Salinas-Saavedra, and Connor Sears. The finalists gave their talks in one session of the meeting, which highlighted their science and made for a strong student session. The talks were great this year, and I think all finalists can be proud of their presentations. Congratulations to all the finalists!

Allan Carrillo-Baltodano, a PhD candidate from Clark University, won Best Student Oral Presentation. Allan's talk was entitled: “Decoupling Brain from Nerve Cord Development in the Annelid *Capitella teleta*.” You can learn more about Allen Carrillo-Baltodano and his research in his profile in this newsletter.

Nineteen students participated in the Best Student Poster Competition, and Stephanie Neal was our winner. Stephanie is an undergraduate at the University of Miami. The research she presented was conducted as an REU student in Elaine Seaver's Lab at the Whitney Lab for Marine Biosciences. Stephanie's poster was entitled: “Functional investigation of a rhabdomeric opsin gene in *Capitella teleta*.”

It was a good meeting for our students, and for the annelid *Capitella teleta*!

Over the past few years DEDB has revised its Best Student Oral Presentation competition procedures. Significant changes to the process include selecting finalists from a pool of submitted abstracts, and having all finalists give their talks in one session. We welcome your feedback on this format. Please send me your comments via email ([Secretary.DEDB@sicb.org](mailto:Secretary.DEDB@sicb.org)).

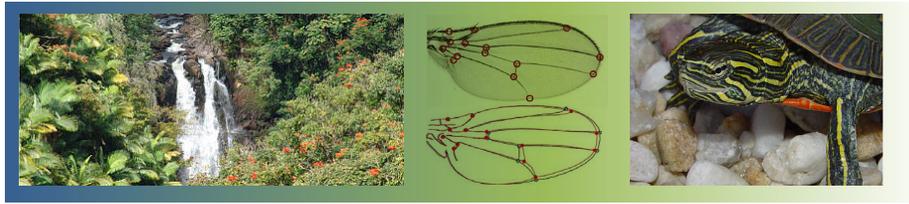
## Best Student Oral Presentation Winner



Allen  
Carrillo-Baltodano

### Allen Carrillo-Baltodano

“I am a 5th-year PhD Candidate at Clark University in Worcester, Massachusetts. I study evolution of neural specification in the spiralian annelid *Capitella teleta*. Through a series of blastomere isolation experiments, I discovered a dual mechanism of neural specification — the cells that make the brain can form neurons without input from neighboring cells, while the cells that make



the ventral nerve cord require extrinsic signaling (Paper: <https://doi.org/10.1016/j.ydbio.2017.09.022>). Short term, I would like to test the hypothesis that this dual mechanism of neural specification is present in other members of the spiralian clade. This clade includes animals with a diverse and beautiful range of morphologies and body plans, such as mollusks, ribbon worms, and brachiopods. I think that the uncoupling of head and trunk neural specification could have promoted diversification. I am currently co-organizing the 5th Latin American Symposium of Polychaeta in my home country, Costa Rica. This symposium will highlight work from Latin American researchers in all aspects of annelid biology and will be an excellent venue for networking (Twitter feed: @VSilpoly18CR)."

**Minutes of the DEDB Business Meeting in San Francisco, LA**  
[www.sicb.org/divisions/DEDB/minutes.php3](http://www.sicb.org/divisions/DEDB/minutes.php3).

## Candidates for Chair-Elect



David Angelini

### David R. Angelini

**Current position:** Assistant Professor of Biology, Colby College (Associate Professor as of Sept. 2018)

**Education:** B.A., 1999, St. Mary's College of Maryland; Ph.D., 2005, Indiana University.

**Professional experience:** Assistant Professor, Department of Biology, Colby College, 2012-2018; Assistant Professor, Department of Biology, American University, 2008-2012; Graduate Programs Director, Department of Biology, American University, 2010-2012; National Research Service Award Postdoctoral Fellow, Department of Ecology and Evolutionary Biology, University of Connecticut; NSF IGERT Fellow, graduate research conducted in the lab of Thomas Kaufman, Department of Biology, Indiana University.

**Other memberships:** Pan-American Society for Evolutionary Developmental Biology (PASEDB), PASEDB Secretary 2016-present, European Society for Evolutionary Developmental Biology, Society for Developmental Biology, Genetics Society of America, Entomological Society of America

**Research interests:** My research examines developmental genetic systems with alternative phenotypic outcomes, including instances of phenotypic plasticity and polyphenism, as well as sexual dimorphism and serial homology. My research focuses on the generative mechanisms of these systems, but also uses comparative approaches to explore their evolution. Insects are my most common study species, where I use a combination of methods from developmental studies, morphometrics, functional genetics and genomics.

**Goals statement:** I am honored by the nomination to run for DEDB chair. One of the continuing enterprises of evolutionary developmental biology is the synthesis of concepts and experimental approaches from historically disparate fields. The integrative aim and atmosphere of SICB makes it an organization that can play a special role in the field. The Society's disciplinary breadth is particularly salient to the integrative nature of evo-devo. As DEDB chair, one of my goals will be to strengthen connections and interactions among DEDB and other SICB divisions. As Secretary of the Pan-American Society for Evolutionary Developmental Biology (PASEDB), I helped to create similar platforms for communication and to worked support the education and advancement of young investigators in the field. My work with PASEDB has involved facilitating communication between the executive board and membership, co-organizing the 2017 meeting in Calgary, co-chairing workshops on technology in 2015 and education in 2017, as well as judging student posters and talks. SICB has been an important organization to many researchers, and I hope to foster additional opportunities for students and young investigators to gain new skills and showcase their work. Strengthening connections between DEDB/SICB and other organizations, such as PASEDB and the Society for Developmental Biology, is one way to provide new opportunities for young scientists whose work spans traditional disciplines, as is continuing to advocate for funding resources from the NSF and other agencies and foundations. Finally, I would like to explore ways in which DEDB and SICB might engage with the broader community, particularly in K-12 education. My own outreach efforts have focused on connecting insect biology, as well as development and evolution, to urban ecology, by providing teaching resources and citizen science opportunities for K-12 teachers through [bugsinourbackyard.org](http://bugsinourbackyard.org). The research breadth of DEDB and its membership will provide many different opportunities to engage the public, excite students, and increase understanding of development and evolution.



Deirdre Lyons

**Deirdre Lyons**

**Current Position:** Assistant Professor, Scripps Institution of Oceanography, U.C. San Diego

**Education:** B.A., 2002, Mount Holyoke College; Ph.D., 2008, U.C. Berkeley

**Professional Experience:** Assistant Professor, Scripps Institution of Oceanography, U.C. San Diego, 2016-

present; Postdoctoral Research, Laboratory of David McClay, Duke University, 2009-2016; Graduate Research, Laboratory of David Weisblat, U.C. Berkeley, 2002-2008

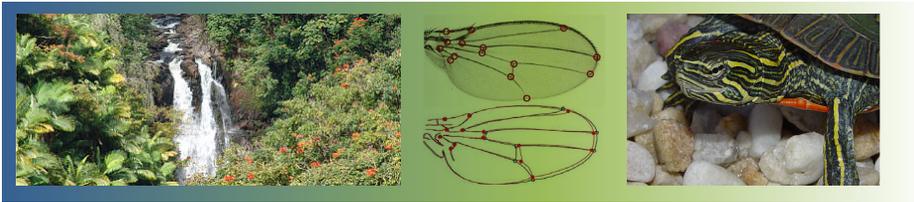
**SICB Activities:** Co-organizer: "The Cell's View of Animal Body Plan Evolution" Society-Wide Symposium, 2014 SICB Meeting, Austin, TX.

**Other Memberships:** Pan-American Society for Evolutionary Developmental Biology; American Society for Cell Biology; Society for Developmental Biology

**Research Interests:** I am broadly interested in the evolution and development of marine invertebrates. I want to know how changes in cellular processes (and their underlying gene regulatory networks) have led to diverse animal morphologies. I use spiralians and echinoderms as model systems because they have unique, and complementary, advantages for studying the evolution of morphogenesis in a phylogenetic context.

**Goals Statement:** I am honored by the nomination to run for Chair of DEDB. My first scientific conference was a SICB meeting in my junior year of college. That early exposure to such a diverse range of biological questions, and the opportunity to meet scientists in a student-friendly setting, influenced my research interests and career path considerably. I am grateful that the SICB/DEDB maintains its unusually high level of commitment to early-career stage scientists through travel and housing support, opportunities for oral presentations at the annual meeting, workshops, student/faculty dinners, and the position of Student/Postdoctoral Affairs Committee Representative. Involvement of students and post-docs in the DEDB is something I would do my best to support and expand as Chair. For example, I would develop a more formal program where post-docs are actively encouraged to propose and organize DEDB-sponsored symposia in collaboration with a full SICB member. I co-organized a SICB symposium in this way as a post-doc, and it was a tremendous opportunity to meet scientists I admired, raise money to support talks and posters from early-career scientists and under-represented minorities, and participate in the editorial process at the Society's journal, *Integrative and Comparative Biology*. I will encourage the development of inter-disciplinary symposia topics that bridge the boundaries between DEDB and other divisions and that will attract new membership to SICB. The DEDB was one of the first society "homes" for the evodevo community, and I will continue to promote the important place evodevo research has in the field of biology to the larger scientific community and to funding agencies.





SICB Newsletter



Spring 2018