



# International Society for Neuroethology

Newsletter/June 2014

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*Male Puerto Rican Coqui (Eleutherodactylus coqui) in El Yunque, Puerto Rico. Photo by M. Kits. See article on coquis and climate change in this newsletter.*

## President's Column

*Alison Mercer*  
President of the ISN

Dear ISN Members,

The **Sapporo Congress** is only weeks away and I am sure that, like me, those of you who are planning to attend (and there are over 550 of you!) will be looking forward to a very exciting meeting.

The Local Organizing Committee, chaired by **Yoshi Oka**, together with the Program Committee, co-chaired by **Heather Eisthen** and **Masashi Kawasaki**, have brought skill, energy, and enthusiasm to the task of organising this meeting. On behalf of us all, I extend a huge vote of thanks to them for their untiring efforts. Thanks to them, it will be a spectacular Congress!

One session that I am particularly looking forward to is the Symposium in which the winners of our **ISN Young Investigator Awards** present their research. We are in for a treat. The competition for these awards is always intense, and this year was no exception. **Nancy Day**, **Stefan Greif**, **Simon Sponberg**, and **Sarah Stamper** are our 4 Young Investigator Award winners. We will celebrate their success in Sapporo, and have an opportunity at the **Young Investigators Symposium** to learn about their research.

To those of you who have received **Heiligenberg Student Travel Awards**, or are recipients of **Developing Neuroethology Awards** (see Announcements section) – congratulations to you also! These awards, like the Young Investigator Awards, recognize and celebrate the academic excellence and research potential of ISN's early career members. We look forward to welcoming you to the meeting and hope this ICN will be the first of many that you attend. We will also be welcoming to the meeting all of the students who have been selected to participate in the **International Brain Research Organization Advanced School of Neuroethology**, which takes place in Sapporo immediately prior to the Congress.

It is exciting that such a large number of students and early career members have registered for the meeting. If you are one of them, please note that there is a **student/postdoc mixer** immediately following the **Heiligenberg Lecture** on the evening of Tuesday 29 July. If you have not met them already, this will be a great opportunity for you to get to know your 3 early career representatives on ISN Council (**Cindy Harley**, **Gabriella Wolff** and **Christa Baker**), all of whom have been doing an absolutely outstanding job.

If you are a regular attendee at ICN, please make every effort to identify students and young investigators who are attending for the first time, and make them feel at home.

On the last day of the Congress the winner of the **2014 Capranica Prize** will be announced at the **Business Meeting**, together with the names of our **new ISN Fellows**. We will also be celebrating with the first-ever recipients of ISN's newly-established **Konishi**

**Neuroethology Research Awards: Martin How, Lauren O'Connell, and Jessica Fox** (see Announcement section for details). I am delighted that **Mark Konishi** himself will be attending the meeting in Sapporo and I am sure that like me, you are looking forward immensely to the symposium that is being organised in Mark's honor.

Also at the Business Meeting, the incoming ISN President, **Peter Narins**, will invite those members who are submitting proposals to host the **2018 Congress** to present a brief outline of their proposal to the membership. I hope you will attend the Business Meeting, not only to hear the proposals for the 2018 ICN, but also to celebrate with our awardees, and to welcome Peter Narins to his new role as President.

Last but not least; to those of you who are not able to attend the meeting in Sapporo – **we will miss you!** I hope very much that we will have an opportunity to catch up with you in 2016 at the Congress in Uruguay.

With very best wishes to all,

Alison



## 2014 ICN/JSCP



<http://www.icn2014.jp/>

**Please visit the congress website for all congress-related information. A full congress flyer is now available for download. The online registration deadline is June 27, 2014. Need more information? Contact [secretariat@icn2014.jp](mailto:secretariat@icn2014.jp)**



## COQUIS AND CLIMATE

Research by the President-Elect of the ISN, Peter Narins, and his UCLA colleague Sebastiaan Meenderink was recently featured by the UCLA Newsroom. The following account is a shorter version of the UCLA press release, which was inspired by a study recently

published in the Proceedings of the Royal Society B.

The little coqui frog (*Eleutherodactylus coqui*) is the beloved national animal of Puerto Rico. ISN President-Elect Peter Narins has studied coqui frogs for 41 years. He and Meenderink recently compared data obtained from two large samples of male coqui frogs: 170 from 1983 and 116 from 2006. This comprehensive study included frogs found at 28 different altitudes in Puerto Rico, ranging from 9 meters to more than 1,000 meters above sea level. The results were subtle but potentially significant: not only have males become smaller, but their mating call has become shorter and higher pitched.

Narins said that although the changes are not very large, they are statistically significant and may well be a sign of difficult years ahead for the animal. The changes are thought to be a response to rising temperatures. *We think the animal adapted to temperature change by becoming smaller, which we believe causes the difference in their calls*, said Meenderink. He noted that, because the male's call is used to attract females and to defend territory from other males, reproductive success is likely to decrease. Narins states: *If current trends continue unabated, the coqui frog will sound and look quite different before this century is over.*

Narins and Meenderink found that frogs at comparable altitudes are more than 10 percent smaller in length than they were 23 years earlier. Using data from four weather stations in Puerto Rico, the researchers also learned that the temperatures increased by almost 0.5 degrees F (about 0.3 degrees C) over that time. Although that amount of warming doesn't sound like much, it is meaningful over such a brief period of time. If it continues or worsens in coming decades, it could be very dangerous for the coqui, whose existence dates back at least 11,000 years. And, because many other animals in Puerto Rico use coquis as a source of food, the adverse effects could ripple through the island's food chain.

It has been estimated that at least 30 percent of the world's species of frogs and toads are endangered. The causes are many, including habitat destruction, fungal infections, and water pollution. The work of Narins and Meenderink provides further evidence that climate change must be added to this sad list.

*Narins PM, Meenderink, SWF. 2014. Climate change and frog calls: long-term correlations along a tropical altitudinal gradient. Proceedings of the Royal Society B 281: 20140401.*



## ISN CHANNEL ON YOUTUBE

The International Society for Neuroethology announces the new ISN YouTube channel! The url is: <http://www.youtube.com/neuroethology>

The idea has its origins in June 2013, when ISN Past-President **Paul Katz** attended the Evolution meeting. He noted that one of the highlights of the meeting was a video competition sponsored by Nascent.org (<http://filmfestival.nescent.org/>). *At the conference, they gave out popcorn so you could sit and watch the movies. Then you could rate them for prizes. The videos were very uneven. Some were professionally made and others were by high school students. One was actually made by a Ph.D. student as an ad to get a grant!*

The film festival was the highlight of one of the evenings of the Evolution meeting, and Paul immediately thought that it would be great to hold a similar competition at the ICN. But at present the ICN program format does not lend itself to an evening screening event, and the lead time was too short to change the schedule. With Paul's encouragement, however, our local hosts in Sapporo are reserving a viewing room where a number of submitted videos will run in a continuous loop. So, if you get tired of posters, or if there isn't a talk you want to see, you can go watch amazing neuroethology movies.

But what if you are unable to go to Sapporo or future international congresses? Or what if you love the videos you see so much that you have to watch them again? Or if, after seeing the videos in Sapporo, you are inspired to make your own? Our new YouTube channel (already up and running) solves all of these problems! **Gabriella Wolff** (currently an Early Career Representative on the ISN Council) has announced a call for video submissions. She will receive your video and upload it to our channel. You can send video files directly to [int.soc.neuroethology@gmail.com](mailto:int.soc.neuroethology@gmail.com). If your file is too large for e-mail, send a note to that same address and Gabriella will share a Dropbox folder for uploading. If you already have a Youtube channel and would like have your videos added to the ISN channel playlist, you can send the URL for the video to that same e-mail address.

Gabriella requests the following statement be included with the submission e-mail: *The video I am submitting is my intellectual property and I give the International Society for Neuroethology permission to feature this work on the Neuroethology YouTube channel.*

Any videos submitted now to the ISN YouTube channel will be eligible for future film awards. Suggestions

regarding the YouTube channel are welcome and should also be sent to [int.soc.neuroethology@gmail.com](mailto:int.soc.neuroethology@gmail.com).

The leadership of the ISN is enthusiastic about these efforts. Paul Katz recently expressed his vision for the future in the following words: *I hope that we will integrate the neuroethology video channel into the ISN website. Maybe for the Uruguay meeting, we can have a more formal movie competition. But for now, we are getting a great response. People who already have videos are submitting them. Many show a variety of animals and behaviors. I hope that, as efforts progress, people will make videos that explain their research to the general public. Having a video presence on YouTube is important because it is a way to directly engage the public in the work that we do. It could also serve as a teaching resource for the classroom. I hope people continue to contribute their videos and start making videos specifically for this channel.*



*The 2016 Congress will take place in Montevideo, Uruguay, March 29 through April 3, 2016. ISN President-Elect Peter Narins will present the bids for the 2018 Congress at the Business Meeting in Sapporo, with online voting to follow.*



### **UPDATE ON THE WOODS HOLE NEURAL SYSTEMS AND BEHAVIOR (NS&B) SUMMER COURSE AT MBL**

Hans Hofmann and Andre Fenton, current NS&B Course Directors, have sent the following happy announcement, sure to be of interest to present and former NS&B Faculty and Lecturers, former NS&B Course Directors, and all friends of NS&B:

As we are getting ready for another exciting summer in Woods Hole, Andre and I would like to share with y'all

the good news that the federal training grant that has been funding NS&B for so long has at long last been renewed! ...we were able not only to address the concerns of past reviewers but convince them that this course is as important as it has ever been, especially in times of shrinking budgets and a narrowing NIH mission. We could not have done this without the inspiration and help y'all provided, you are all our heroes! And without the unwavering support of the MBL, especially **Bill Reznikoff**, and **Nancy Desmond** at NIH.

If you're curious about what we'll be up to this year, check out the NS&B course website and like us on Facebook. We are implementing a lot of exciting innovations in the course, and we'd love to get your feedback.

<https://sites.google.com/site/nsbmb/>

<https://www.facebook.com/pages/Neural-Systems-Behavior-Course/230609650287280?sk=wall>

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### **HILDEBRAND TO SERVE AS FOREIGN SECRETARY OF THE U.S. NATIONAL ACADEMY OF SCIENCES**

The following account is an abridged version of a press release from UANews (<http://uanews.org>). The ISN sends its warm congratulations to ISN Fellow John Hildebrand, who is Regents' Professor of Neuroscience in the College of Science at the University of Arizona.



ISN Fellow **John Hildebrand** has been selected to serve as Foreign Secretary of the U.S. National Academy of Sciences, a private nonprofit institution established under a congressional charter signed by U.S. President Abraham Lincoln in 1863. As foreign secretary, Hildebrand is one of the executive officers of the academy. He will be responsible for the international activities of the academy, with the goal of building and maintaining productive relationships with science academies elsewhere in the world. One of Hildebrand's tasks will be to manage the processes involved in electing foreign associates to the National Academy, especially from underrepresented countries. His term begins July 1, 2014.

(Photo from <http://neurosci.arizona.edu/john-g-hildebrand>.)

## JOB POSTINGS FOR NEUROETHOLOGY POSITIONS: DO THEY EXIST? WHERE ARE THEY?

ISN member Cindy Harley of the University of Minnesota currently serves as an Early Career Representative on the ISN Council. Here she shares her experiences on how to locate relevant academic job postings. Spoiler alert: it's harder than you think, even in the information age.



As I entered my second season of job searching, I began the process of reevaluating my search. Was I searching properly? We currently live in an information age offering a plethora of apps and websites for job searching. While many of the websites and apps

(such as [www.monster.com](http://www.monster.com)) are focused on placing non-academics, some also post academic jobs. In addition, there are multiple new websites and smart phone apps solely focused on academe. I began to wonder which one to choose – that is, which modern method of search is most effective. I embarked on a quest to test different search methods and determine which work best for job seekers and which are most commonly used by potential employers, taking as my mission to find the best way to locate those elusive academic jobs.

I quickly found that, just as in science, there are both Type I errors and Type II errors. I defined Type I errors as those times when I would miss a posted job in which I would be very interested, and Type II errors as those times when a job would be brought to my attention despite being of little interest or relevance.

**Type II Errors: The false positive** Sites and apps from [Indeed.com](http://indeed.com), [Simplyhired.com](http://Simplyhired.com), and [HigherEd\\_Jobs](http://HigherEd_Jobs) resulted in numerous type II errors. These sites search other postings for you and come up with a list of jobs which, in their words, *you may be interested in*. Shortly after subscribing to these sites my inbox and smartphone were filled with ads about jobs that the apps thought might interest me. Sadly, many of these notifications, in my experience, were *far less than interesting* (even for someone not being picky). Furthermore, many of the interesting job postings were expired postings from long-ended searches. Very quickly, I suffered from useless information overload. I started ignoring the emails and quickly removed these apps from my phone.

**Type I Errors: Failure to learn of an interesting position** I feel frustrated that I often fail to hear about potentially interesting positions. To avoid this, I often

digitally get together with friends and we trade job information like children trade baseball or Pokémon cards. But I still miss interesting opportunities. I had to get information directly from the horse's mouth – I had to talk directly to job posters. Or so I thought...once again I learned another lesson – often the location where jobs are posted is determined not by the hiring department, but rather by the human resources (HR) department at the university or college. I began emailing HR departments to learn where they typically post faculty positions. I discovered that many of the postings had something in common and that this was largely dependent on the type of institution doing the hiring.

### *R1 institutions and Nature*

I contacted several research-intensive institutions (often referred to as R1 universities in the United States on the basis of the Carnegie Classification of Institutions of Higher Education) on multiple continents that recently posted relevant positions. All but one of these institutions had placed an ad in the journal *Nature*. Hmm, I thought, why *Nature*? And I simultaneously wondered why *Science* was not as commonly used, and why many professional societies such as the Society for Neuroscience or the ISN only occasionally received ads. I am not certain that this is the reason, but I believe it simply comes down to money. *Nature* offers free ads (online) and will cross post with *Scientific American*, *Spectrum der Wissenschaft*, and, for European jobs, [www.Euraxess.com](http://www.Euraxess.com). Ads in other locations cost serious money – starting at \$250 to post in the Society for Neuroscience's NeuroJobs Career Center, \$475 for *Science*, and up to \$690 for a posting in the *Chronicle for Higher Education*. Needless to say, these ads get EXPENSIVE quickly. That said, *Nature* is not the only ad that these universities will take out – they will also advertise in listings maintained by professional societies, but these are less predictable. In the end the message is clear – to receive reliable notification of academic R1 positions, look at [www.nature.com](http://www.nature.com). Sadly, unlike their competition, *Nature* will not e-mail you directly if something of interest to you comes up. *Nature* has recently released an app that works fairly well, but unlike its more user friendly competitor from *Science*, *Nature* will not provide you with notifications if something new is posted. So, this app works, but it means that the job seeker has to search repeatedly for opportunities, likely running into the same ones they saw the week before.

### *Liberal arts colleges: it matters where you are*

What if you are interested in a career at a liberal arts college? Is *Nature* still the ad agency for you? The short answer is no. I contacted multiple liberal arts institutions within the United States and found that, although they

posted to a variety of sites, all of the jobs were also posted on one site – *the Chronicle of Higher Education*. This is good news for job seekers as the Chronicle has a fantastic new website called Vitae (<https://chroniclevitae.com/>), which is easy to navigate, provides relevant notifications, and offers amazing job advice. Bottom line: if you want a career at a liberal arts college in the United States, the *Chronicle* is your best friend.

Outside of the United States things are a bit different. While R1 institutions outside the United States also post on *Nature*, there are other websites that post academic positions. A great portal for job searching in Europe is <http://www.Euraxess.com>. But this site is not as user-friendly as it might be. If you manage to set up notifications, you will get them from all of the European *Nature* postings, but it is a pain to get everything configured properly. Each country has its own job search website – for example, the United Kingdom has [www.jobs.co.uk](http://www.jobs.co.uk), a site to which all universities MUST post their jobs; Denmark has [www.jobnet.dk](http://www.jobnet.dk), and the list goes on.

In addition to posting on outside websites, all jobs (this is true everywhere) must be posted on the institution's internal HR website. If you wanted to work at a particular institution, that would be the place to check. However, checking all institutional websites is not an efficient way to search.

#### *What about postdocs?*

While hiring institutions dictate where jobs are posted for faculty positions, the same cannot be said of postdoctoral positions. The university will often not even pay to advertise these positions and in times past the way you would find out about them was cold e-mailing someone to see if they had space in their lab. While ads are often placed at professional societies such as ISN (especially if they allow free postings, as does the ISN), more recently scientists appear to be turning to [www.ResearchGate.net](http://www.ResearchGate.net) as a source of postdoctoral opportunities. If you have not yet made your way over to [www.ResearchGate.net](http://www.ResearchGate.net), it is worth a look. The site allows you to build a scientist profile that includes your publications and functions as a sort of LinkedIn for scientists. Membership is free and, in addition to receiving notifications about potential jobs, you can enjoy the ego boost of being notified when your work is cited or your profile is viewed. You can also share data among collaborators, get on question and answer bulletin boards, follow other investigators, and get notified when someone you are following publishes a paper.

#### **Bridging the gap between job seekers and employers**

So now we know where to look – *Nature* for R1 jobs and *the Chronicle of Higher Education* for jobs at liberal arts institutions and small colleges. However, there is one last piece of the puzzle. What are the optimal search parameters? This is where we hit a problem – my search for the term neuroethology has yet to turn up any results, and it's been running for over a year. While HR departments constrain the text of job descriptions more than I ever anticipated, the fact that one simple word (neuroethology) does not appear in ads means that young neuroethologists are forced to use other search terms: zoology, physiology, neurobiology, neuroscience, animal behavior etc. The problem with these terms is that they take us back to Type II error. We find more irrelevant than relevant posts and, as a result, become fatigued and begin to miss or ignore relevant posts. If your department is looking for a neuroethologist, please put an ad on the ISN website (it is free), send an e-mail out to the ISN listserv (also free – just send an e-mail with your announcement to Joyce Lancaster at [isn@allenpress.com](mailto:isn@allenpress.com)), and, above all, try to fit that magic word – neuroethology – somewhere within the ad.



### **DEAR GABBY THE ISN ADVICE COLUMN**

Gabriella Wolff of the University of Arizona, Tucson, AZ, is a Graduate Student Representative on the ISN Council. Gabriella is author of the ISN advice column. Feel in need of career advice? Let Gabriella know! Feel free to submit your own questions and to suggest topics for future columns ([gabbycat@email.arizona.edu](mailto:gabbycat@email.arizona.edu)).

*Dear Gabby,*

*I'm a Ph.D. candidate in the exciting field of neuroethology. I meet so many cool postdocs. How can I become one myself?*

*Signed,*

*Worried and overworked, but I still want to be a neuroethologist when I grow up*

As a graduate student who has advanced to Ph.D. candidacy, there is a lot on your plate: from finishing experiments, to writing papers, and above all looms your thesis. This is, however, also the time for serious contemplation of life after graduation. For many, that means finding a postdoctoral position. Where to begin?

There are many considerations such as finding a lab that matches your interests, connecting with potential principal investigators (PIs), and gaining the skills needed to stand out during the interview process. To get some insight into the transition from graduate school to postdoctoral research, I spoke to three exemplary young neuroethologists about their own recent journeys.



**Basil el Jundi, Lund University:** *When I was thinking about a postdoctoral position, the first and most important step was to develop keywords that would describe my field of interest, which limited the potential laboratories to just a few. Creating more specific aims and deciding which methods are essential for investigating the questions is a second step. Ideally, you should build up on your expertise from your Ph.D. and learn new methods or combine your method with new techniques that the next laboratory can offer. As such a process can sometimes take several months, I recommend thinking about this next step as early as possible. Often positions are not directly available in laboratories; however, if the PI expresses the willingness to work with you it might be possible to write a grant proposal to finance your postdoctoral position. As this can also take a lot of time, again, the most important thing is to be aware about what you would like to investigate as early as possible – ideally at least one year in advance. (Photo supplied by Basil el Jundi.)*

**Philipp Rosenbaum, Brandeis University:** *My graduate advisor introduced me to my postdoctoral advisor at a conference. She was looking for postdocs with a background in electrophysiology, which I have, and we shortly talked about projects. Because I was really interested, I visited the lab to further discuss possible projects. I also gave a job talk about my graduate work, and talked to all members of the lab about their projects, which helped me to get an impression of the lab work, and probably also helped them to find out more about me. I think it's also important to see the actual lab, the university, and the city/surroundings, to see if one could imagine working and living there. All of that really helped me form my decision. I was also interviewing in other labs on the same trip, which I would especially recommend for people with long travels, to save on time and money! Generally I think conferences, especially smaller ones, are extremely helpful for getting to know people, discussing your work, and making new connections!*

**Angelique Paulk, Massachusetts General Hospital:** *The main piece of advice: I think everyone should have some experience in applying for grants. They can be*

*small research grants, NIH or NSF grants, or even small travel awards. I applied for several grants while in Australia, from research grants to an Australian Research Council grant, which funded my salary for three years. These grants allowed me to work on really tough projects, which worked out in the end.*

*Even if you have guaranteed funding for five years or your supervisor doesn't want you taking the time to do anything else, I will say that it is to your detriment if you don't take the opportunity to apply for money. Why not apply for money via a crowdsourcing website? It's a great experience and lets you communicate with the public.*



*I believe it is an essential skill to learn to convince people that what you are doing is worth the funding in an organized and story-telling fashion. Also, grant writing is a skill that you can take anywhere, even if you leave academia. Scientists need to be salespeople since we depend and rely on the support of the community to do the fantastic things we do. I firmly believe being able to communicate to the public or granting agency the reasons why we use their money is an essential part of developing into being a good all-around researcher. (Photograph provided by Angelique Paulk.)*

As Philipp mentioned, conferences play a big role in connecting with potential postdoctoral advisors. In previous interviews of new faculty members, several mentioned that conference attendance was most critical at the time of their lives when they were looking for a postdoc. As the Sapporo 2014 ICN meeting will be upon us next month, I was particularly keen to hear about conferences as a networking venue.

**Angelique Paulk:** *For my first postdoc, networking at the International Congress of Neuroethology in Vancouver was how I actually got my job. After Bruno van Swinderen gave his talk at the conference, I walked up to him to discuss the overlap of his research and what I was working on in my Ph.D. He quickly mentioned that he was starting a lab in Australia and was looking for postdocs. In other words, this contact probably would not have been made if I wasn't at that conference.*

There you have it! It's time to dust off your networking skills, update your CV, and go to a conference. I hope to see you in Sapporo!

## HIGHLIGHTING EARLY CAREER RESEARCHERS

Early career members of ISN are doing a lot of exciting research, and the Early Career Representatives on the ISN Council want to let the Society know about it! If you would like to be featured in a future column, or if you would like to nominate someone to be featured, please email Christa Baker at [cabaker@wustl.edu](mailto:cabaker@wustl.edu). In this edition, edited by Christa Baker, we will hear from postdoc Ginette Hupé and doctoral student Kat Schrode.

### Ginette Hupé, laboratory of Gary Marsat, West Virginia University (Photo supplied by G. Hupé.)



My current research integrates neurophysiological and behavioral perspectives to examine how weakly electric fish use signals to share information, characterize the electrosensory scenes experienced by animals during social interactions, and discern neural mechanisms through which communication signals are represented in electrosensory pathways. The brown ghost knifefish, *Apteronotus leptorhynchus*, a model neuroethological species of South American weakly electric fish, transiently modulates the individually specific frequency of its electric field to produce discrete and stereotyped communication signals called chirps. I characterized the physical behaviours associated with the production of electrocommunication signals in *A. leptorhynchus* during my graduate research with **John Lewis** to demonstrate that signals temporally correlate with an animal's own physical behaviours, and with the signaling and physical movements of interacting conspecifics. We provided evidence that fish communicate information about individual aggressivity through specific temporal patterns of signals exchanged, and using a novel playback paradigm to deliver chirps interactively through an electric fish mimic, suggested that chirps are exchanged reciprocally between conspecifics to deter aggressive escalation.

We described and modeled the electrosensory scenes experienced by individuals during social interactions through collaborations with **Andre Longtin** and **Na Yu** to characterize natural dynamic stimuli, and revealed how information about the identity and movement of interacting conspecifics is represented in the complex electrosensory scenes experienced. Chirp encoding in electrosensory afferents depends on the difference in frequency between interacting fish, and we collaborated with **Jan Benda** to demonstrate that signals can be encoded in electroreceptor afferents by changes in population synchrony across behavioural contexts.

Further, working with **Henriette Walz** and **Jan Benda**, we reviewed how particular social contexts shape features of the electrosensory scene, and how chirp behaviour and sensory responses are influenced by these dynamic background parameters.

More recently, I have explored how communication signals are represented centrally during the presentation of naturalistic stimuli. I began my postdoctoral research working with **Eric Fortune** and **Melissa Coleman** to explore syllable patterning behaviours and song encoding in the plain-tailed wren, *Pheugopedius euophrys*. I am continuing my postdoctoral research using weakly electric fish at West Virginia University, performing electrophysiological experiments in **Gary Marsat's** laboratory to examine chirp encoding in the primary electrosensory nucleus of *A. leptorhynchus*. Our research characterizes spatial heterogeneity in the responses of isolated units to chirps, and explores how chirp encoding is modified in response to stimuli that are increasingly more reflective of the electrosensory stimuli experienced during natural interactions.

### Kat Schrode, laboratory of Mark Bee, University of Minnesota – Twin Cities (Photo supplied by K. Schrode.)

My research focuses generally on the problem of communicating acoustically in noisy social environments. Communicating in large social gatherings is difficult for several related reasons. One of these issues is that when large groups of individuals attempt to communicate at the same time, their communication signals will often overlap and combine across time and frequency. I have been investigating how female treefrogs use frequency and spatial cues to construct auditory “objects” or “streams.” In some cases, our findings conform to predictions based on the physiology of the mammalian auditory system. But the ways females use these cues are also strongly shaped by unique features of the frog ear, such as the two distinct sensory organs that primarily encode airborne sound.



A second difficulty that arises when communicating in large groups is that the overall sound levels become quite intense. However, noise levels naturally fluctuate over time, and listeners can often improve detection of signals by listening during “dips” when the signal-to-noise ratio is more favorable. A former member of the lab, **Alejandro Vélez**, found that gray treefrogs, but not green treefrogs, showed improvements in signal

detection when the background noise fluctuated in time. I hypothesized that this species difference was the result of differences in temporal resolution of the auditory systems of these two species. I found no differences in temporal resolution at the level of the peripheral auditory system that could account for the differences previously noted, but I did find evidence that processing in the periphery differed between the species in ways that favored the temporal fluctuations inherent in conspecific communication signals.

While much of the work on communication in noisy environments has been focused on humans and other mammals, many other animals communicate in similar environments. Studying how other animals solve their own communication problems is requisite to achieving a general and comprehensive understanding of communication in noisy environments.

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## ANNOUNCEMENTS

### 2014 DEVELOPING NEUROETHOLOGY AWARDEES

The ISN announces the 5 winners of the **2014 Developing Neuroethology Awards**. Each awardee will receive up to \$1500 toward travel costs to the 2014 ICN in Sapporo. Thanks to the selection committee for their hard work, and congratulations to the winners and their mentors. Three of the recipients are doctoral students: **Ariadna Cobo Cuan** (Havana University, Cuba); **Umesh Mohan** (National Centre for Biological Sciences – TIFR Bangalore, India); and **Chong Yee Hang** (Monash University, Malaysia). **Rossana Perrone** is a postdoc at IIBCE in Montevideo, Uruguay; **Fernando Locatelli** is a faculty member at the University of Buenos Aires in Argentina).

### 2014 KONISHI NEUROETHOLOGY RESEARCH GRANT AWARDEES

The ISN announces the 3 winners of the **2014 Konishi Neuroethology Research Grant Awards**. Each awardee will receive \$2500 to support an original research project. This is the first year of the Konishi competition, and the selection committee reported receiving a very strong set of inaugural proposals. Congratulations to the winners! **Martin How** of the University of Bristol will study polarization vision in fiddler crabs with the goal of using behaviour to test neural models; **Lauren O'Connell** of Harvard University will investigate the neural basis of paternal care in a poison frog; and **Jessica Fox** of Case Western

Reserve University has designed a project to measure haltere movements during body rotations in flight in fruit flies.

### 2014 HEILIGENBERG STUDENT TRAVEL GRANT AWARDEES

The ISN announces the 14 winners of the **2014 Heiligenberg Student Travel Awards**. Each awardee will receive up to \$700 toward travel costs to the 2014 ICN in Sapporo. Thanks to the selection committee for their review of applications, and congratulations to the winners and their mentors. The winners span the globe: **Brad Dickerson** (University of Washington, USA); **Byron Van Nest** (Wake Forest University, USA); **Cait Newport** (University of Queensland, Australia); **Charlotte Barkin** (Columbia University, USA); **Chloe Raderschall** (Australian National University); **Daniel During** (University of Southern Denmark); **Des Ramirez** (University of California, Santa Barbara, USA); **Joerg Henninger** (University of Tübingen, Germany); **Molly Womack** (Colorado State University, USA); **Nikos Lessios** (Arizona State University, USA); **Ninad Kothari** (University of Maryland, USA); **Oliver Bertrand** (University of Bielefeld, Germany); **Patric Vaelli** (Michigan State University, USA); and **Peter Olsson** (Lund University, Sweden).



### NEUROETHOLOGY FILM FESTIVAL

After several hours of vigorous walking in your sensible conference shoes at the 2014 ICN in Sapporo, you may find yourself wanting to just find a chair and rest your weary feet. Well, if that's the case, duck into **Room D** at the **Sapporo Convention Center** for the first ever **Neuroethology Film Festival!** We will be featuring videos contributed by ISN members to the Neuroethology Youtube channel (see earlier article in this issue): [www.youtube.com/Neuroethology](http://www.youtube.com/Neuroethology). If you would like to submit a video to be featured at the Film Festival, it is definitely not too late! Please send video files to [int.soc.neuroethology@gmail.com](mailto:int.soc.neuroethology@gmail.com) or send an e-mail to that same address if your file is too large for e-mail and we will share a Dropbox folder for convenient uploading. Contributions may include anything from videos of your favorite animal doing a cool behavior to technical videos or lectures aimed for the general public. Neuroethology-themed cartoons or music video spoofs are not only acceptable, but encouraged! This is a great chance to be creative and share your passion for neuroethology with your peers!

## SYMPOSIUM ANNOUNCEMENT

### CONTEMPORARY RESEARCH ON ANURAN COMMUNICATION

A one-day satellite symposium on *Contemporary Research on Anuran Communication* will be held as part of the **15th Congress of the International Society for Behavioral Ecology**. The symposium will feature a number of invited talks on contemporary issues in frog communication research while celebrating the extraordinary careers and scientific contributions of **Albert Feng, Carl Gerhardt, Walter Hödl, Darcy Kelley, Peter Narins, and Kent Wells**. You can read more about the symposium at the following (case-sensitive) URL, where you will also find information about registering for this special one-day event.

[http://www.umn.edu/~mbec/OFS/Frog\\_Symposium/](http://www.umn.edu/~mbec/OFS/Frog_Symposium/)

The symposium will take place on Wednesday, 6 August 2014, on the campus of **Hunter College** in New York City (the ISBE venue). This date was selected because it is between the end of the ISBE meeting (on 8/5) and the beginning of the Animal Behavior Society meeting (on 8/9). Attendees of both the ISBE and ABS meetings – and anyone else who might be interested – are invited to attend.

## COURSE ANNOUNCEMENT



### SENSORY ECOLOGY IN LUND AN INTERNATIONAL COURSE FOR POSTGRADUATE STUDENTS

This two-week course is organised by the Department of Biology at the **University of Lund** in Sweden. The world's leading authorities in sensory ecology are invited to Lund to deliver an outstanding program of lectures covering all animal senses. **The course will take place from September 21-October 4, 2014.**

Places will be allocated on a first-in first-served basis until the maximum number of places is filled (40 places). The **closing date for applications is August 1<sup>st</sup> 2014**, although the course is likely to fill before this date.

Please see the course web site for application procedures, details of the course contents and other practical information:

[www.lu.se/vision-group/courses/sensory-ecology](http://www.lu.se/vision-group/courses/sensory-ecology)

Or contact the organisers via the following e-mail address: [Sensory.Ecology@cob.lu.se](mailto:Sensory.Ecology@cob.lu.se)



### SUMMER READING SUGGESTION: A DAM IN THE RIVER BY JEFF CAMHI

The author of the classic neuroethology textbook, *Neuroethology: Nerve Cells and the Natural Behavior of Animals* (1984) has published a new book on a different topic that ISN Secretary Susan Fahrback argues should attract the attention of neuroethologists.

Invertebrate neuroethologist **Jeff Camhi** is now Emeritus Professor of Zoology at **The Hebrew University of Jerusalem**. Those familiar with Camhi's work on the neural circuits that mediate cockroach escape behavior may be surprised to learn that Camhi has now turned his attention to the development and promulgation of methods for sharing what he calls university ideas with the general public. The result is a splendid 2013 book titled *A Dam in the River, Releasing the Flow of University Ideas* (Algora Publishing, New York). Neuroethologists working in academe (colleges and universities) will find this book provocative and timely. The author also hopes that readers will be roused to act on what they have learned: the final chapter is a well-annotated list of 35 activities for sharing academic ideas with the public. Some of the proposed activities are obvious (*start a student organization*), while others are innovative (*develop idea-rich campus tours distinct from the typical tour for applicants interested in dorms and meal plans*). The most surprising aspect of the list to me was that many of the activities are relatively low cost and that all have the potential to enhance the quality of student and faculty life.

What is the intent of Camhi's list? Its development grew out of his definition of a university: *The university creates, stores, and disseminates knowledge*. Given the role of universities (and liberal arts colleges) in the stewardship of ideas, Camhi finds it puzzling that universities inspire so little public interest and, he claims, do such a poor job serving the public interest.

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Based on his own experiences as founder and director of the **Hebrew University Nature Park and Galleries**, an open-campus museum, his scholarly research into the function of museums, and an extensive set of interviews with U.S. researchers and educators, Camhi builds a convincing case that many researchers and professors have avoided becoming literate about academia and its functions in society.

Academic readers will enjoy the succinct writing, and neuroethologists in particular will enjoy the use of well-selected examples and case studies from animal behavior, including an extended passage on Eric Kandel's studies of memory in the sea slug *Aplysia*. Camhi is diligent in documenting his claims and citing his sources. His arguments extend far beyond scientific disciplines to the arts and humanities. He frequently uses compelling metaphors – a dam, an hourglass – and summarizes his recommendations in easy-to-remember phrases (read Chapter 6 to learn how to *do a 4PM*).

Two critiques possibly already in your mind are *I'm not in the U.S., why should I care about U.S. universities and sounds great but he's preaching to the already converted and no university administrator will pay attention*. Camhi explicitly addresses the former concern by noting that, in 2010, there were over 720,000 international students studying in U.S. colleges and universities, and that over a quarter of biology grad students studying in the U.S. that year were not U.S. citizens. This means that what happens in U.S. colleges and universities can have a disproportionate impact, either for the better or the worse. It is more challenging to speak to the latter concern. Camhi makes a valiant attempt, in part by calculating a benefit to cost ratio for each item on his list of 35 activities designed to raise the sluice gates for university ideas. But I would go one step further and express my view that neuroethologists are particularly suited to bring ideas to the public, given the appeal of our subject matter. A good example of how this might work can be found in the new ISN YouTube Channel. And neuroethologists who are also administrators (and I know there are many such individuals among our membership) have the potential to play a vital role in unleashing the flow of university ideas in all disciplines, not just neuroethology. They should read this book.

*Camhi, J. (2013) A dam in the river. Releasing the flow of university ideas. Algora Publishing, New York. 232 pp.*

## SUPPORTING THE ISN AND ITS PROGRAMS

Note from the ISN Secretary: Did you enjoy reading the announcements of awards earlier in this newsletter? If you know one of the winners, why not send him or her a congratulatory e-mail? And then consider making a contribution to the ISN in support of future awards. You can [contribute](#) to the **General Fund** (which supports the new **Konishi Research Awards**) or designate any of the following special funds: **Capranica Prize** (recognition of an outstanding achievement or future promise in the field of neuroethology); the **Bullock Visiting Lecturer Fund** (supports travel of invited lecturers); the **Developing Neuroethology Fund** (supports scientists in non-western countries to travel to an ISN Congress); and the **Heiligenberg Student Travel Award** (supports student travel related to neuroethology, including congress travel and lab visits to learn new techniques).

# See you in Sapporo!

