



Division of Developmental and Cell Biology

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DDCB Officers & Representatives

Karen Crawford
Chair 2008-2011

Jennifer Leigh Dearolf
Secretary 2008-2011

Scott F. Gilbert
Program Officer 2008-2011

Michelangelo von Dassow
Student/Postdoc Representative
2008-2011

Richard Elinson
ICB Editorial Board 2008-2013

Message from the Chair

Karen Crawford

Greetings and best wishes to everyone within our membership,

I have little to add to Jenn Dearolf's wonderful review (below) of our efforts and contributions to the annual SICB meeting this past January in Seattle. I echo her thanks and congratulations to everyone who helped make this an especially exciting and fulfilling meeting. Great Job All!

Maryland enjoyed a winter equal to none in recent memory – a real winter! These storms were challenging, beautiful and an important reminder of how insignificant our "schedules" can become. I was sorry to miss this year's meeting, an important one for our Division, but was much needed at home to attend to my son Sean (16) as he underwent spinal surgery (during the second snow storm) to remove a tumor about the size of a large shooter marble (1.8 cm³) from his 4th lumbar vertebra. The many snow days my children received because of the relentless snowstorms created a wonderful period of recuperation without guilt for Sean. Thank you to everyone who sent their messages of concern, support and hope. As I write this, Sean at 6'1" seems totally himself again despite the gaping hole and missing articular facets on one side of his spine; marvelous things teenagers. Pathology looks good, future looks good, so, it must be all good!

With this major bump in the road behind me, it is time to focus on our division. For the past seven years, the DDCB has not had a separate identity, meeting instead with the Division of Evolutionary Developmental Biology. Moreover, despite a year and a half of beating the bushes, flooding email boxes, twisting arms personally, and seeking the wisdom of many senior and not so senior leaders within our society, nobody has volunteered to be an officer for the next few years. It seems quite clear, then, that our membership is:

1. quite understandably busy,
2. spread too thin over too many responsibilities, and



3. most likely committed to other divisions within SICB.

Without this commitment, the Division of Developmental and Cell Biology is no longer going to be an active division of the Society for Integrative and Comparative Biology. As of now, it is set for "apoptosis" at the next meeting of the SICB, January 2011.

I believe I speak for all of us, Scott F. Gilbert (Swarthmore College) Program Officer; Jennifer Dearolf (Hendrix College) Secretary; Michelangelo von Dassow (University of Pittsburgh) Student/Postdoctoral Affairs Committee representative; and finally Richard Elinson (Duquesne University), *ICB* Editorial Board representative; when I say it has been our honor and pleasure to serve this division for the past 3+ years and to be your voice at the SICB Executive Committee meetings and other gatherings at our annual meeting.

It is our hope that you all find homes within the other divisions of the society and that your participation in these groups strengthens all that they are able to accomplish.

Message from the Secretary

Jennifer Dearolf

Greetings from the Soggy State of Arkansas!

I think we have probably all had pretty wacky and tough winters this year. We actually got snow in central



Snow in central Arkansas. Who knew?

Arkansas, twice. It was the first time in my eight-year tenure at Hendrix College that the college was closed because of weather. Since most of our students live on campus, it is extremely rare for the college to actually close. Our students loved it, but I think that we are now all tired of



the winter weather and are ready for spring.

But, before we can think about the crocuses popping up, and the peepers calling in the early evening, we need to reflect back over the recent SICB meeting in Seattle, Washington. There were many talks and posters for interested Developmental and Cell Biologists, including a full day symposium on [Animal Regeneration](#). Again, we need to thank Alexa Bely (University of Maryland) and Sara Lindsay (University of Maine) for organizing this symposium. We are in their debt. And, we also need to thank David Lambert (University of Rochester) for organizing the symposium on Spiralian development.

Unfortunately, despite all the wonderful talks and posters



that were being presented, I was unable to attend **much** of the meeting, because I was sick. I struggled to the two poster sessions in which my students were presenting, and I made it to the joint Business Meeting with DEDB, but I missed out on all of the talks. However, I heard great things about the symposia sponsored by our Division and about the talks given by DDCB students.

Before revealing the winners of our Best Student Presentation Awards, I need to take a moment to thank our judges. Scott Gilbert (Swarthmore College), our Program Officer, was kind enough to evaluate some of the student talks and posters, along with Alyce DeMaris (University of Puget Sound) and Ian Davenport (Xavier University of Louisiana). I especially need to thank Alyce, because she was quick to offer her help with the judging. It was difficult for me to get to any talks or posters because of my illness, so Alyce took up the slack.

Thanks!



Sunetra hard at work

2010 Divisional Award Winners

Our Best Student Poster Award went to **Sunetra Das** for her work on RNAi mediated disruption of ecdysteroid signaling during limb regeneration in the fiddler crab, *Uca pugilator*. Sunetra is a

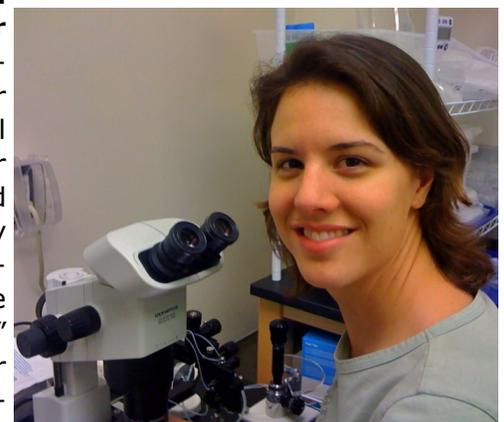
Ph.D. student working on crab limb regeneration in Dr. D. S. Durica's laboratory at the University of Oklahoma.

Limb regeneration in fiddler crabs occurs in tandem with the molt cycle. The molt cycle stages can be correlated with changes in circulating levels of ecdysteroids, arthropod steroid hormones. Ecdysteroid receptor expression occurs early in limb regenerates, and RNAi mediated knock down of these receptors arrests limb bud growth at the blastemal stage, where cell proliferation and specification occurs. This arrest of limb bud growth implies a role for ecdysteroid signaling during the early phase of limb regeneration, but the expression patterns of genes downstream of ecdysteroid signaling are still unknown. Currently, Sunetra and her advisor are in the process of generating transcriptome profiles of limb regenerates via 454 sequencing. These studies will help them in identifying genes and gene networks associated with circulating ecdysteroid titers and different phases of limb regeneration.

Stacia Whitaker

(University of Arizona) took our Best Student Oral Award for her talk entitled "Cdc42 activity drives fate specification of the heart lineage." She describes her research as follows:

"During development, cells respond to a complex range of internal cues and external signals in order to assume appropriate fates. Fibroblast Growth Factor (FGF) provides one



Stacia at the bench



such signal to direct the transcriptional fate of cardiomyocytes. We use *Ciona intestinalis*, an experimentally pliable member of our own phylum, as a model system to study how heart precursor cells interpret the FGF signal that specifies their fate. In *Ciona*, the heart lineage is derived from four founder cells that each divide asymmetrically to give rise to one small anterior heart precursor and one larger posterior tail muscle cell. In the anterior daughter, the FGF signal is propagated through MAP Kinase to activate a heart-specific transcriptional program. The exclusion of this signaling event from the posterior daughter is not well understood, but can be altered experimentally to yield daughter cells with uniform specification. The central question to my research is how the founder cell processes the FGF signal such that only one daughter responds. Our data suggest that signal transduction is linked to overall cortical polarity to ensure asymmetric size and differential fate. The ability of established polarity components to modulate growth factor signals may play a novel role in a broad range of embryonic fate decisions."

As the winners of our Best Student Presentation Awards, both Sunetra and Stacia will receive a certificate, a year's subscription to *J Exp Zool, Part B*, and a check for \$150.

Divisional Status Update

Our Chair, Karen Crawford (St. Mary's College of Maryland) and I have been working hard to find folks that would be willing to run for Chair and Program Officer of our Division. We have appealed to the membership at large, as well as made personal appeals to colleagues we knew in the division, but we have not had any success.

Unfortunately, the lack of interest in serv-

ing DDCB in its leadership positions probably means that it is time for this Division to disappear.

We were supposed to have candidate information in this newsletter, so that an election could occur this year. This election, of course, is not going to happen without candidates. Thus, unless we hear differently from you, the members of DDCB, we expect that this Division will not be a part of SICB after this year.

I am disappointed that we will not be able to sustain this Division, since much of my research fits under its umbrella. However, it appears as though the membership has spoken, since none of our appeals have resulted in viable candidates for Chair or Program Officer. I hope that all of you will be able to find a new home or settle back into your other Divisional homes, and I will see you at the next SICB meeting in Salt Lake City, Utah.

