



Division of Invertebrate Zoology

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DIZ Officers & Representatives

James McClintock
Chair 2012-2015

Jonathan Allen
Secretary 2013-2016

Bruno Pernet
Program Officer 2014-2017

Jenna Moore
*Student Postdoc Representative
2014-2017*

Jennifer Burnaford
*Libbie Hyman Memorial Scholarship
Committee Chair*



Jim McClintock visiting Brown Bluff on the very tip of the Antarctic Peninsula while leading his annual philanthropic Antarctic Climate Change Challenge cruise

Message from the Chair

James McClintock (Chair.DIZ@sicb.org)

Cheers! I hope this letter finds you enjoying a productive and healthy new year. I am writing from my temporary office overlooking the eastern French Pyrenees here at the Arago Marine Laboratory in the coastal village of Banyuls-sur-Mer. I am in France with my wife, Ferne, for three months conducting sabbatical research on the skeletal mineralogy of the common sea urchin *Paracentrotus lividus* as it relates to near future vulnerability to ocean acidification.

I hope you found the January 2014 SICB conference in Austin, Texas exciting and rewarding. Once again, the level of participation was remarkable, with the numbers of abstracts and presentations rivaling even that of the recent conference in San Francisco. What I find uniquely rewarding is that our participation of students, both undergraduate and graduate, continues to explode. This speaks well for the future of a society. Moreover, SICB is healthy, with a membership that continues to expand in a tough economy, finances in the black, leadership in the hands of an outstanding Executive Committee, and an experienced and fine-tuned organizational support team in the form of Burk Associates.

John Zardus stepped down after the Austin conference, completing three outstanding years as our DIZ Program Officer. We can all be proud of his many accomplishments. Under John's tenure we continued a pattern of hosting or co-hosting a noteworthy number and diversity of symposia – a strong testament to the health of our division. And we as a division are very fortunate to have Bruno Pernet move into the DIZ Program Officer position.

Karen Chan, our DIZ Graduate Student and Postdoctoral representative, completed a very successful three-year term. Karen always went the extra mile – and continues to do so – at present assisting in a division review of the historic model we employ for our DIZ student oral presentation and poster awards. Thanks Karen!



We wish you much success in your new professorship at the Hong Kong University of Science and Technology. I have nominated Jenna Moore, an enthusiastic and outstanding doctoral student at the University of Florida to take over this important position. Please join me in welcoming Jenna to our DIZ leadership team.

With the deadline for symposia proposals for our upcoming 2015 conference in Palm Beach, Florida already past, it is time to turn our focus to the January 2016 conference in Portland, Oregon. Please entertain developing symposia concepts of your own – but don't forget to also encourage colleagues. Look within your department - I can think of several faculty in my own department I am going to nudge this year. As an organizer of three past society-wide SICB symposia, I can attest to the considerable rewards – some unexpected – that accompany directing a symposium. As always, we want cutting edge, forward looking symposia that are not only integrative in a disciplinary context, but include invited speakers of mixed gender, ethnicity, and career stage.

Anne Boettger did an excellent job organizing and running the DIZ Best Student Paper competition at the Austin meetings. Anne took over from Beth Davis-Berg, and I would be remiss not to thank Beth for her three years of great service, and also for helping Anne become familiar with process issues in her first year of service. Anne continued the practice of having a poster display highlighting the winners from the previous conference. There were lots of positive comments about this highly visible recognition. Anne also instituted a timely mechanism to allow judges the option this year to complete their reviews on line rather than in hard copy.

The principal of our Libbie Hyman Student award fund designated to support a student's first research or course experience at a field laboratory grew beyond expectation this year. This is due to two converging events. One was the very successful Libbie Hyman auction that took place at the 2013 San Francisco meeting. The next auction will take place at the Portland conference, as the leadership of DIZ felt that the outcome of the auction would be optimized by hosting it every three years. The second contribution to the fund came via a very generous donation by a benefactor who was tipped off to the Libbie Hyman fund by our very own SICB President, Billie Swalla. Thanks to both the gracious donor who saw and appreciated the fact that our Libbie Hyman student awardees choose

their own field experience, and, of course, to Billie! The principal is now sufficient to generate \$1500 for the student award in the coming year, a healthy increase over past awards.

The expenditure of our annual discretionary funds was once again discussed at the DIZ business meeting, and barring some funds being used to offset the costs of digitizing the hard copy DIZ historical records, those at the meeting agreed to abide by our ongoing DIZ policy that allocates any unspent discretionary funds in a given year be rolled into the principal of the Libby Hyman fund.

I am pleased to thank Jon Allen on behalf of the division for completing his first year of productive service as our new DIZ Secretary. Jon has been fully engaged, brimming with good ideas, and clearly invested in the division. In the coming year we will vote on two outstanding nominees for the position of Chair Elect. A nominating committee comprised of Amy Moran, Bruno Pernet, and Dianna Padilla forwarded two outstanding candidates to our SICB Secretary Lou Burnett - Linda Walters (University of Central Florida) and John Zardus (Citadel).

Through information garnered at the executive committee in Austin, I am pleased to report that New Orleans was selected as a future conference site. You may recall that the issue of New Orleans refusing to teach evolution in the city school system had removed the city from consideration for a SICB conference. However, the leadership of New Orleans has reversed their policy on the teaching of evolution, and the executive committee felt it was appropriate to return our conference to a city so enjoyed by our membership. The possibility of booking a Disney World Hotel venue for a possible SICB conference down the road in Orlando met with more controversy, both within the executive committee membership and among those attending our DIZ business meeting. More information will be gathered before a final decision will be made.

Peuvent vos invertébrés vous apportera beaucoup de bonheur!

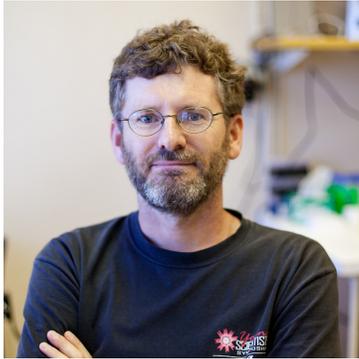
Avec les meilleurs vœux.

Jim



Message from the Program Officer

Bruno Pernet (DPO.DIZ@sicb.org)



Our newly elected Program Officer, Dr. Bruno Pernet, visualizing future symposia topics

Hello DIZ members! I'm delighted to write my first newsletter contribution as Division Program Officer. I want to thank John Zardus, outgoing PO, for all his work the past three years. Most of what I have to report on in this newsletter is work that John did, actually. I also thank him for his help in getting me up to speed on the job.

The January 2014 Austin meeting was busy and exciting, as always! It was organized around ten symposia, of which DIZ co-sponsored four: The Cell's View of Animal Body Plan Evolution (organized by Deirdre Lyons, Mansi Srivastava, and Mark Martindale); Epigenetics: Molecular Mechanisms through Organismal Influences (Warren Burggren); Shaking, Dripping and Drinking: Surface-tension Phenomena in Organismal Biology (David Hu, Rachel Levy, and Lydia Bourouiba); and Parasitic Manipulation of Host Phenotype, or How to Make a Zombie (Kelly Weinersmith and Zen Faulkes). I sat in on talks in several of these, and found them very interesting; I'm looking forward to seeing the papers in ICB.

Symposia for the upcoming January 2015 meeting in West Palm Beach have already been selected; DIZ will be co-sponsoring six of those. Specifically: Unsteady Aquatic Locomotion with Respect to Eco-Design and Mechanics (Frank Fish and Paolo Domenici); Soft Bodies, Hard jaws: Phylogenetic Diversity of Prey Capture and Processing in Jawed, Soft-bodied Invertebrates (Rick Hochberg and Elizabeth Walsh); New Insights into Suction Feeding Biomechanics and Evolution (C. Darrin Hulsey, Steven Day, Tim Higham, and Peter Wainwright); Linking Insects and Crustaceans: Comparative Physiology of the Pancrustacea (Jon Harrison and Sherry Tamone); Chemicals that Organize Ecology: Towards a Greater Integration of Chemoreception, Neuroscience, Organismal Biology, and Chemical Ecology (James Murray and Russell Wyeth); and Origins of Neurons and Parallel Evolution of Nervous Systems: The Dawn of Neuronal Organization (Leonid Moroz). Once I return from the Program Officer's meeting in

early October (my first! I'm looking forward to it!) I'll be able to tell you more about the venue and the meeting organization.

What I'm really looking forward to as PO is working with you to develop symposia for upcoming meetings. The deadline for submitting symposium proposals for the January 2016 meeting, in Portland, Oregon, will be in August 2014, so it's definitely time to start thinking about that already. I've already talked to several members about possible symposia for that meeting, so we're off to a great start. Please contact me with your ideas for symposia for the Portland meeting – I'd love to chat about them, and to help you wend your way through the application process. Don't hesitate to write or call!

Message from the Secretary

Jonathan Allen (Secretary.DIZ@sicb.org)

Happy Spring DIZ! It has been another banner year for both SICB and the DIZ. It always makes me proud of our division to compile the newsletter reports and read about all of the activity that DIZ is sponsoring. As you'll read in this newsletter, we've had a great year from building the Libbie Hyman fund, to honoring our students, to recruiting great candidates to be our next chair.

As reflected in the DIZ business minutes from Austin (link below), there is debate within the division about how best to proceed with the student award process. Other divisions in the society have moved towards a process where students apply to be considered for the best student talk before the meeting even begins. The DEE is the division with the most experience with this process, and other divisions are adopting similar models. It is not clear, however, what the best model for the DIZ is. We need your help! With the help of Karen Chan, I have put together a wiki site for DIZ members to post their comments about the current process and the prospects for changing it. The site is open to anyone, no signing in necessary, and we're hoping to start a productive (and respectful!) conversation about how to proceed. Later this year, with the help of Bruno Pernet and Karen Chan, we will also be sending out a survey for DIZ members to fill out. The content of that survey will be derived in part from the activity and feedback we get on the wiki. So please let your voice be heard! The wiki site can be found by pointing your browsers to <http://dizstudentwards.wmwikis.net/>



Following up on our success in the fall 2013 newsletter, we have a new member being profiled in the newsletter: Christina Zakas who is a postdoc in Matt Rockman's lab at NYU. Check out her profile below. If you know of postdocs or pre-tenure faculty who might benefit from having their work profiled in the DIZ newsletter, please send your nominations to me using the email address above. As always, if you'd like your member profile to appear on the SICB website (and they are a heavily trafficked area of the website) please contact me as well.

Austin was a fantastic meeting. I look forward to seeing all of you in West Palm Beach. Until then, may your dreams be filled with spineless wonders.

Message from the Student-Postdoctoral Affairs Committee Representative

Jenna Moore (jmoore@ufl.edu)

Hello, members of DIZ! I am very excited to begin my tenure as the DIZ Student/Postdoctoral Affairs Committee (SPDAC) representative this year. Karen Chan did a phenomenal job as the representative for the past three years, and I hope you will join me in extending many thanks to her, and best wishes for her continued success in her faculty position in Hong Kong.



Jenna Moore pondering student and postdoctoral affairs on the mudflats of False Bay, WA

Thanks to all of you for making the 2014 SICB meeting in Austin so wildly successful! Congratulations to the winners of the Best Student Presentation Awards: Allison Camp (North Carolina State University) and Susann Grill (Hochschule Bremen). Amanda Browne (Bowling Green State University) won the Wenner Strong Inference Award. Great job, everyone!

Member Profile

Christina Zakas, New York University



I am broadly interested in understanding the evolution of life history strategies and developmental processes. I use marine invertebrates as model systems because they have a wide array of fascinating developmental modes. For example, the estuarine polychaete *Streblospio benedicti* is a remarkable model system for studying genetic trade-offs in life history because it can produce two distinct larval types. Females either produce hundreds of small feeding larvae with a long development time or tens of large non-feeding larvae that mature quickly. Using this system, I can study developmental variation within a single species. My most recent work has been to use genetic crosses between the two types to establish maternal and zygotic effects on larval traits. Interestingly, the distribution of larval phenotypes produced by these crosses suggests intermediate traits should not be uncommon. Yet, despite mating between both types in natural populations, such intermediates are rarely found in nature, suggesting that selection may be maintaining the distinct larval modes. I am currently working to establish how this unique larval dimorphism is maintained at the molecular level. More about my research can be found at <https://sites.google.com/site/christinaznyu/home>



Best Student Presentation Award winner Susann Grill (L) and Dr. Kelly Dorgan (R) collecting *Mesochaetopterus taylori* from False Bay, WA

The SPDAC booth had a number of great resources for graduate students and postdocs, including a business card with a link to a SICB member exclusive listing of grant and fellowship opportunities. If you didn't get a chance to drop by the booth in Austin, here's the link: <http://www.sicb.org/grants/externalgrants.php>. Sean Lema, who has completed his first year as SPDAC chair did a great service by putting that resource together. And remember, SICB also offers internal research grants, check them out here: <http://www.sicb.org/students/awards.php3>. There is also a wiki site put together by Karen Chan and Jon Allen so that all of you may comment on the changes to the student award procedures. Please leave your feedback on these changes using this link: <http://dizstudentawards.wmwikis.net/>.

The student workshop on establishing an internet presence at the Austin meeting was a great success, and we are in the planning stages for our student workshop topic for next year's meeting in West Palm Beach, FL. Do you have a great idea for a workshop topic? Do you have other ideas for resources you'd like to see offered by DIZ for students and postdocs? If so, please feel encouraged to contact me at jmoore@ufl.edu.

Thank you all for making DIZ such a strong division, and best of luck with your research on the wonderful and weird invertebrates!

Message from the Student Awards Committee Chair

Anne Böttger

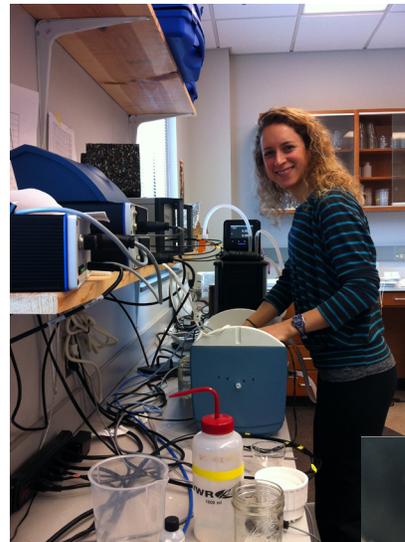
Thank you to everyone who came to Austin Texas this year for the Annual SICB Meeting and a special thank you to all the students who presented! It was a great meeting filled with excellent student presentations.

I would also like to take the time and thank the 38 volunteer judges for their commitment to the student presentations and their valued service and comments supporting our DIZ students.

In order for students to compete in our division they need to be a member of DIZ and this year 29 students competed for best student paper in 15 oral and 14 poster presentations! The winners of the presentation awards and the Adrian M. Wenner Strong Inference Award for the 2014 SICB meeting are:

Best Oral Presentation

Winner



Allison Camp setting up her respirometry equipment at North Carolina State University

Allison Camp from North Carolina State University for "A stressful shortness of breath: Oxygen consumption patterns associated with molting and thermal challenge in the mayfly *Cloeon cognatum*."



The mayfly *Cloeon cognatum* that Allison uses in her respirometry experiments



Runner Up



Paul Larson sampling in Adak, AK in 2012

Paul Larson from Ohio State University for "Morphology and Taxonomy of Brooding Anemones in the North Pacific Ocean."



The sea anemone *Epiactis prolifera* brooding its offspring on its column

**Poster Presentation
Winner**

Susann Grill from the Hochschule Bremen (Germany) for "Burrowing by small polychaetes – mechanics, behavior, and muscle structure of *Capitella* sp."



Susann on a research cruise in Friday Harbor, WA



The polychaete worm *Capitella* sp. that Susann uses to study the mechanics of burrowing.

Runner Up

Mary-Alice Perdichizzi from the University of Massachusetts at Lowell for "Morphology of the freshwater peritrich ciliate *Scyphidia* n. sp. in symbiotic pulmonate snails."



Mary-Alice wading into the freshwater Mascuppic pond in Tylersborough, MA to collect grass samples in 2013



The snail *Menetus dilatatus* that harbors the ciliates that Mary-Alice works on





Adrian M. Wenner Strong Inference Award

Amanda Browne from Bowling Green State University for "Effects of sublethal levels of the herbicide 2,4-D on foraging behaviors in the crayfish, *Orconectes rusticus*."



Amanda and her study subject, the crayfish *Orthonectes rusticus*

The crayfish that Amanda studies consuming the fish-gelatin food source in foraging assessment trials



Please join me in congratulating these outstanding students. Great thanks also to all of you who made the 2014 Annual SICB Meeting a memorable event. I look forward to seeing you at the next meeting in West Palm Beach in January 2015!

Message from the Libbie Hyman Scholarship Selection Committee Chair

Jennifer Burnaford, Committee Chair

Applications for the 2014 Libbie Hyman Memorial Scholarship were due on 14 February 2014. We received 20 applications this year, and it was wonderful to see so many students express an interest in pursuing work with invertebrates at field stations! The committee (myself, Will Jaeckle, and Dawn Vaughn) is pleased to announce that the 2014 scholarship will be awarded to David Charifson, a first year graduate

student in the lab of Dr. Dianna Padilla at SUNY Stony Brook. David will use the \$1500 scholarship to support his participation in the Marine Invertebrate Zoology summer course at the University of Washington Friday Harbor Laboratories. For his Ph.D. work, he will be studying the effects of ocean acidification on induced defenses in marine snails of the genus *Littorina*. We congratulate David, and thank everyone for applying.

The Libbie H. Hyman Award provides funding to support the first significant field station experience for advanced undergraduates or early graduate students pursuing coursework or research on invertebrates. This first field station experience is typically a transformative period in the career and life of a student. One of our continuing goals is to increase the number of awards to two per year. We deeply appreciate the donations which move us toward that goal. We always need contributions to the Scholarship Fund! To contribute, click on Donate to SICB on the SICB home page (<http://www.sicb.org>) or send a check to:

SICB Business Office
Libbie H. Hyman Memorial Scholarship Fund
1313 Dolley Madison Blvd., Suite 402
McLean, VA 22101

Checks should be made payable to SICB and marked as a "Contribution to the Libbie H. Hyman Memorial Scholarship Fund." All contributions are tax deductible. Thanks for your help!

Minutes of the DIZ Business Meeting 2014 ([click here](#))



Candidates for Elections Candidates for Chair

Linda Walters



Linda Walters happily conducting her fieldwork

Current position: Pegasus Professor of Biology, Director of the UCF Center for Success of Women Faculty, and Director of Fellers House Field Station, University of Central Florida, Orlando, FL

Education: B.S. in Biology from Bates College, M.S. and Ph.D. in Biology from the University of South Carolina

Professional experience: Postdoctoral Fellowships at University of Hawaii, Manoa and Laval University in Quebec, Canada. Assistant, Associate and Full Professor positions in the Department of Biology at the University of Central Florida

SICB activities: Society-wide Program Officer, 2006 - 2008; Chair, Society of Integrative and Comparative Biology Nominations Committee, 2009 - 2010; Symposium Organizer, NSF-funded Symposium entitled, "Marine Ecosystem Engineers in a changing World: Establishing Links across Systems". 2010; Integrative and Comparative Biology Journal Review Committee, 2008 - 2010; Skinner Scholarship Awards Committee, 2007; Student Research Support Committee, 2002-2004; Organizing Committee, DIZ Libbie Hyman Endowment Enhancement Committee, 2003-2004 and 2008 - 2009; Chairman, Best Paper/Poster Awards Committee, DEE, 1999-2002; Secretary, DEE, 1999 - 2002; Judge, DIZ and DEE Outstanding Student Presentations, 1998 - 2004, 2009.

Other memberships: Coastal and Estuarine Research Federation, Society of Conservation Biology, Sigma Xi

Research interests: My research blends the basic research behind applied marine and estuarine conservation topics, such as oyster reef restoration and living

shoreline stabilization, with community engagement to get the job done. Current basic research includes the impact of brown tide on invertebrate larvae, field ecology and molecular genetics of invasive invertebrates, and modeling sea level rise on intertidal taxa. I am also engaged in SOTL (scholarship of teaching and learning) research on embedding authentic research and service-learning into marine biology classes, and my proudest outreach accomplishment is producing six children's storybooks for free distribution, four of which focus on conservation of marine invertebrates (the other two focus on responsible home aquarium stewardship).

Goals statement: SICB is home to me, and even when field work prevents me from attending meetings, I am confident that there are amazing, smart people looking out for all of our research, education and outreach interests. I also know that SICB is home to many people from diverse backgrounds and interests, and I consider it important to constantly blend new ideas with the wisdom that comes from knowing the history of an organization. My goal as DIZ Chair would be to merge and engage all of these individuals and push forward with new initiatives as well as continue the ever-important, tried-and-true initiatives such as the ever-popular, ever-fun Libbie Hyman scholarship auction that provides critical funding for the next generation of SICB members.

John D. Zardus



John Zardus holding a seagoing invertebrate settlement panel

Current Position: Associate Professor, Department of Biology, The Citadel, Charleston, SC

Education: B.S. (1998) and M.S. (1991), Brigham Young University, advisor Lee F. Braithwaite; Ph.D.

(1998), Northeastern University, advisor M. Patricia Morse

Professional Experience: Visiting Faculty Member (1997), Wheelock College; Postdoctoral Fellow (1999 - 2001), Ron Etter Lab, University of Massachusetts



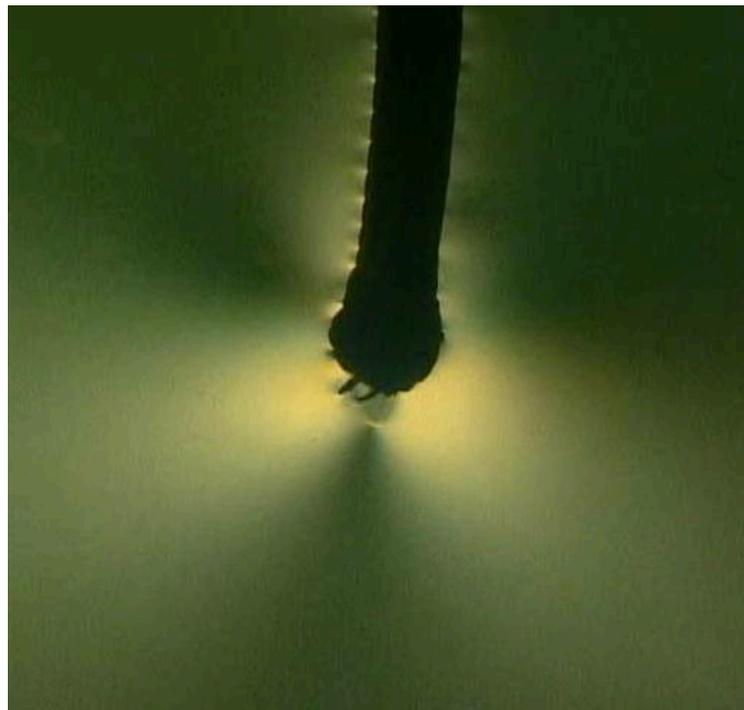
- Boston; Postdoctoral Fellow (2001 – 2005), Mike Hadfield lab, Kewalo Marine Laboratory, University of Hawaii; Assistant Professor (2005-2009), The Citadel; Associate Professor (2009 – present), The Citadel; Adjunct Faculty in Graduate Program in Marine Biology (2006 – present), Grice Marine Laboratory, College of Charleston; Subject Editor (2005 – present) Marine Biology Research; AMS Member-at-Large (2008); AMS Secretary (2009 – 2011); Visiting Scientist (2012) School of Veterinary & Biomedical Sciences, James Cook University

SICB Activities: SICB and DIZ member (since 1991); Libbie Hyman Scholarship Committee (2008 – 2013); Organizer, SICB Symposium (2012) on barnacle biology; DIZ Program Officer (2011 – 2014)

Other Memberships: American Microscopical Society, The Crustacean Society

Research Interests: Marine invertebrate ecology and evolution; invertebrate phylogeography; larval settlement biology; symbiotic barnacles; protobranch bivalves

Goals Statement: I see two major objectives for the Division of Invertebrate Zoology: first is to be a major force in advancing the study of invertebrates by providing a national forum for professionals to disseminate findings and discuss new approaches, the second is to provide opportunities and support for students to develop as invertebrate biologists. I feel major responsibilities of the DIZ Chair are to ensure that the Division remains fiscally sound, in particular maintaining the stability of the Libbie Hyman fund, and that all operations and programs of the Division and Society are carried out as mandated. In addition, my particular goals would be to 1) work with the Program Officer to search out stimulating, forward-looking topics for SICB symposia by reaching out to researchers in the Division and extending invitations to those who are not yet members of the Society; 2) promote student and post-doctoral involvement at meetings by recognizing their achievements, providing research funds, hosting pertinent workshops, and offering travel support; and 3) recruit new members, especially among students, by illuminating the applicability and advantages of being a member.



Kelly Dorgan
Nereis virens burrowing in gelatin by crack propagation