

## Division of Phylogenetics and Comparative Biology

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### DPCB Officers & Representatives

Michael Alfaro  
*Chair 2013-2016*

Patrick O'Connor  
*Past Chair 2013-2015*

Kerin Claeson  
*Secretary 2013-2016*

Rachel Collin  
*Program Officer 2012-2015*

Todd Oakley  
*Program Officer-Elect 2014-2015*

Graham Slater  
*Student/Postdoctoral Affairs  
Committee Representative  
2012-2015*

### Message from the Chair

Michael Alfaro ([chair.dpccb@sicb.org](mailto:chair.dpccb@sicb.org))

Dear Division of Phylogenetics and Comparative Biology,

I hope you enjoyed the Austin Meetings! I was especially pleased by the success of the new format for the Best Student Competition. This year we scheduled all (well, almost all) of the presentations into the same session to better highlight the excellent research being done by the student scholars in our division. The best student prize also has a new name, the Wake Award, in honor of David and Marvalee Wake's long standing tradition of excellence in systematics, phylogenetics and evolutionary research. We believe that the new format improves the evaluation process as it makes it easier for all of the judges to see all of the presentations. I would like to thank all students and judges and congratulate this year's winners, Daniel Field (Yale) and Sarah Friedman (University of Washington).

The Division is actively soliciting symposia for Portland, 2016. Please contact me or one of the other divisional officers if you have an idea for a symposium topic in the area of comparative biology, evolution, or phylogenetics. We would be happy to give feedback and help you develop your ideas.

I look forward to seeing you all in Wet Palm Beach next year!

### Message from the Program Officer

Rachel Collin ([DPO.DPCB@sicb.org](mailto:DPO.DPCB@sicb.org))

The 2014 Austin SICB meeting was a great success! With exciting society-wide symposia and well as symposia on more specialized topics. Now it is time for the divisional program officers to turn our attention to the upcoming meetings. Most importantly I want to urge you all to submit abstracts for the 2015 meeting in West Palm Beach (Jan 3-7). This promises to be a very nice WARM venue. Stay tuned for announcements about the abstract and registration deadlines. If you would like to have a special DPCB event included in the schedule please contact me regarding scheduling.

We are also now soliciting proposals of symposia for the 2016 meeting in Portland, Oregon. Each year DPCB supports a diverse array of symposia that incorporate phylogenetic and comparative methods into the presentations, but seldom do divisional members organize symposia focused on these topics. The divisional officers are strongly urging our membership to help raise the profile of the division by proposing forward-looking symposia focused on comparative and phylogenetic approaches to integrative biology. If any of you have ideas and need more information about the proposal or planned process please do not hesitate to contact me.



Finally, I want to alert you all to the new procedure for the Best Student Paper Award (see above). Like several other divisions DPCB will now organize a session of BSP talks based on pre-judged abstracts. Detailed instructions will be given with the call for abstracts and I urge you all to encourage your students to participate.

I hope you all have a great 2014 and I look forward to seeing you in West Palm Beach.

### Message from the Secretary

Kerin Claeson ([secretary.dpcb@sicb.org](mailto:secretary.dpcb@sicb.org))

The Wake Award Debut!

**Congratulations to Sarah Friedman** on winning the Wake Award for Best Poster. Sarah is currently a senior working towards a B.S. in Aquatic and Fishery Sciences with a minor in Marine Biology at the University of Washington. The research she presented at SICB was part of an REU program (at the summer systematics institute) that she participated in at the California Academy of Sciences in summer 2013. Sarah worked with Luiz Rocha, who initially proposed the project to her. Under Luiz' guidance, Sarah spent the summer sequencing and analyzing samples of *Microspathodon chrysurus* (yellowtail damselfish) to see if two separate populations have since speciated. This was her first introduction to hands on molecular/population genetics and she thoroughly enjoyed it. Currently, they are waiting on more samples of *M. chrysurus* to sequence and add to a growing molecular data set for a more comprehensive view on this potential speciation event. Additionally, they are hoping to conduct morphological studies to look for phenotypic variation between the populations.

Since this summer's internship, Sarah decided to pursue phylogenetics in graduate school given how interested she became in the world of population genetics research. She is particularly interested in the evolution of teleost fishes and molecular mechanisms behind morphological innovations and hopes to delve into these questions in the future.

A word from Sarah, "I want to thank you again for the award; I really am humbled by my first SICB experience."



Sarah Friedman, first recipient of Wake Poster Award

**Congratulations to Dan Field** on winning the Wake Award for Best Talk. I asked Dan a few questions about his academic career thus far – here's what he had to say.

I did my BSc at the University of British Columbia, in Vancouver, Canada. My major was in animal biology, which is the cumbersome Canadian way to say zoology. I did an honours thesis (note the 'u', as it was in Canada) in the lab of Dr. Robert Shadwick, where I got to study the feeding biomechanics of rorqual whales. I performed two studies using quantitative CT scanning; one described the material properties of humpback whale jaws with regard to their functional specializations, and the other compared the flexural rigidity profiles of whale jaws and pelican jaws. I learned a lot from working with Jeremy Goldbogen (then a PhD student in the lab, now faculty at Stanford), and Nick Pyenson (then a postdoc in the lab, now curator of marine mammals at the Smithsonian).

I am currently in my fourth year of graduate school at Yale, where I study vertebrate palaeontology in the Geology and Geophysics Department (although I'm currently in residence at the Smithsonian National Museum of Natural History on a predoctoral fellowship). My advisor is Dr. Jacques Gauthier, curator of fossil vertebrates at the Yale Peabody Museum. I received a master's degree from Yale in 2012 en route to my PhD.

Most of my graduate research investigates bird evolution, with a specific focus on inferring flying ability in Mesozoic stem group birds. However, I've become very interested in systematics, which has led me to studying phylogenetics of living birds, as well as the microRNA-based phylogenetic analysis of living reptiles that I presented at SICB.



I have been given plenty of leeway at Yale to study whatever interests me, which has allowed me to pursue interests in bird evolution and functional morphology, reptile macroevolution, and dinosaur ontogeny. My interests in vertebrate biology are wide-ranging, and I envision that continuing as I move forwards. Vertebrates are fascinating, and it's such a privilege to be able to study their evolution.

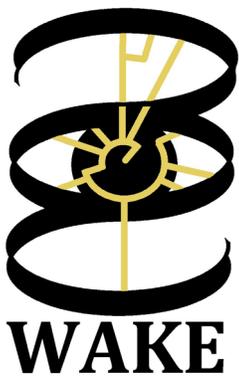
In my spare time, my favorite activities are birding and wildlife photography--there's nothing better than experiencing the planet's biodiversity first-hand, and there's no better way to get people interested in nature, conservation and science than with a beautiful picture of an amazing animal.



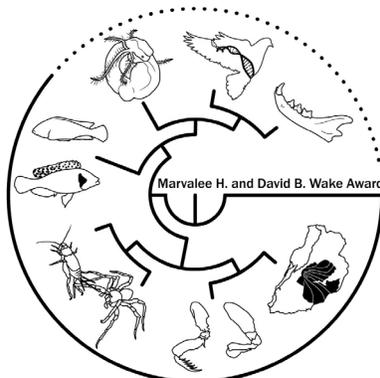
Dan Field, first recipient of Wake Talk Award

### Wake Award Logo Contest!

Below are the submissions for the new logo. Please vote for your favorite when you vote for the officers in our Spring Election.



Logo A



Logo B

### Minutes of the DPCB Business Meeting 2014, Austin, Texas ([click here](#))

### CANDIDATES FOR OFFICER ELECTIONS

#### Chair-Elect Candidate

**Darrin Hulsey**



**Current Position:** Assistant Professor, University of Tennessee

**Education:** Ph.D. 2004: University of California-Davis. B.S. 1997: University of Texas at Austin

**Research Interests:** My lab studies the evolution of complex phenotypes. Our work

integrates phylogenetic reconstruction and population genetics to provide evolutionary maps for understanding when and how traits arise. These evolutionary studies that often lie at the interface of micro- and macroevolution allow us to place phenotypic novelties that arise plastically and/or have a genetic basis within a comparative framework. We use this integrative framework to ask questions such as: How do novel phenotypes arise that allow organisms to ecologically specialize? When does hybridization play a role in the origin of new traits both within species and during adaptive radiations? Are there differences between how simple linear characteristics evolve and how more complicated multi-functional phenotypes arise?

Although my lab works on a large number of organisms and phenotypes ranging from pectoral fin swimming in Lake Malawi Cichlids to anti-predator defenses in snails, our research is largely concentrated on the evolution of the feeding apparatus of fish. Within the cichlid fishes for example, a huge number of historically independent and convergent trophic phenotypes have arisen through modifications of conserved musculoskeletal elements that comprise their highly kinetic skull. We are implementing multiple types of high throughput sequencing methods to reconstruct phylogenies for trophic divergence in this group. The reconstruction of this replicated evolutionary framework also provides us with the power to address broad questions concerning the mechanisms underlying phenotypic evolution.



**Goals Statement:** SICB is the premier conference for organismal biologists interested in comparative biology, and I strongly believe the Division of Phylogenetics and Comparative Biology (DPCB) is central to the mission of the entire society. As chair, I will make it a high priority to bolster the comparative emphasis of SICB. To this end, I will foster activities that center on phylogenetic trees and comparative methods. Additionally, I will increase our Division's focus on other evolutionary patterns such as interspecific hybridization and phylogeography that can also serve as evolutionary frameworks for the processes generating organismal diversity. I will encourage the recruiting of additional members to our Division, initiate more workshops, and encourage members to sponsor more symposia with this broadened evolutionary scope in mind. I will also work to expand our profile through increased attendance at existing DPCB sponsored activities like the R comparative methods workshops. Additionally, I will seek to sponsor new workshops that for instance emphasize the power and pitfalls of high throughput sequencing technologies for phylogenetics or help non-phylogeneticists reconstruct trees for their taxa of interest. I believe additional emphasis on workshops could rapidly create closer connections between other divisions and DPCB. Finally, I would endeavor to generate greater appreciation of undergraduate and high-school researchers, especially those from under-represented groups, with an increased focus on awards for student presentations.

### Chair-Elect Candidate

**Kerin M. Claeson**



**Current Position:** Assistant Professor of Anatomy, Philadelphia College of Osteopathic Medicine.

**Education:** Ph.D., University of Texas at Austin, 2010; M.S., University of Massachusetts at Amherst, 2005; B.S., Stony Brook University, 2001.

**Research Interests:** Current research in my lab is multifaceted, with the overarching theme of axial skeletal development, evolution, variation, and function.

**Goals for SICB:** As chair, I will take an active role in fulfilling the broader goals of its members. I also see value in reaching out to the paleontological commu-

nity. I would like to see more interaction between students and professionals at the conference because it can result in critical first-steps in the careers of young scientists. By increasing the awareness of interdisciplinary systematics and comparative biological methods at SICB, we can promote scientific collaborations and provide the framework for discussion and action on important the issues that affect our field.

**Professional Service:** Secretary, Division of Phylogenetic and Comparative Biology, Chair-Elect of Education and Outreach Committee for the Society of Vertebrate Paleontology, Program and Memoires Committee Member for the Society of Vertebrate Paleontology; Chair of the Student Liaison Committee of the Society of Vertebrate Paleontology; Graduate Student Representative to the Development Committee of the Society of Vertebrate Paleontology.

### Secretary-Elect Candidate

**Tobin Hieronymus**



**Current Position:** Assistant Professor, Department of Anatomy and Neurobiology, Northeast Ohio Medical University.

**Education:** PhD, Ecology and Evolution, Ohio University 2009; MS, Ecology, Montana State University 2002; BA, Biology, Colorado College 1997.

**Research Interests:** My research focuses on uncovering patterns of character evolution in the amniote musculoskeletal system, specifically using skeletal microstructure and gross morphology from extinct and extant taxa to show trends in the evolution of soft-tissue character complexes over deep time. My current focus is on the evolution of wing shape and flight feather attachment within the crown group of living birds.

**Goals statement:** Our Division's purpose is to maintain the 'fundamental scaffolding' for comparative studies. From the secretary's position, there are a few specific undertakings that I think can best support that purpose. The 'Phylogenetics for Dummies' and 'Comparative Methods in R Clinic' workshops of past meetings provide important practical support,



especially for students—I'm interested in bringing these workshops back, as well as augmenting them with some basic materials on our Division webpage that point to researchers in our database with specific methods expertise. I would work to continue our trend of showcasing outstanding student contributions at the annual meeting. And through notices in our newsletter and our webpage, and as support for reciprocal symposia and workshops, I would encourage our members' interactions with other societies, particularly the Society for the Study of Evolution, The Society of Systematic Biologists, and The Society of Vertebrate Paleontology—our interactions at other meetings raise the profile of research that calls DPCB home and can attract new attendees and members.

## Secretary-Elect Candidate

**David C. Blackburn**



### **Current Position:**

Assistant Curator of Herpetology, California Academy of Sciences

### **Education and Training:**

Postdoctoral Researcher, University of Kansas, 2008–2011; Ph.D., Harvard University, 2008; A.B., University of Chicago, 2001.

**Research Interests:** My research focuses on the diversity, evolution, and conservation of amphibians, with a particular focus on both Africa and frogs. I seek to characterize and test hypotheses of phenotypic evolution and historical biogeography using diverse forms of data. To date, my work has incorporated molecular phylogenetics, comparative methods, and morphological studies related to systematics, evolutionary developmental biology, and paleontology. I am also actively involved in projects utilizing ontology-based phenotype informatics ([www.phenoscape.org](http://www.phenoscape.org)).

**Goals for SICB:** I am excited by the opportunity to help further increase the profile of PCB within SICB and the greater community. PCB is well suited to supporting the broader goals of all SICB divisions and helping to communicate new and emerging resour-

es in both phylogenetics and comparative methods throughout SICB and especially to its student members. An aspect of SICB that has always impressed me is the welcoming and supportive attitude towards student members. As secretary for PCB, I would continue to support and work to expand student opportunities and interactions with professionals.

**Service:** Service to the scientific community is important to me, especially as it relates to students and mentoring; in the last year, I have served as judge for student awards for both DVM and DPCB in SICB, as well as the Society for the Study of Amphibians and Reptiles, Herpetologist's League, and the Conservation Leadership Programme. I am an Associate Editor for the African Journal of Herpetology, serve on advisory boards related to biodiversity informatics (Vert-Net) and ontologies (PeriodO), and a member of the steering committee for AmphibiaWeb. As a museum curator, I serve the broader scientific community by providing stewardship of one of the largest herpetological research collections. In this role, I also I work to communicate science to a broad audience through the museum's public face.

