



# International Society for Neuroethology

Newsletter August/September, 2012

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## President's Column

*Alison Mercer*  
**President of the ISN, University of Otago, NZ**

**Neuroethology – alive and kicking**  
At the 2012 International Congress of



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Neuroethology at College Park, Maryland, I succeeded Paul Katz as President of the International Society for Neuroethology. Being elected to undertake this role is a great honor, and I look forward to the challenge.

The Society is in excellent health. During his term of office as President, Paul Katz contributed an enormous amount to the Society for Neuroethology and I extend warm thanks to him again for his outstanding leadership.

These are interesting times. From an economic point of view, countries worldwide are facing enormous uncertainty. It has never been more difficult to predict what is ahead of us in terms of job opportunities and funding. However, science has a critical role to play in all corners of the world and the quality of the science presented at ICN-2012 in Maryland convinces me that neuroethologists will continue to be highly successful on any future world stage.

We hold a handful of winning cards. For a start, there is significant public interest in what we do, the technologies available to us are nothing short of phenomenal and most importantly, our emerging researchers are among those who comfortably occupy the 'cutting edge'. As neuroethology expands its interests and activities ever wider, reflecting its multidisciplinary roots, the science we can do becomes increasingly exciting and so too, its potential impact. We know it, the public wants to hear about it, and it's a message those who hold the purse strings need to hear.

There is something that we can all do to spread the word that requires relatively little effort. The Education section of the ISN website provides resources for all to use and enjoy. Help keep the website relevant and useful. Post a photograph or videoclip of the animal that you work on, or consider putting together a powerpoint presentation that highlights the people and research in your lab. What we are doing is exciting – it's important to help spread the word!

To those of you who have already contributed images, animations, videos, or links to existing resources – BIG THANKS. You rock!



## ICN-2014

Planning for the 11<sup>th</sup> International Congress of Neuroethology in Sapporo, Japan (July 28-August 7, 2014) is already underway and you will not want to miss this meeting. Please note the dates of the Congress in your diary now. Consider whether you would like to organize a satellite meeting, and begin thinking about proposals for symposia. A call for ICN Symposia will be posted early next year.



## Past-President's Parting Ponderings

*Paul S. Katz*

**Past President, Georgia State University, USA**

As I pass the torch to Alison Mercer, who takes over as president of the ISN, I'd like to reflect on the state of the Society. ISN is in great shape and I feel confident that Alison will do a wonderful job in guiding us along. We have seen a number of changes over the last couple of years. Probably the most important is that we have decreased the intervals between Congresses from three years to two years. I think that this will create a more vibrant society. It will give us the opportunity to meet in more places. It will allow us to bring in more students. It creates a greater sense of community. It also allows us to alternate with the Gordon Research Conference on Neuroethology so that there is a neuroethology-related meeting each year.

We have changed the membership dues to a two-year term as well. This shift prevents the lapses between congresses that we previously had with one-year membership and three-year congress intervals. We have also removed unnecessary barriers to membership by eliminating the requirement for endorsement by an existing member and the need to submit a c.v. We have created a new category for post-doc membership to provide a financial incentive for post-docs to maintain their membership as they transition to faculty.

We have taken over the awarding of the Capranica Prize from Bob and Pat Capranica, who were using

their own resources to pay for the award. In memory of Bob, I would like to ask each of you to contribute just a little bit to the Capranica Fund to help pay for these prizes

<http://www.neuroethology.org/ebusisne/DONATIONS.aspx>

We have also established a new honor, the Fellows of the ISN. This honorary fellowship is for our most distinguished members to recognize their lifetime achievements. This first year, we honored six of the founding members of ISN

<http://www.neuroethology.org/ebusisne/AWARDS/FellowoftheISN.aspx>

The ISN has formalized support for Neuroethology courses. However, we still need a mechanism to promote the teaching of these courses. <http://psfebus.allenpress.com/eBusISNE/EDUCATION/Courses.aspx>

Finally, as you can see by all of the links above, we have revamped the website (Neuroethology.org). This is now hosted by our managing agency, Allen Press. This website should be more attractive and easier to use than our old website. It also integrates better with our membership database to keep the member search and other functions up to date.

In addition to these material changes in the Society, I have observed a change in the attitudes of the members. I'm finding that although funding is difficult, there is an optimism about our field. Neuroethology is strong and vibrant. I expect that it will continue to grow in the years to come. I look forward to seeing the Society continue to evolve.



## Neuroethology Live! Sharing Our ICN-2012 on Twitter

*Zen Faulkes (@DoctorZen on Twitter)*  
University of Texas-Pan American, USA

In the March 2011 newsletter, I wrote an article about the uses of the microblogging website, Twitter, for scientists. At the time, I did not have many examples of how using Twitter could be used to connect with people about neuroethology

specifically. As luck would have it, the last International Congress of Neuroethology (ICN) provided some excellent examples of this usage.

During the week of the Congress, I was tweeting about ICN events using the tag #icn12. The #icn12 tag identified the tweets as being related to the Congress, and made it easier for people to track the news about it if they so desired. People were genuinely interested in some of the material that was being tweeted from the conference. One of my favorite examples was the response to my tweet describing a fact dropped by Binyamin Hochner:

Octopus arms contain about 2/3 of the animal's half a billion neurons.

<https://twitter.com/DoctorZen/status/233585457701715969>

That prompted comments like these:

"That. Is. FASCINATING."

<https://twitter.com/psyoueanidiot/status/233588298071830529>

"Can't wait for a chance to casually drop this fact."

<https://twitter.com/avivahoperutkin/status/233587535903862784>

"It's true! They're amazing."

<https://twitter.com/katherineharmon/status/233587478613868544>

But there was more to this than just simple amazement of an interesting fact; the tweet prompted this interesting question, showing that people were actually thinking about the information. John Bachir asked:

"is that also true for the octopuses(pi?) who will abandon an arm to escape an enemy? they abandon their brain?"

<https://twitter.com/johnjoseph/status/233604028892856320>

What a great question! I replied that this was more like a lizard losing its tail: it loses part of its spinal cord, but not its brain. Craig B provided another example of the possibilities for interaction. When I tweeted a comment by Ron Hoy that traditional electrophysiology seemed to be used less than in the past, Craig asked:

"Does that mean fewer opportunities, or would labs use ephys if they could find researchers? Signed, worried electrophysiologist."

<https://twitter.com/keepstherainoff/status/232506471743647744>

Not all responses were serious, though. When I tweeted, “female crickets really like harmonics in courtship songs that males sing. #icn12”, I got an unexpected response... from a field cricket (@AFieldCricket):

“Oh they love it when we get down with some synth harmony!”

<https://twitter.com/AFieldCricket/status/232953160648491009>

I think my favorite responses were from Sheila Miguez (@codersquid), because she showed that people are interested in neuroethology and willing to learn.

“Can you recommend some neuroethology books for lay people? please let there be some”

<https://twitter.com/codersquid/status/233207007782514688>

I was no help to her, alas. The only books I knew were undergrad textbooks. I did not know a book that was written for someone who was not a biology or neuroscience major. And when I mentioned the bit about most of the octopus nervous system being in the arms, she wrote:

“see! this sounds completely fascinating. I totally want to read about it. arg.”

<https://twitter.com/codersquid/status/233587170139570176>

Overall, 12 of my #icn12 tweets were marked as “favorites”, and about 26 of them were retweeted by people to their followers. A partial analysis of the #icn12 hashtag showed that 50 tweets near the end of the meeting alone reached 3,740 people.

But neuroethology lags far behind other meetings in their members sharing the excitement of their science. The Ecological Society of America was held the same time as the neuroethology congress. It was a large conference – just under 5,000 compared to over 500 for Neuroethology – but many more than 10 times the number of tweets carried the #esa2012.

I look forward to having more people tweeting with the #icn14 hashtag in Sapporo!

For more about using Twitter at conferences:

Shiffman DS. Twitter as a tool for conservation education and outreach: what scientific conferences can do to promote

live-tweeting. *Journal of Environmental Studies and Sciences*: In press.  
<http://dx.doi.org/10.1007/s13412-012-0080-1>



## Excerpts from Prof Franz Huber's Research Sojourn in the USA, June 1961 to April 1962

### *Prologue by Karen A. Mesce, ISN Secretary*

At the recent ICN-2012, we paid tribute to the founders of the field of Neuroethology and held a symposium reflecting back to its roots. Prof Franz Huber (now retired from the Max-Planck Institut für Verhaltensphysiologie, Seewiesen, Germany) is, indeed, a celebrated founding father. Now in his eighties, he shared with me his fond recollections of what his life was like when he was in his thirties and on a sabbatical in Ted Bullock's lab. I have selected just a fraction of these memoirs, but they reflect his humor and humanity, and the excitement he had for the science we now recognize as Neuroethology.

### *by Prof Franz Huber, Germany*



**Berkeley - San Francisco - Eugene:** In mid-February 1962, I finished my experiments with *Aplysia* and started out on a trip along the west coast, first to the University of California in Berkeley and then to the University of Oregon in Eugene. There I planned to give lectures about my research on crickets

conducted in Germany and my new results regarding the sea slug *Aplysia*, but mainly to make a personal acquaintance with scientists I knew only from the literature.

In Berkeley I met Don Wilson, a student of Ted Bullock, who in 1961 had published a significant paper on the central-nervous control of insect flight. In Berkeley I learned from him for the first time how to record from muscles of harnessed insects that were still able to move. Peter Marler, the influential ornithologist and behavioral researcher, and his star doctoral student Mark Konishi were the next ones I visited. Those two made me familiar

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with bird song, how it develops and how the young learn from their parents, and also the role of acoustic feedback. I developed a close friendship with Mark Konishi, which continues today. On a side trip to San Francisco and the Bay the skyscrapers were gleaming in the evening light; I saw the Golden Gate Bridge and China Town and much more.

The subsequent flight over northern California carried me along the Cascade Range in Oregon and past Diamond Peak, nearly 3000 meters high. It ended in Eugene, where Graham Hoyle, an insect neurobiologist originally from England, was waiting for me. Graham and his wife Pam welcomed me into their large house, which resembled a palace with an extensive garden full of trees. Graham taught me about the methods he used in his pioneering work on intracellular recording from insect neurons and the results so far obtained, and also told me about the comparative studies on various types of invertebrate muscles that he had previously carried out in England.

Graham was a very hard worker. His personality was not always very simple; at that time he felt a certain hatred for his homeland because people there had not properly appreciated his scientific achievements, for instance by not making him a member of the Royal Society. Europe, Graham repeatedly asserted, in comparison with his new homeland the USA, was much more bureaucratic and restricted. He also advised me to seriously consider leaving the old continent of Europe and to find a new home in the land of unlimited possibilities.

There is a story that sheds some more light on what Graham was like, and documents his Scottish thriftiness. One evening after dinner in his house, with a considerable consumption of Scotch Whiskey, Graham gave me one of his most recent papers for bedtime reading. I lay down and was ready to begin reading when the light went out. So I fell asleep, and next morning, when I remarked that I couldn't read his paper because it suddenly got dark, I heard that Graham in the evenings turned off all the lights in the house by means of a central switch.

Graham visited me later in Cologne and also in Seewiesen, and we were together during conferences in Japan, the USA and Germany; the

last one was in 1984 in Hamburg, and I was deeply affected when I subsequently received the news that Graham had suddenly died of heart failure in 1985. His funeral took place when I was on a flight to Mexico, and while meditating on this good friend I had tears in my eyes. In 1986 in Friday Harbor a symposium was held in his memory, during which I met many people who had been friends of his and mine.

**Departure from Los Angeles and journey home-** At the beginning of March, I said farewell to Ted Bullock and his family, to Willard Bloodworth, John Thorson and Ann Biederman, as well as Jose Segundo, with whom I had earlier attended a soccer match, and to Susumu Hagiwara and his family, who had invited me to join them for dinner. There I was introduced to Susumu's wife Satoko and his mother, a very noble and shy Japanese in the old tradition, who served us with kotaus and then disappeared.

I later flew from Omaha to Minnesota in order to visit Bob Josephson and his family, who had meanwhile returned from Germany to Minneapolis/St. Paul, where Bob had an Assistant Professorship in the Zoology Department of the University of Minnesota. The landing is worth mentioning, as we spent a long time circling over the airport in the ice-cold weather (-30°C) and the two-propeller machine had to touch down with only one functioning motor. I was wearing only my Californian summer clothing, and Bob brought along a warm coat.

In Minneapolis I also met an old acquaintance from my Tübingen days, Glenn Richards, probably the best connoisseur of the arthropod cuticle and the martini. His martini, as strong as ever and with a scent of smoked meat, wiped me out one evening.

Then I flew on to Madison, Wisconsin, to join Professor Arthur Hasler in the Limnology Department. I had already met him during a visit with Karl von Frisch in Munich, and he had visited Karl shortly after the end of WW II in Brunnwinkel. Hasler achieved worldwide renown by his studies on salmon migrations and their sensory foundations. He supported the thesis that while still in their birthplace young salmon absorb the local "bouquet" and presumably also store the scents and tastes encountered while swimming down the river to the ocean, and that these can be recalled to assist

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orientation while returning to the spawning sites at their birthplace. Later Arthur Hasler visited me again in Seewiesen.

From Madison I flew on to Iowa, the granary of the USA, where I went to the university to visit the Six family. Mr. Six was another German whom I had previously learned to know in Woods Hole.

I was especially glad to join my good friends Dick Alexander and Tom Moore in Ann Arbor, where I lived for some of the time with Dick and Lorraine and the rest with Tom and Elli. I gave lectures in the Museum of Zoology and the Department of Zoology in Ann Arbor, where I also encountered Don Maynard again (he too had been a student of Ted Bullock). His own student David Bentley later worked in close collaboration with one of mine, Wolfram Kutsch, investigating how muscles are employed by crickets while singing and walking. Bentley came during 1967/68 as a postdoc in Cologne, where he carried out the first intracellular recordings from moto- and interneurons of singing crickets. The acquaintance with Don and Teddy Maynard, both active as scientists, continued until Don's death. Maynard had at an early stage obtained recordings from the cockroach brain and mushroom bodies, described synchronization of Kenyon-cell activity and determined the direction of signal transport in the mushroom bodies. But Don Maynard became famous because he introduced the crustacean stomatogastric ganglion as a model of a system in which such neural interactions could easily be discerned; this became a source of information for a variety of later investigations.

Also in Ann Arbor was the Mental Health Research Institute, then directed by Ralf Gerard, who together with Ling brought microelectrode technology out of its infancy. He invited me to give a lecture in his institute, where I spoke about the behavior and neurobiology of insects. Evidently he was quite enthusiastic about this, because a few days later he came to me with an offer of a professorship in his institute. I asked for some time to decide, but refused the offer after I had returned to Germany.

While staying with Tom and Elli Moore I also told them about my trip to Mexico with Richard Murray. Since the icy winter still prevailed outdoors, we sat in the warm living room and Elli asked me whether I had had diarrhea while in Mexico. I answered "Yes, every evening." Ellie: "This must have been

awful"; I said, "No, I enjoyed it". Tom, returning from the bathroom, was puzzled by our conversation, and it turned out that I had confused diarrhea with diary, because every evening I had been entering in my diary a few notes about my experiences.

The high points of my journey home across the USA were Boston, Harvard University and getting together with Ken Roeder again. In the Department of Zoology I met Don Griffin, who was the first to carry out research on echolocation by bats, and his student Alan Grinnell. They showed me the animals and the rooms where the experiments were done. Carroll Williams gave me some insight into his studies of insect hormones; Ernst Mayr, with whom I could converse in German, like Otto Loewi, proceeded to tell me about bygone days in Germany and his taxonomic studies and research on evolutionary biology. Until then I had only rarely met a person with vitality equal to Ernst Mayr's.

At Harvard I gave a talk to an extremely illustrious audience: Mayr, Griffin, Roeder, Kuffler, Williams and others. Now, as in the year before, I was required to wear a necktie; the one I borrowed appeared a poisonous green against my yellow shirt. I was very excited as I ascended the lectern and began my speech with "Ladies and Gentlemen, this is my last talk in the US and you certainly recognize my Bavarian tongue. You also should know that my vocabulary in English is rather restricted, therefore I can only read **Hemingway**". This elicited applause and loud laughter in the auditorium. After the speech Roeder came to me and wondered when I had been inspired to make the reference to Hemingway. I said it was a sudden thought on the lectern, and I had not considered that this statement would attract such attention from the audience because of the discrepancy between my poor vocabulary and Hemingway's rich one.

Don Griffin then gave me a ride from the Harvard campus to Ken Roeder and his family in Concord, where I again spent several days in Tufts University being instructed by Roeder and his collaborators about their recent work, before a flight to Baltimore brought me to a farewell visit with Don and Harriett Stegmann. Here I found out for the first time how crabs are prepared for eating by opening them with pliers.

**New York:** In the last week of March 1962, I had

my first view of New York city, wandered through Manhattan, climbed up the Empire State Building, strolled in the evening through 5th Avenue, Broadway and Central Park, saw the Met and rode in the Metro. With its liveliness, life style and will to live, this city awakened memories of what I had been told about Berlin in the golden 1920's, but a dominant feature of New York was also its multicultural nature, comprising Italian, Polish, Latin American and Jewish populations, which sustained its way of life. I returned to the city quite often, and each time was impressed anew.

On the way to Trenton NJ, where my flight out had again been booked for a military aircraft of the US Air Force, I visited Dany Lehrmann in his Psychology Department of Rutgers University. He showed me his arrangements for experiments on doves and on how hormones affect their behavior. With Dany a long friendship had been maintained, and it was still evident how he stood shoulder to shoulder academically with Lorenz and his Ethology.



## A Report on NIMH funding of Neuroethological Research

*Paul S. Katz, Georgia State Univ., USA*

*Hans A. Hofmann, Univ. of Texas at Austin, USA*

*Allison J. Doupe, UC San Francisco, USA*

These days, it is common for people to grumble about funding levels from granting agencies. Concerns about the role basic research can and should play are also often heard against the backdrop of a “translational agenda”. However, at this year’s ICN, there seemed to be a greater sense of disenfranchisement than was observed at previous congresses. In response to member concerns, Past-President Paul Katz contacted Tom Insel, Director of the U.S. National Institute of Mental Health (NIMH), who quickly set up a phone conference with several top staffers of his Institute. The discussion, which lasted 40 minutes, was very enlightening and encouraging. We would like to share some of what we learned because it will help the relationship that U.S.-based neuroethologists have with granting agencies such as NIMH and

because it may improve individual investigators’ chances of receiving funding.

Participating in the phone call were three ISN members: Paul Katz (Georgia State University), Hans Hofmann (The University of Texas at Austin), and Allison Doupe (University of California, San Francisco). The NIMH participants were:

- Tom Insel, Director of NIMH
- Gemma Weiblinger, Director, Office of Constituency Relations and Public Liaison (OCRPL)
- Phil Wang, NIMH Deputy Director
- Linda Brady, Director, Division of Neuroscience and Basic Behavioral Science (DNBBS)
- Susan Koester, Deputy Director, Division of Neuroscience and Basic Behavioral Science (DNBBS)
- Janine Simmons, Chief, Affect, Social Behavior and Social Cognition Program (DNBBS)
- Thomas Lehner, Director, Office of Genomics Research Coordination; Chief, Genomics Research Branch (DNBBS)

Paul started the conversation by pointing out the relevance of neuroethological research to the mission of NIMH. In order to understand human mental conditions, it is essential to put those disorders in an evolutionary and comparative framework. Modeling human maladies in rats and mice cannot provide a complete understanding of those conditions simply because rodents differ from humans in many important respects.

An important aspect of neuroethological research is to select animal species that are “champions” in some aspect of behavior. This approach has helped tremendously in facilitating the study of the behavior in question and, as it turns out, is very much in line with NIMH’s Research Domain Criteria (RDoC)<sup>1</sup>, which are part of the NIMH Strategic Plan, providing an attempt to develop “new ways of classifying psychopathology based on dimensions of observable behavior and neurobiological measures”. Studying the neurobiological basis of particular components of behavior is what neuroethologists do.

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There are several other advantages of the comparative approach. Comparing across species helps separate components of the neural mechanisms that might be correlative, but not causal as we learned at this year's ICN from Michael Yartsev's Young Investigator talk on grid cells in bats<sup>ii</sup>. Furthermore, specialist species may have evolved circuitry for their complex behavior that resembles that in humans; it was noted by Allison that songbirds have direct corticospinal projections for the control of their complex vocalizations, similar to human and non-human primate motor control, but different from rodents, which seem to have only indirect connections from cortex to spinal cord.

It was pointed out that anatomical homology does not guarantee functional equivalence; evolutionary divergence has led homologous brain components to have different functions. Important insight into function can be gained instead by looking at independent evolution of behavioral traits as demonstrated by Catherine Carr in her Roots, Progress, and Prospects Symposium talk<sup>iii</sup>. Furthermore, there is "deep homology" of molecular mechanisms underlying behavior across diverse animals as pointed out by both Constance Scharff in her plenary talk<sup>iv</sup> and Lauren O'Connell in her Young Investigator Award talk<sup>v</sup>.

At about this point in the conversation, Tom Insel interrupted to say that we were essentially preaching to the choir. He had earlier noted that he had recently published an editorial calling for a more comparative approach in studying human mental illness<sup>vi</sup>. He said that disorders are generally neurodevelopmental in nature and so we need an "evo-devo" approach.

Insel and the other NIMH staff members wanted to hear more specific examples of how ISN members felt that NIMH was not supporting their work. He noted that every research area is feeling the pinch. It's a fact that NIMH simply has fewer resources and needs to cut back. He pointed out that clinical research such as drug trials has actually received the hardest hit because it was felt that this area was often not providing successful outcomes, especially relative to the amount spent.

Insel remarked that NIMH has a strong basic neuroscience portfolio. Janine Simmons added that she has many "non-traditional" model organisms in her portfolio of grants that NIMH supports. NIMH is not "species-bound", but rather considers the fundamental questions that are being addressed. The NIMH staffers reiterated how important it is to speak with program officers before submitting a grant. The goal of these conversations is to assess and stimulate interest in the proposal, and to get help targeting the proposal, as well as shaping it to highlight the ways in which it is in line with the mission of the Institute, which includes basic research<sup>vii</sup>. They have the sense that people are reticent to contact them for fear that program officers are too busy or unapproachable, but insisted that neither is the case. They also stressed that this interaction with program officers is important at all NIH institutes, most of whom will fund basic science relevant to their program goals.

Hans suggested that part of the problem might stem from the composition of study sections. Insel responded that it would be helpful if we neuroethologists communicated with other communities be they clinical researchers, translational scientists, or patient advocacy groups. He encouraged us to write reviews for journals that will be read by others outside of our field, such as *Biological Psychiatry*. This might make reviewers more receptive when on a panel.

Overall, we felt good about the conversation. Our voices were heard and our message was warmly received. There was no defensiveness or evasiveness. The neuroethology community needs to step up to the plate now. Volunteer to serve on study sections, write reviews, and speak to broad audiences. It is clear that the study of circuit, cellular, and molecular basis of natural behaviors within an evolutionary and comparative framework can fit within the framework of NIMH and other institutes at NIH.

<sup>1</sup> <http://www.nimh.nih.gov/research-funding/rdoc/index.shtml>

<sup>2</sup> Yartsev MM and Ulanovsky N (2012). Neural representation of two- and three-dimensional space in the hippocampal formation of behaving bats. *Front. Behav. Neurosci. Conference Abstract: Tenth International Congress of Neuroethology*. doi: 10.3389/conf.fnbeh.2012.27.00018

<sup>3</sup> Carr CE (2012). Evolutionary foundations of sensory neuroethology. *Front. Behav. Neurosci. Conference Abstract: Tenth International Congress of Neuroethology*. doi: 10.3389/conf.fnbeh.2012.27.00037

<sup>4</sup> Scharff C (2012). Is FoxP2 a candidate for 'deep homology'?. *Front. Behav. Neurosci. Conference Abstract: Tenth International Congress of Neuroethology*. doi: 10.3389/conf.fnbeh.2012.27.00053

<sup>5</sup> L. A. O'Connell and H. A. Hofmann. Evolution of a vertebrate social decision-making network. *Science* 336 (6085):1154-1157, 2012.

<sup>6</sup> Insel TR (2007). From Animal Models to Model Animals, *Biol Psychiatry* 2007;62:1337-1339.

<sup>7</sup> <http://www.nimh.nih.gov/about/strategic-planning-reports/index.shtml>



## Results of the ICN-2012 Survey

**Andrea M. Simmons, Co-chair, ICN Program Committee, Brown Univ., USA**

**Arthur N. Popper, Chair, ICN Local Organizing Committee, Univ. of Maryland, USA**

Thanks to all of you who responded to the recent survey about the Maryland Congress. Of 561 attendees at the Congress, 390 responded to the survey. We also received an additional 31 responses from people who did not attend the Congress, for a total of 421 replies. Many respondents contributed additional written comments to some questions; the vast majority of these comments were helpful and constructive. We, along with the other members of the Local Organizing Committee and the Program Committee, appreciate the interest and the thoughtfulness demonstrated by the membership and by the Congress attendees in responding to the survey. Your input and suggestions will be valuable in planning for the 2014 Sapporo Congress, and in continuing the high level of scientific interactions we have come to expect from our Congresses. Thank you!

### Congress demographics

Of the 561 people who registered for the Congress: 261 were members, 134 were student members, 77 were nonmembers, and 89 were student nonmembers. Four journalists (from the *Journal of Experimental Biology*, *Science*, *Science News* and one freelance) are included in the nonmember count. Survey respondents who did not attend the Congress cited (1) lack of financial resources and (2) time conflicts as the major reasons for nonattendance.

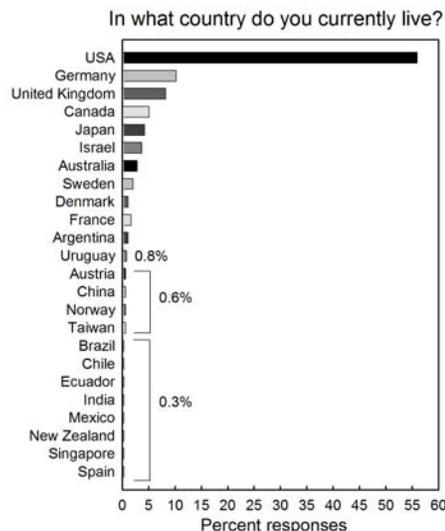
We received a total of 416 responses to the optional diversity questions we asked during the registration process. The distribution by gender, academic

status, ethnicity, and race is shown in Table 1. It is gratifying that many attendees were postdoctoral fellows or graduate students, and this portends well for the future of the Society. The statistics on ethnic and racial diversity are a concern. Survey respondents who did not attend the Congress cited (1) lack of financial resources and (2) time conflicts as the major reasons for nonattendance.

Gender	%	Academic status	%	Ethnicity	%	Race	%
Male	61	Professor; head of department	20	Hispanic	5	Caucasian	69
Female	34	Associate Prof or equivalent	9	Non-Hispanic	70	Asian	14
No response	5	Assistant Prof or equivalent	8	No response	25	African-American, African	1
		Lecturer or equivalent	2			Mixed	1
		Postdoctoral	19			No response	15
		Graduate student	33				
		Undergraduate student	3				
		No response	6				

### International Participation

Distribution of countries in which respondents currently live is shown below. The majority of respondents (56%) are from the US, with the next highest representation from Germany (10%).



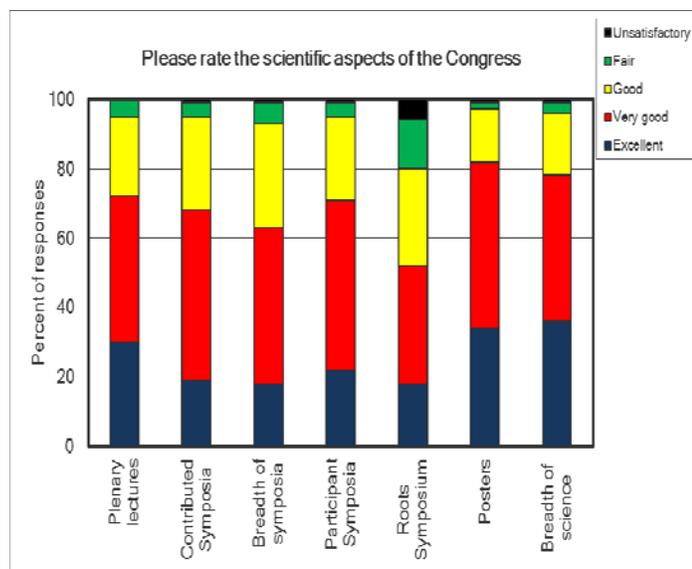
## Summary of rankings and responses

Responses were tallied using a scale from 1 (unsatisfactory) to 5 (excellent).

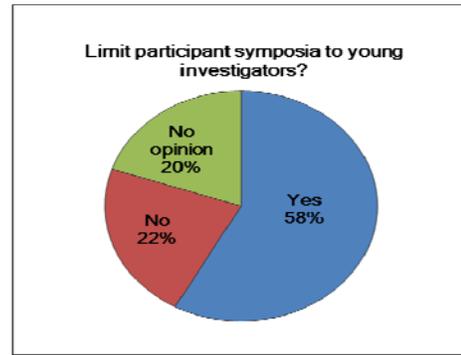
### 1. Scientific program

The distribution of responses to the seven questions on the scientific program is graphed below. Overall, the majority of scores (mean of 70% across all questions) are in the very good and excellent categories. For all questions except for the one pertaining to the Roots Symposium, median scores are in the very good (4) range.

The most common written comments included: (1) praise for the Young Investigator Symposium; (2) a more mixed evaluation of the Roots Symposium; and (3) suggestions that participant symposia be scheduled throughout the Congress and not limited to the last day. Approximately 90% of written comments indicated that the number of plenary lectures and contributed symposia were “about right,” while 26% suggested having more participant symposia. Thirty-six per cent indicated that the poster sessions should have been longer.



The participant symposia were highly ranked and many written comments suggested that the numbers of these symposia be increased in future Congresses. The majority of respondents (58%) agreed that participant symposia should be limited to young investigators.



### 2. Congress logistics

The number of responses to the 19 questions pertaining to the Congress venue varied widely, from 170 to 331. Mean rankings for most of these 19 questions, including the quality of auditoriums, the poster venue, the opening reception, and the lunches, were in the “very good” (4) range. Written comments praised the quality of the lunches, the long lunch breaks, the plentiful coffee, the ease of switching between sessions, and the many opportunities for casual interactions. The lab tours offered on Thursday afternoon were popular. Critical comments centered primarily around the perceived low quality of on-campus housing, problems with traveling around and finding restaurants in College Park, and the temperatures in the meeting rooms (too cold) and outside (too hot). The student mixer received high marks, and written comments encouraged keeping this kind of event in the program for future Congresses. Those who participated in the dinner cruise were overall pleased with it, although some felt that it was too expensive for graduate students. Several people recommended that a formal excursion be included in future Congresses.

Evaluation of the Frontiers site for abstract submission was widely varied, with an overall mean of 2.95. Most respondents liked the use of electronic rather than printed abstracts (overall mean of 3.6). Forty-one per cent indicated a preference for digital versions of the program and 48% indicated a preference for paper versions.

Only 60 people provided suggestions for increasing networking and professional development opportunities at future Congresses, and no clear consensus emerged. Because US funding agencies are now requiring attention to networking and mentoring to be included as part of any meeting in awarding of conference grants, the Society needs to

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continue and improve upon these kinds of activities for future Congresses.

### 3. Funding issues

Funding for ICN 2012 was obtained from four sources: the University of Maryland (through the efforts of Robert Dooling), the US National Institutes of Health, the US National Science Foundation, and the US Air Force Office of Scientific Research. These latter three grants were prepared by Andrea Simmons, Cynthia Moss, and Catherine Carr, with editorial help from Roy Ritzmann. Awarding of these grants allowed us to decrease the registration fee for all attendees from the original planned amount. The NIH and NSF funds, along with generous support from leadership at the University of Maryland, covered the full cost of registration for 148 attendees – graduate students, postdoctoral fellows, assistant professors, and more senior investigators facing financial difficulties. Although we tried to meet all stated needs from all potential attendees, US government regulations require that NIH and NSF funds be used exclusively to support the participation of US citizens and permanent residents. Considering the current precarious funding situation for science in the US, it is incumbent upon ISN, as an international society, to actively search for sources of funds that are not dependent on the US government. The lack of consistent international funding sources likely contributed to the large number of US participants compared to those from other countries.



## Congratulations All Award Recipients!

### 2012 Fellows of the International Society for Neuroethology

- **Robert R. Capranica**
- **John G. Hildebrand**
- **Masakazu Konishi**
- **Rüdiger Wehner**
- **Michael F. Land**
- **Randolf H. R. Menzel**

### 2012 Heiligenberg Travel Award winners

- **Annette Stowasser**  
University of Cincinnati, OH, USA;  
Polarization sensitivity in retinal cells of the larval aquatic beetle, *T. marmoratus*.
- **Chan Lin**  
University of Arizona, Tucson, USA;  
Anatomical and behavioral studies of visual learning and spatial orientation in the whirligig beetle.
- **Ysabel Giraldo**  
Boston University, Massachusetts, USA;  
Monoamine regulation of task selection and performance over the lifespan of the ant.
- **Marie Suver**  
Caltech, California, USA:  
Role of octopamine in flight-induced modulation of visual interneurons in *Drosophila melanogaster*.
- **Jean-Michel Mongeau**  
University of California Berkeley, USA;  
Mechanics of antennal mechanosensory hairs for sensory feedback during thigmotaxis in cockroaches.
- **Peter Weir**  
Caltech, California, USA  
Calcium imaging of activity in Central Complex neurons during flight in *Drosophila*.

### Capranica Prize

The 2012 winner is **Michael Yartsev** in recognition of his paper: Yartsev MM, Witter MP, Ulanovsky N. Grid cells without theta oscillations in the entorhinal cortex of bats. *Nature* 2011 Nov 2;479 (7371):103-7. [PubMed PMID: 22051680](https://pubmed.ncbi.nlm.nih.gov/22051680/)

### 2012 Young Investigator Awards

- **Lauren O'Connell**  
University of Texas, Austin, USA;  
Roles of hormones in behavioral phenotypes in African cichlids; neurochemical and molecular mechanisms of social behavior evolution.
- **Antoine Wystrach**  
Sussex University, England;  
Mechanisms of navigation in solitary foraging ants.

- **Basil el Jundi**  
University of Lund, Sweden  
Anatomical and physiological studies of sky compass orientation in the dung beetle brain.
- **Michael Yartsev**  
Weizmann Institute, Israel;  
Neural mechanisms of representation of space in hippocampus and entorhinal cortex of freely flying bats.

### 2012 Developing Neuroethology Awards

- **Laura Quintana**  
Instituto de Investigaciones Biológicas Clemente Estable, Montevideo, Uruguay.  
Roles of glutamate receptor subtypes in seasonal variability in electric fish EOD.
- **Silvio Macias**  
University of Havana, Cuba  
Complexity in cortical maps of neurons with characteristic delay, best delay and maximum and minimum response delays in echolocating bats.
- **Jerome Baron**  
Federal University of Minas Gerais, Brazil  
Reconsideration definition of simple and complex cells in the visual wulst of the burrowing owl.
- **Violeta Medan**  
University of Buenos Aires, Argentina  
Mechanisms of dendritic integration of visual and sound stimuli in the goldfish Mauthner cell.
- **Kalyanasundaram Parthasarathy**  
National Centre for Biological Sciences, UAS-GKVK Campus, Bangalore, India  
Neural mechanisms of lateralization of odor-elicited localization responses in rats.

### 2012 ICN Student Poster Awards

This competition was open to undergraduate students, graduate students and postdoctoral fellows. There were 179 entries. Entries were evaluated by a committee consisting of Hans-Joachim Pflüger (Chair), Christopher Braun, Kim Hoke, Mary Ann Ottinger, Roy Ritzmann, Hiroshi Riquimaroux, Andrea Simmons, Annemarie Surlykke, and Harold Zakon.

First prize: **Jochen Smolka**, Lund University: “The galloping dung beetle: A new gait in insects and its consequences for navigation.”

Second prize: **Laura Kloepper**, University of Hawaii: “Echolocation beam focusing in the false killer whale (*Pseudorca crassidens*).”

Third prizes:

**Ginette J Hupe**, Johns Hopkins University: “The effect of distance on the song structure of coordinate duets produced by plain-tailed wrens, *Pheugopedius euophrys*.”

**Solveig C. Mouterde**, Universite Jean Monnet and University of California Berkeley: “Sound propagation and individual acoustic signature in the zebra finch *Taeniopygia guttata*.”

**Robert Naumann**, Humboldt University: “Analysis of calcium signals evoked by sensory stimuli in different layers of the somatosensory cortex of the Etruscan shrew.”

**Atsushi Ugajin**, University of Tokyo: “Neural activity in the brains of the Japanese worker honeybees involved in a hot defensive bee ball reflects thermal stimuli processing.”

**Andres G. Vidal-Gadea**, University of Texas: “*Caenorhabditis elegans* selects distinct crawling and swimming gaits via dopamine and serotonin.”

**Catherine Von Reyn**, Howard Hughes Medical Institute: “The role of the giant fibers in visually evoked escape behavior.”

  
Thanks to All for a FANTASTIC  
ICN-2012 in College Park,  
Maryland, USA

### PROGRAM COMMITTEE MEMBERS

**Co-chair: Hans Joachim Pflüger, Germany**

**Co-chair: Andrea Megela Simmons, USA**

**Liason to local committee: Arthur N. Popper, USA**

**Melissa Coleman, USA**

**Mark Frye, USA**

**Asif Ghanzafar, USA**

**Martin Giurfa, France**

**Zhongmin (John) Lu, USA**

**Justin Marshall, Australia**

**Roy Ritzmann, USA**

**Peter Simmons, UK**  
**Sakiko Shiga, Japan**  
**Annemarie Surlykke, Denmark**  
**Lidia Szczupak, Argentina**

**LOCAL ORGANIZING COMMITTEE**

**Arthur Popper, Chair**  
**Sandra Blumenrath**  
**Karen Carleton**  
**Catherine E. Carr**  
**Tom Cronin**  
**Robert Dooling**  
**Jonathan Fritz**  
**Jens Herberholz**  
**Patrick Kanold**  
**Cynthia Moss**  
**Mary Ann Ottinger**  
**Daphne Soares**  
**Jerry Wilkinson**  
**David Yager**



**Sculpture of Jim Henson (Univ. of Maryland, class of 1960) and his 'Kermit the Frog', outside the Stamp Student Union**



**The ICN-2012 in PICTURES!**



**Follow the turtle**



**Outdoor-lunchtime dining in the heat; friends, sandwiches and salads were awesome.**



**Neuroethology Bingo**



Site for plenary and evening lectures



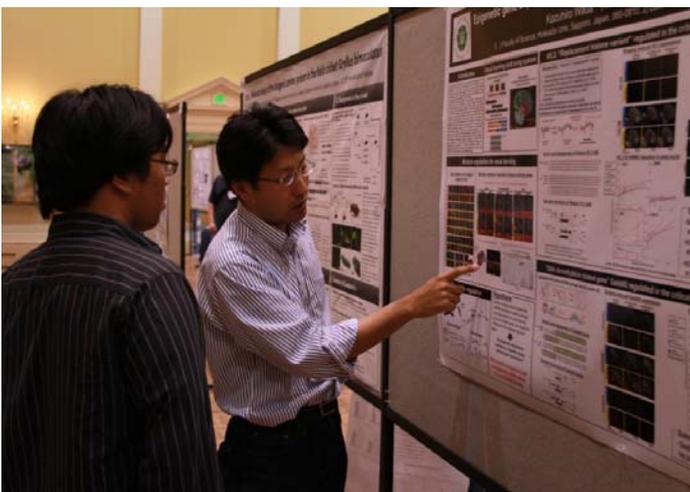
President of the Univ. of Maryland (Wallace D. Loh) addresses the ICN attendees during the opening reception



ISN President Paul Katz (left) congratulating Rüdiger Wehner for being selected an ISN Fellow



Opening reception was all a buzz



Poster sessions were well attended



Jim Simmons (Heiligenberg lecturer) and Cindy Moss; she introduced Jim and let us know it was his birthday!



**Optional Dinner Cruise on the Potomac River in Washington, DC**  
**Ed Kravitz (left, Franz Huber lecturer) and John Hildebrand (right, newly elected ISN Fellow), both having loads of fun**



**ICN-2012 Poster Prize Winners**  
 Left to right: **Pflüger, Chair of Evaluation Committee; Mouterde, Vidal-Gadea, Ugajin, Hupe, von Reyn, Kloepper (2<sup>nd</sup> prize), Smolka (1<sup>st</sup> prize) (Naumann not in photo)**



**Graduate Student and Post-Doc Mixer**



**Heiligenberg Travel Award Winners**  
 Left to right: **Stowasser, Weir, Suver, Giraldo, Mongeau, Lin, with ISN President Katz**



### Capranica Prize Winner

Michael Yartsev (left panel), Weizmann Institute, Israel and Pat Capranica (right panel), wife of the late Bob Capranica, being honored by Paul Katz



Developing Neuroethology Award Winners  
Left to right: Medan, (Katz presenter), Parthasarathy, Macias, Quintana (Baron not in photo)



### MATERIAL FOR FUTURE NEWSLETTERS

Send news, job advertisements, meeting announcements and other related information for the next newsletter to the ISN secretary, [Karen Mesce \(mesce001@umn.edu\)](mailto:mesce001@umn.edu). All materials should be sent via email.

Advertisements for jobs and graduate/postdoctoral positions should be no more than 150 words.

Suggestions for *feature articles*, including autobiographical sketches, research group reports, and Neuroethological Viewpoints, should also be sent to the ISN secretary. Please do not submit full articles of this type without a response from the Editorial Board. Feature articles may be up to 1,500 words in length.

We also welcome research commentaries, book reviews, and other material that might be of interest to the ISN community. These should be no longer than 450 words in length, and should only be submitted after consultation with the editor.



### ISN ELECTION RESULTS WILL BE POSTED IN THE NEXT NEWSLETTER



### Young Investigator Award Winners

Left to right: O'Connell, el Jundi, Wystrach, Yartsev



### Journal subscriptions at discount rates

The Company of Biologists is offering discount subscription rates to ISN members. The 2013 Society Discount Subscription rates for *Development*, *Journal of Cell Science*, and *The Journal of Experimental Biology* are now available on the ISN website (<http://www.neuroethology.org>) and

[http://www.biologists.com/downloads/Society\\_Journal\\_Prices.pdf](http://www.biologists.com/downloads/Society_Journal_Prices.pdf)