



Division of Evolutionary Developmental Biology

Contents

Message from the Chair	1
Message from the Program Officer	3
Message from the Student/Postdoc Affairs Representative	3
Message from the Secretary	4
DEDB Business Meeting Minutes	4
Elections	4

DEDB Officers & Representatives

Cassandra Extavour
Chair 2016-2018

Kim Hoke
Chair-Elect 2017-2018

Sally Leys
Past-Chair 2016-2018

Julia Bowsher
Secretary 2017-2019

Yuichiro Suzuki
Program Officer 2016-2019

Isabel Baker
*Student/Postdoc Representative
2017-2020*

Message from the Chair

Cassandra Extavour, Chair.DEDB@sicb.org

Thanks to all of you who came to the 2017 meeting in New Orleans. As you will see from the report of our Program Officer Yuichiro Suzuki (Wellesley College), it was an exciting meeting full of interesting research in evo-devo, eco-evo-devo, and other themes of interest to our scientific community. As wonderful as the scientific content of SICB is, there are other great reasons to go to the meeting: upcoming news and plans from the Society, the National Science Foundation (NSF), and other relevant organizations are also announced and discussed at this meeting. Below I will highlight a few examples.

First, SICB plans to launch a new open-access journal that will publish primary data manuscripts. Unlike the current SICB journal, which is dedicated to publishing papers arising from SICB symposia, this new journal will be a venue for original research in all of the areas of science represented by SICB. If you are interested in learning more about this journal, please contact me at chair.dedb@sicb.org or extavour@oeb.harvard.edu. With respect to the current SICB journal, you may not know that each SICB division has a representative that sits on the editorial board. Bob Zeller has served as the DEDB rep on the editorial board for the past five years, and we thank him for his service! We are now in need of a new ICB editorial board rep for DEDB. If you are interested in doing this, please contact me.

Second, at our annual DEDB Business meeting during the New Orleans meeting, Bill Zamer from the NSF attended and encouraged DEDB members to submit their proposals for exciting new research to the appropriate NSF directorates. He spoke of a number of NSF mechanisms that are directly relevant to DEDB members. When applying for NSF support for a symposium at a meeting (for example, a SICB symposium), remember that the NSF would like to support symposia that are forward-looking, aiming to think about the future of a field and how to move it forward, rather than retrospective, or aiming primarily to summarize the past accomplishments of a field. He reminded us that there is a policy extending throughout the whole BIO directorate, that symposium organizers must make explicit their efforts to ensure that symposium speaker panels are diverse with respect to the gender and background of the speakers. If proposed speaker panels do not include any women or members of groups underrepresented in science, the symposium organizers will have to explain what specific steps they took to include members of these groups, and why their efforts were unsuccessful. Remember that the best way to diversify your panels, departments and labs, is to think outside the box: don't simply restrict your recruitment efforts to the first people that come to mind, or to the minds of your closest colleagues.



Consider explicitly searching through the research and faculty web pages of Colleges, Universities, Societies and conferences that you are less familiar with. These could include, for example, Historically Black Colleges and Universities (https://en.wikipedia.org/wiki/List_of_historically_black_colleges_and_universities), the WILS database of women in science (<http://www.embo.org/science-policy/women-in-science/wils-database-of-women-in-life-sciences>), blog posts on diversity in STEM like those of Karen James on women of color in biology (<https://kejames.com/2014/08/26/a-working-list-of-eminant-women-of-color-in-biology/>), the membership and speaker list of conferences aimed at greater inclusion in STEM (see for example the Society for the Advancement of Chicanos/Hispanics and Native Americans in Science (<http://sacnas.org/>), the National Society for Black Engineers (<http://www.nsbe.org/home.aspx>), or the Annual Biomedical Conference for Minority Students (<http://www.abrcms.org/>). These are just a few examples; ten minutes on Google will provide you with dozens more ideas for expanding your pool of symposium participants, potential collaborators, and applicants to your graduate programs and faculty searches.

Bill Zamer also reminded DEDB members of their mid-career investigator award program, which is part of the core grant funding program of IOS. If you are between tenure and retirement, you qualify for this mechanism, which is intended to help researchers re-tool, obtain new and complementary training to that which they already have. If you have an idea that you think could qualify your proposal for this mechanism, speak with your NSF program officer before submitting your pre-proposal. The plant-microbial interactions stream has been removed from the symbiosis core program, and proposals dealing with this topic should now go through the plant-biotic interaction solicitation, which is a joint IOS-USDA NIFA program (<https://nsf.gov/pubs/2016/nsf16551/nsf16551.htm>). Proposals that were submitted to the very popular EDGE (Enabling Discovery through Genomic Tools) solicitation that was released last year were still being reviewed as of January 2017. The NSF plans to release a similar solicitation independently of the IOS core programs, sometime later this year. This is an important solicitation for DEDB researchers, since many of the study systems we employ currently lack sophisticated genomic manipulation tools. This is an ideal funding opportunity to develop such

systems, so keep watching the NSF website for details on the new EDGE solicitation that will hopefully be announced before the end of 2017. On the grant administration side of things, Bill let us know that the BIO directorate has issued more specific guidance on how to write and report on the implementation of data management plans in your proposals and annual reports (https://www.nsf.gov/bio/pubs/BIODMP_Guidance.pdf). Finally, for our early career stage colleagues, Bill recommends that, if you are planning to submit a CAREER proposal (https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=503214), you consider submitting your research plan idea as a pre-proposal in the cycle preceding the CAREER deadline. This way, you will have a chance to receive reviewer feedback on your ideas before submitting the CAREER proposal.

Finally, updates on the changing composition of the DEDB officers are in order. First, we give heartfelt thanks to Amanda Khan (University of Alberta) and Greg Davis (Bryn Mawr), who have completed their terms as Student/Postdoctoral Affairs Committee (SPDAC) rep and Secretary, respectively. Thanks to Amanda for constant advocacy on behalf of student and postdoc DEDB members, and for organizing the highly successful student-faulty dinners at SICB. Greg is to be applauded and admired for his unwavering patience and optimism in the face of keeping track of meeting minutes, and chasing the chair (me!) for overdue documents on an embarrassingly regular basis. As Secretary, we now welcome Julia Bowsher (North Dakota State University)! As of the close of the 2018 meeting, we will welcome Izzy Baker (Harvard University) as the new SPDAC rep, and Kim Hoke (Colorado State University) as the new DEDB Chair. To fill the positions of Secretary and Program Officer after Julia and Yui step down, we are currently having elections for these positions! Please cast your votes in May.

Best wishes to all of you for success in your research, labs, classrooms and lives for the coming year! May your microscope lenses be always clean, your microtome blades always sharp, and your sequencing libraries free of degraded oligos. See you in San Francisco 2018!



Message from the Program Officer

Yuichiro Suzuki, DPO.DEDB@sicb.org

The 2017 SICB meeting was another great success, driven by many fantastic talks and presentations. Some highlights from the meeting included the DEDB Best Student Paper competition and two DEDB symposia. The DEDB Best Student Paper competition had outstanding talks, some of them given by undergraduate students. The quality of the research presented was excellent, and I was thrilled to see evo-devo thrive at SICB. We were also treated to two interesting evo-devo related symposia: "The Evolution of Arthropod Body Plans – Integrating Phylogeny, Fossils and Development" (organized by Ariel Chipman and Doug Erwin) and "Physical and Genetic Mechanisms for Evolutionary Novelty" (organized by Thomas Stewart, Stuart Newman and Günter Wagner). "The Evolution of Arthropod Body Plans" symposium explored arthropod body plan evolution by bringing together research from diverse perspectives, from fossil records to phylogenomics and developmental biology. Various arthropod taxa were showcased in the symposium which provided a wonderful synthesis of our current understanding of arthropod evolution. The "Physical and Genetic Mechanisms for Evolutionary Novelty" symposium was an exciting attempt to synthesize the current advances made in incorporating mathematical modeling, transcriptomics, developmental genetics and biophysics to understand the evolution of novelties. The talks were given by researchers working on a broad spectrum of organisms, from vertebrates and invertebrates to plants, and provided for a rich and engaging session. The meeting also included many great evo-devo talks in the regular oral sessions as well as posters relevant to DEDB.

Looking forward, there will be four DEDB-sponsored symposia at the 2018 SICB meeting in San Francisco, CA:

- "Evolution in the dark: unifying understanding of eye loss" chaired by Megan Porter & Lauren Sumner-Rooney
- "Integrative Biology of Sensory Hair Cells" chaired by Duane McPherson & Billie Swalla
- "Small and Squishy to Big and Armored: Genomic, Ecological and Paleontological Insights into the Early Evolution of Animals" chaired by Erik Sperling and Kevin Kocot, and

- "Story and Art in Science Communication" chaired by Sara Elshafie, Stuart Sumida and Bram Lutton

These promise to be vibrant, intellectually stimulating and educational symposia, and I am already looking forward to the meeting.

Lastly, I would like to call your attention to the 2019 SICB meeting, which will be held in Tampa, FL. Planning for the 2019 symposia is already underway, and the deadline for submission of symposia proposals is 24 August 2017. Decisions will be made at the Program Officers' meeting in October. This year, we had only 11 symposium applications for the 2018 SICB conference. At the Program Officers' meeting in September, we discussed that this was not an ideal situation and that we should try to solicit more applications. 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 or ysuzuki@wellesley.edu). I also have a list of all of the symposium titles from the year 2000 on, so if you would like to see what topics have been covered recently, please email me; I would be happy to share the list with you. I also would be happy to provide tips and/or a sample proposal. 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

Izzy Baker

Hello DEDB students and postdocs! I am the new DEDB Student/Postdoc representative, succeeding our former representative, Amanda Kahn, who has certainly left some big shoes to fill! I am currently a first-year PhD student in the Extavour Lab in the Department of Organismic and Evolutionary Biology at Harvard. I'm looking forward to getting to know all of you and hearing your suggestions for building upon the fruitful traditions of this group that have been established over the years. One aspect I'm especially excited for is the highly popular faculty/student dinner. This is a great opportunity for students to meet one-on-one with our faculty and learn about their fascinating research. This is also a chance for faculty to learn about your research, hear about the experiences of the next generation of scientists, and potentially discuss career opportunities. I will be sending



emails about this in the months preceding the San Francisco meeting, so stay tuned! In the meantime, please feel free to email me with any suggestions that you would like to be incorporated at our next meeting. I look forward to seeing you all in San Francisco!

Message from the Secretary

Julia Bowsher, Secretary.DEDB@sicb.org

I have just taken over as Divisional Secretary from Greg Davis. Greg did an excellent job as Secretary, and has been very kind in leading me through the role as Secretary-elect. Thanks Greg!

The student competitions at SICB 2017 ran smoothly and were a great success. We had sixteen abstracts submitted for the Best Student Oral Presentation competition. The nominating committee selected eight students as finalists: Katherine Criswell, Kory Evans, Cera Fisher, Adam Johnson, Mara Laslo, Karl Palmquist, Emily Setton, and Longjun Wu. The finalists gave their talks in one session of the meeting, which both highlighted their science and made for a strong student session. Adam Johnson from David Lambert's lab at the University of Rochester won Best Student Oral Presentation.

Sixteen students participated in the Best Student Poster Competition. Amber Rock, an undergraduate working with Mark Martindale at the Whitney Marine Laboratory, won Best Student Poster. You can learn more about Amber in her newsletter profile.

Over the past few years DEDB has revised its Best Student Oral Presentation competition. Significant changes include selecting finalists from the pool of submitted abstracts, and having all finalists give their talks in one session. We welcome your feedback on this format. Please send your comments to me via email (julia.bowsher@ndsu.edu).

Best Student Poster Amber Rock



I am a sophomore at Bowdoin College, working towards a B.A. in biology, where I just completed an independent study on sea star regeneration. This past summer, I worked in Mark Martindale's lab at the University of Florida's Whitney Laboratory for Marine Bioscience. I studied the cnidarian specific anthozoan Hox gene, *Ax6a*, and its expression and role in gastrulation and axial patterning in *Nematostella vectensis*. I'm eager to return to the Martindale lab this summer and continue working on this project. I'm incredibly honored to have been awarded DEDB's best student poster and am really excited to start my scientific career. I'm looking forward to what lies ahead in grad school and beyond.

Minutes of the DEDB Business Meeting in New Orleans, LA

Click [here](#) to view the minutes.

Candidate for Secretary-Elect

Prashant Sharma



Current position: Assistant Professor of Biology, University of Wisconsin-Madison.

Education: 2012 PhD, Harvard University, Department of Organismic and Evolutionary Biology, Cambridge, MA; 2006 AB, Harvard University, Department of Organismic and Evolutionary Biology, Cambridge, MA.

Professional experience: 2015-present, Assistant Professor, Department of Zoology, University of Wisconsin-Madison, Madison, WI; 2012-2015 NSF



Postdoctoral Fellow, American Museum of Natural History, New York, NY.

SICB activities: Member of SICB since 2012.

Other memberships: International Society of Arachnology; International Society of Invertebrate Morphology.

Research interests: I am broadly interested in the macroevolution of arthropods, as seen through the lenses of phylogenomics, historical biogeography, and comparative development. Specific topics investigated in my lab include the phylogeny of chelicerate arthropods and the developmental basis for morphological diversity across Arachnida.

Goals statement: I joined SICB as a graduate student in 2012, in pursuit of a scientific congress that broadly integrated various approaches in biology. In SICB, I found a vibrant, dynamic forum where ideas from disparate disciplines are welcomed, where academic debate is healthy but courteous, and where students and postdocs are made to feel as active participants in academic exchanges. I have a particular fondness for the Division of Evolutionary Developmental Biology because of our community's commitment to fostering student and postdoc development through such programs as the faculty dinner dates. This past annual meeting, I marked a milestone by hosting students for the first time through the dinner dates program, the same initiative that once connected me to mentors and collaborators in the field today. Looking forward, I hope to become elected as Secretary of DEDB in service of this community. My goals are (1) to contribute to distributing information to keep Division members informed; (2) to facilitate the best student presentation competitions and judging of talks and posters; (3) to uphold and build upon our tradition of connecting students to faculty of various ranks; and (4) to coordinate efforts with the division's senior officers and student representative/s.

Candidates for Program Officer-Elect

David Plachetzki



Current position: Assistant Professor, University of New Hampshire.

Education: 2009, PhD, University of California at Santa Barbara, Department of Ecology, Evolution and Marine Biology, Santa Barbara, CA; 2000, MS, Northern Michigan University, Marquette, MI; 1995, BS, Northern Michigan University, Marquette, MI.

Professional experience: 2014-current, Assistant Professor, Department of Molecular, Cellular and Biomedical Sciences, University of New Hampshire; 2011-2014, HHMI Postdoctoral Fellow of the Life Sciences Research Foundation, Center for Population Biology, University of California at Davis; 2009-2011, Center for Population Biology Postdoctoral Fellow, Center for Population Biology, University of California at Davis.

SICB activities: Member of SICB since 2005.

Other memberships: Pan American Society for the Study of Evolutionary Developmental Biology; Society for Molecular Biology and Evolution; Society for Systematic Biology.

Research interests: Work in the Plachetzki lab focuses on understanding the origins and diversification of metazoan sensory systems by integrating studies of genomics, cell and developmental biology, behavior and phylogenetics. Current efforts are directed at understanding the basic biology and functional diversification of cnidarian photic, chemical and mechanical sensory systems and how they compare to putatively homologous systems in their bilaterian sisters. Our long-term goal is to derive a time-calibrated deep homology framework for interpreting the major innovations that have precipitated a complex and diverse array of metazoan sensory systems.



Goals statement: SICB has been crucial in my scientific development. I attended my first SICB meeting in 2005 and have given contributed and invited symposia talks at SICB regularly in the years since. As a graduate student and postdoc, I always felt empowered by the open and supportive atmosphere at SICB and I find this attribute of SICB to be truly unique among academic societies in general. If elected Program Officer for DEDB, I will strive to continue and enhance this tradition. In addition, the future of EvoDevo depends on our ability to inculcate and integrate new approaches and novel data types into our quest to understanding the Developmental Basis for Evolutionary Change. If elected Program Officer, I will seek to support symposia that interface and have synergy with more traditional EvoDevo research programs including among others, Eco-Evo-Devo, Systems Biology and Population Genomics. I will also work to ensure that this progress is recorded in the pages of Integrative and Comparative Biology and Integrative and Comparative Biology Open. The society and the division have given me a great deal, and I am eager to reciprocate in service.

Matthew Rockman



Current position: Associate Professor, Department of Biology and Center for Genomics & Systems Biology, New York University.

Education: BS, Yale University, 1997; PhD, Duke University, 2004.

Professional experience: Associate Professor, NYU, 2014-present; Assistant Professor, NYU, 2008-2014; Jane Coffin Childs

Foundation Postdoctoral Fellow, Princeton University, 2004-2008, working with Leonid Kruglyak; PhD Duke University, 1999-2004, working with Greg Wray; Fulbright Fellow, Australian National University, 1998-1999, working with Dave Rowell.

Other memberships: Society for the Study of Evolution; Pan American Society for the Study of Evolutionary Developmental Biology; Genetics Society of America.

Research interests: How do the molecular details of development and heredity shape the evolution of organismal form? I try to address this question using

genetic analysis of variation in animal populations. My lab is currently focused on two experimental models. In the polychaete annelid *Streblospio benedicti*, we ask how variation in maternal and zygotic gene action influence the evolution of embryogenesis, larval morphology, and life history. In *Caenorhabditis* nematodes, we ask how genetic variation in embryogenesis and other developmental traits is distributed in populations, and we ask how population biology (sex ratio, inbreeding, reproductive schedule), population genetics (linkage, recombination), and quantitative genetics (epistasis, genotype-by-environment interaction) shape the distribution of variation.

Goals statement: SICB is an exceptional society in its interdisciplinarity. Its commitment to integration is right in its name. Evolutionary Developmental Biology and the DEDB are at the forefront of disciplinary integration, and as Program Officer for the division I would work to maintain and enhance that tradition. SICB has tremendous strengths in organismal biology and embryology, and it stands as the preeminent venue for researchers working in animal species outside the experimental genetics canon. Building on these strengths, I would like to integrate more work from the evolutionary quantitative genetics tradition — the evo-devo of heterochrony and allometry, maternal genetic effects, and life-history evolution — into the molecular genetic core of modern evolutionary developmental biology. As program officer, I would work to draw meeting participants from these evolutionary biology communities outside our organismal and developmental biology core constituency. In parallel, the role of the Program Officer is to create opportunities for students and postdocs and to use outreach to broaden participation. I am committed to these goals.