



International Society for Neuroethology

Newsletter/June 2016

International Society for Neuroethology

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President-Elect: TBD

Don't forget to vote in the ISN election. You will be electing the next ISN President and members of the ISN Council. You will also be able to express your preference for the location of ICN2020. Look for the e-mail and VOTE!

THIS ISSUE INCLUDES

Farewell President's Column by *Peter Narins*
New President's Column by *Catharine Rankin*
Membership Report by *Susan Fahrbach*
2015 Financial Report by *Karen Mesce*
Awards Report by *Susan Fahrbach*
In Memory of Matti Weckström
New ISN Fellows by *Susan Fahrbach*



The Prez Says

Peter Narins
Past-President of the ISN

Greetings from California!

As this is my last Prez Sez column, I wanted to take this opportunity to thank the Executive Committee (**Karen Mesce, Susan Fahrbach, Alison Mercer, Catharine Rankin**), ISN Association Manager **Joyce Lancaster**, and all of the members of Council for being so very supportive during my now defunct term as ISN President. Working with all of you has been one of the highlights of my professional life, and I wish to acknowledge the membership as a whole for giving me the chance to serve this Society that we all hold so dear to our hearts. Those of us who attended the recent

ICN2016 in Montevideo, Uruguay, experienced what was clearly a superbly organized event (thanks to the LOC Chair **Ana Silva** and her many enthusiastic assistants) with outstanding talks by neuroethologists from far and wide, and especially from the many participants from South America that attended the ICN for the first time. I very much look forward to the contributions of many more researchers from South America at future congresses!



Plaza Independencia, Montevideo (photo by Peter Narins)

Speaking of Montevideo: rather than recount the entire Congress proceedings, I would like to restrict my remarks here to summarizing the Inaugural JCP-A Presidential Symposium that opened the scientific portion of ICN2016. Six outstanding speakers were invited to present a snapshot of their research with the idea that this swath of topics might serve as an introduction to newcomers and seasoned workers alike to the progress being made in a few key subfields within Neuroethology writ large. The fields chosen to be covered were not exhaustive by any means, but rather were picked because of the timeliness of the topics covered, and the proven communicative ability of the speakers. Here is the program:

Symposia

JCP-A PRESIDENTIAL SYMPOSIUM	INVITED SYMPOSIA	YOUNG INVESTIGATOR SYMPOSIA	PARTICIPANTS SYMPOSIA	ICN-NEURO-FRAMES SYMPOSIA
Peter Narins Chair	<p>"The shocking predatory strike of the electric eel" Kenneth Catania (Vanderbilt University, USA)</p> <p>"Cycling in the brain: Molecular microcircuits for learned vocalization" Stephanie White (University of California, Los Angeles, USA)</p> <p>"Bat echolocation vs. moth hearing: evolution of tactics and counter-tactics" Emanuel Mora (University of Havana, Cuba)</p> <p>"Biodiversity of fish-hunting cone snails: correlating genetics and pharmacology to behavior" Baldomero Olivera (University of Utah, USA)</p> <p>"Detection of floral electrostatic fields by bumblebees" Daniel Robert (Bristol University, UK)</p> <p>"The evolutionary origins of human cognitive development: insights from research on chimpanzees" Tetsuro Matsuzawa (Kyoto University, Japan)</p>			

Ken Catania started off by outlining some of the colorful history of electric eel lore. He then stunned us with a set of very clever experiments designed to elucidate the mechanisms used by the eels to disable their prey at a distance, beautifully illustrated by his remarkable videos.

His talk was followed by an exceptional exposition by **Stephanie White**, who uses a neuroethological approach to understand how social interactions shape the brain. Her lab studies songbirds to investigate how the environment influences one's learning and creativity. Recently, humans have entered this comparative framework with collaborative exploration of the speech-related gene, FoxP2, in human and songbird vocal learning.

After a short break, we resumed with a *tour de force* presentation by **Emanuel Mora**, who introduced us to two competing hypotheses of bat signal design and the evolution of moth hearing. He led us through an arms race in which he described, among other mechanisms, his discovery of the dynamic tuning of the moth ear.

The next talk was given by **Baldomero (Toto) Olivera**. He and his colleagues investigate the ion channels and receptors that mediate signaling in the nervous system. They have isolated neurotoxins from the venoms of the predatory cone snails in the genus *Conus* that target specific molecular isoforms of ion channels and receptors, and are characterizing the targets of these peptide toxins. His outstanding presentation was punctuated with several spectacular videos of cone snails in action.

Daniel Robert then amazed us with his discovery of a new perspective on how bees (and possibly other pollinators) may find suitable nectar-containing flowers by using the interaction of the negative electric charge of the flower and the positive charge of the bee. Among other things, we learned that "the bees charge the flowers for pollen."

And last but not least, **Tetsuro Matsuzawa** brilliantly summarized some of his long-term field studies on tool use in wild chimpanzees in Guinea, West Africa, and numerosity in chimpanzees in the lab. The long time-constant of the chimp's retention of random spatial number sequences was truly staggering and, as we learned, far exceeds that of humans. His *tour de force* talk was memorable both for its content as well as Tetsuro's spellbinding presentation style.

The next three and a half days were literally chock-a-block with a host of wide-ranging exciting talks and posters. For organizing these, I want to thank and acknowledge the superb Program Committee, co-chaired by **Jose-Luis Peña** and **Martin Giurfa**, who along with **Ana Silva** and the LOC, provided us with a truly extraordinary admixture of satellite symposia, plenary lectures, concurrent invited symposia, and local entertainment (who can forget the superb tango concert by **Mario Penna** and his band at the opening ceremony)?

Unfortunately, I was not able to attend as many talks and posters as I would have wanted, but of those I saw (among literally hundreds), some of my personal favorites included those by **Ana Amador**, **Coen Elemans**, **Henrik Mouritsen**, **Daniel Tomsic** (brilliantly introduced by **Laura Quintana**), **Richard Benton**, **Catherine Carr**, **Andreas Nieder**, the entire **Young Investigators Award Symposium** (chaired by **Ari Berkowitz**) and – the one poster I got to see – by **Dennis Francos**, an enthusiastic young student from Cuba.

During the late sixties, I served as a Peace Corps Volunteer teaching electrical engineering at the Catholic University in Santiago, Chile. President John F. Kennedy's idea of the Peace Corps was to encourage young people to volunteer their expertise to assist third world countries with their development before pursuing one's own career goals. By teaching electrical engineering to Chilean undergraduates, I had the chance not only to consolidate my own knowledge of the subject, but also to give back much of what I had learned. These were no doubt the most fulfilling three and a half years of my life, both professionally and personally. After all, it was during this period I met and married my Chilean wife, Olivia, my souvenir of the Peace Corps! So it is genuinely heartfelt when I now urge all of you to volunteer to serve on an ISN committee, submit an article to the newsletter, organize a symposium for the next Congress, become a life member of ISN, or simply publicize your neuroethological work widely to bolster the visibility of our exciting field. Your contributions and efforts make the ISN great – and you never know what wonderful things can happen when you volunteer!

I want to wish all of you a productive, neuroethology-filled summer (or winter, if you are reading this in the Southern Hemisphere!), and look forward to seeing many of you at future meetings. It has been one of the great pleasures of my scientific career to have helped guide the Society over these past years and I step down knowing that the ISN is in the very good hands of our new president, **Catharine Rankin**.

Hasta Brisbane!

Peter Narins

Immediate Past-President, ISN



The NEW Prez Says

Catharine Rankin

President of the ISN



Dear ISN Members,

It is a real honor for me to be writing my first piece for the ISN newsletter as President of the Society. We have an exciting two years ahead of us! Kicking off my term at the Montevideo ICN was a great experience. What a wonderful meeting! This was my first trip to South America and Montevideo was a fascinating blend of new and different and at the same time very familiar. I had to keep reminding myself I was not in Europe – the city plan, the architecture, and the language were all very European in flavor. The wonderful food (a lot of beef!) and wine and the great people all enhanced the meeting.

The local organizing committee headed by **Ana Silva** did an extraordinary job of planning and executing a terrific meeting – we applaud their commitment and energy in delivering an excellent congress. They also did an extraordinary job of raising funds to support the congress and must be congratulated on their resourcefulness in fund raising (there was even a wine labeled especially for the congress!). The program committee, headed by **Martín Giurfa** and **Jose-Luis Peña** also deserves *kudos* for putting together an exciting and stimulating meeting. Several innovations were begun that will be continued in future meetings: the meeting kicked off with a presidential symposium organized by **Peter Narins** – this set the tone for the meeting beautifully. The program committee also suggested that going forward the incoming president give a president-elect talk so that the members of the society get to know more about the next president. I was delighted to be asked and believe it is a great idea to continue going forward. The scientific program was superb, and we had lots of opportunities to meet up with old friends and make new ones! A big thank you to everyone involved with ICN2016.



Many at ICN2016 took full advantage of Montevideo's fall weather and outdoor cafes. Photo by Fred Delcomyn.

Now let's look ahead! Get ready to mark your calendars: The **2017 Gordon Research Conference on Neuroethology: Brain, Behavior and Evolution** (<http://www.grc.org/sites.aspx?id=26>) will be held at **Les Diablerets Conference Center in Switzerland**, June 18-23 2017 in conjunction with the Gordon Research Seminar on June 17 & 18. The chairs of the GRC are **Melissa Coleman** and **Keith Sillar** (vice chairs are **Mark Frye** and **Marie Dacke**) and the chairs of the GRS are **Lena Veit** and **Eva Fischer**. The GRS (<http://www.grc.org/programs.aspx?id=14999>) is for trainees (graduate students and post-docs to get an opportunity to meet and "warm up" before the formal conference begins). There are a few faculty keynote speakers and many great trainee talks. I highly recommend that students attending the GRC also plan to attend the GRS! I was at the last GRC in 2015, and it was a great opportunity to hear wonderful talks and spend quality time with colleagues. Thanks to **Karen Mesce** and **Eric Warrant** for organizing the terrific GRC 2015 in Tuscany, and I am sure Melissa and Keith will do a great job for us in Switzerland.

Even as the dust settles on the Montevideo meeting, the Local Organizing Committee and the Program Committee are debriefing about what worked and what didn't work so that they can support the committees for ICN2018 in Brisbane, Australia (16 July – 20 July 2018). The leader of the local organizing committee is **Justin Marshall** and the head of the program committee is **Harold Zakon**, with a soon to be appointed partner from down under. Putting on a conference takes a lot of time and energy (I speak from experience, having hosted ICN2007 in Vancouver) and having carry-over on the committees from congress to congress makes a big difference.

Speaking of volunteers, I would like to spend a minute or two thanking all of the many faculty and students who volunteer their time to carry out all of the little jobs it takes to successfully maintain an international organization such as ISN. I have been amazed at the willingness of our members to step up and take part in the

society. As a member of the nominating committee (headed by the illustrious Past-president **Alison Mercer**), I was part of the team approaching people to run as Councilors and President-elect. This was surprisingly easy, as most people approached agreed to run. In Montevideo, several attendees approached me to let me know they were willing to participate in anything the society needed. It is very clear that the members of this society love it and are willing to give of their time and energy to keep it ticking along. I would like to offer sincere thanks to all of you who volunteer for governance roles, for organizational roles for meetings, for the website, for committees to award prizes and grants and any of the dozen or so other things we need our members to take part in. The ISN is a wonderful community of dedicated, talented and generous researchers – thank you all for your commitment to ISN.



The beautiful architecture of Montevideo. Photos by Fred Delcomyn.

I especially want to thank **Peter Narins** (Now Past-President) for doing a great job as President and setting an example for me in how to keep the society successfully moving forward. Peter's dedication to building a truly inclusive, global society is something that I plan to continue. There aren't words to express the gratitude that I feel for **Karen Mesce** as Treasurer and **Susan Fahrbach** as Secretary for agreeing to serve one more term in their respective roles. They make huge contributions to the daily functioning of the society.

Neuroethology has a broad interdisciplinary reach. In these days of funding shortages and emphasis on translational research, we need to keep the flame of interest for basic research and for discovery based research alive. How can we do that? One way is to use the term neuroethology often – educate your colleagues about our discipline – let them know about our meetings – invite them to participate in a symposium with neuroethology in the title or abstract. Be an ambassador for our society. Continue to support our website with pictures, videos, notes about papers of interest any lab highlights you want to share. Also keep us active on social media – we have a

great but somewhat under-utilized Facebook group (<https://www.facebook.com/groups/neuroethology/>). Please use it (and like it) if you have not already done so. If you tweet, keep @neuroethology active by offering the occasional tweet of things of interest to the neuroethology community!

Our next request of you, as members, is that you vote in the ongoing election for President-elect and for Councilors as well as the site of the 2020 congress. Once again we have terrific choices – all of the nominees would be excellent in their respective positions. The proposed European locations for ICN2020 are both appealing – Cambridge, England, and Lisbon, Portugal – make sure you review the proposals and vote for your choice.

I hope to see many of you at meetings over the next two years. Please do not hesitate to contact me directly (crankin@psych.ubc.ca), or any of the ISN officers with questions, thoughts or contributions you might have. This is your society – thank you for your commitment to it!

Catharine Rankin
President, ISN

MEMBERSHIP REPORT

ISN Secretary **Susan Fahrbach** has summarized the report prepared on March 7, 2016, by ISN Association Manager **Joyce Lancaster**.

At the time of the report, the ISN had a total of 727 members (combined total of members with memberships through the end of 2016 or 2017). It is difficult to compare current membership numbers directly with those provided in past reports because we are comparing different points in time (at the time of the ICN versus at the end of the calendar year). Our numbers are down slightly relative to 2015, but overall membership is stable. As one would expect, the largest category of members is *Regular* (324). The next largest category is *Student* (200), followed by *Postdoc* (132). There are 39 members in various special categories (e.g. *Complimentary*, *Emeritus*). The category of *Lifetime Member* has shown slow but steady growth, from 23 in 2013 to 32 in 2016. Adding 10 more *Lifetime Members* by ICN2018 (i.e. converting *Regular* members to *Lifetime Members*) is a reasonable goal.

The ISN Executive Committee worked together with Allen Press to design an attractive e-mail solicitation, which many of you will have seen. Please respond when you see the familiar ISN logo in your e-mail in-box!

YEAR-END FINANCIAL REPORT 2015

ISN Treasurer **Karen Mesce** provided a full report at the 2016 Congress in Montevideo. The following is a summary of her report. Please feel free to contact Karen with questions or comments. Despite some losses in our investment portfolio (a reflection of fluctuations in global financial markets), the bottom line is that the ISN's financial status is sound. Note that the seed money provided for ICN 2018 will eventually be refunded.

Assets as of December 31, 2015

Cash (US Bank)	\$ 22,950.70
Cash (Charles Schwab)	\$143,933.28
Investments (Charles Schwab)	<u>\$354,682.64</u>
TOTAL	\$521,566.62

Cash Revenues

From Company of Biologists	\$3016.40
Membership Dues	\$27,940.00
Donations	\$925.00
Interest (US Bank)	\$9.96
Interest (Schwab)	\$13.70

Investment Revenues

Dividends (reinvested)	\$5,406.67
Capital Gain/ Loss (reinvested)	\$22,900.48
Schwab Portfolio Gain/ Loss	\$9,457.77

Expenditures

Seed Money for ICN 2018	\$7,400.00
Allen Press Operating Expenses	\$14,434.10
Konishi Research Awards	\$5,000.00
Carry-Over Awards, ICN 2014	\$3,000.00
Tax Filing Fees	\$55.00
Andean Neuroethology School	\$9,975.00
HSTA Awards (GRC)	\$2,100.00
Bank wires, transaction fees	\$1,025.02
Planning Meetings	\$13,193.43
<i>(ISN Executive Board, ICN Planning)</i>	

AWARDS REPORT

ISN Secretary **Susan Fahrbach** has summarized the report prepared on March 7, 2016, by ISN Association Manager **Joyce Lancaster**.

Have you ever wondered what the competition is like for ISN Awards? Wonder no more, as here is a breakdown of the number of applicants per award category for 2016. This information is presented to inspire more members to apply for awards and to recognize the hard work done by the award committees.

Capranica Award: 5 applicants, 1 award
Developing Neuroethology Award: 10 applicants, 4 awards
Heiligenberg Student Travel Awards: 30 applicants, 7 awards
Konishi Research Awards: 4 applicants, 2 awards
Young Investigator Awards: 8 applicants, 4 awards

Two outstanding neuroethologists were nominated as new **Fellows of the ISN**; both were appointed.



IN MEMORY OF MATTI WECKSTRÖM

Several sessions at ICN2016 were dedicated to the memory of several ISN members who left us much too soon: **Allison Doupe**, **Annemarie Surlykke**, and **Matti Weckström**. Remembrances of Allison and Annemarie were published in the December 2015 newsletter. Here we provide a brief remembrance and citation for an article describing Matti's contributions to neuroethology's contributions to neuroethology.



Matti Weckström (1959–2015) was Professor of Biophysics at the University of Oulu, Finland. As a biophysicist he was perfectly poised to explore how the visual world is encoded by photoreceptors. He worked with various insect species, but was a specialist in the Diptera ever since defending his Ph.D. thesis on blowfly vision in 1987. His saddened colleagues have noted that his research contributions were based on a blend of theory and experimentation; that he was a wonderful research mentor; and that his interests extended far beyond science to include cooking, wine, and good stories. Read more about Matti in a remembrance published in the *Journal of Comparative Physiology A* (2016, 202: 85-86) written by ISN members **Mikko Juusola**, and **Kentaro Arikawa**, together with Roger C. Hardie.



CELEBRATE TWO NEW FELLOWS OF THE ISN!

Neuroethologists **James Simmons** and outgoing ISN President **Peter Narins** were recognized as the newest fellows at the ICN in Montevideo. Please offer them your sincere congratulations. And, if you are unfamiliar with their research accomplishments, read a little further.

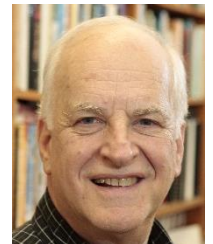


James Simmons ("Jim") is Professor of Neuroscience at Brown University in Rhode Island, USA. has been working on the echolocation of bats since he was a graduate student. He is a pioneer in the field of biosonar. His research includes behavioral and neurophysiological studies of sound processing in the echolocating bat.

From the time he began his research in the late 1960s to the present, Jim has been at the absolute forefront of bat echolocation research. He has been responsible for many innovations, developing new methods for conducting psychophysical studies of sonar processing by bats. Numerous researchers around the world have adopted his methods. Jim was the first to use electronically delayed playbacks of the bat's echolocation signals to simulate target echoes for the study of perception in bats. He was the first to demonstrate time-varying gain in the sonar receiver of echolocating bats. More recently, he has used new methods for making thermal infrared video recordings of bats flying in natural situations and has developed a stereo video viewing system that lets him observe bats in 3D and listen to their sounds while they behave.

Jim was honored as a Fellow of the Acoustical Society of America (ASA) in 1996 and as Fellow of the American Association for the Advancement of Science in 2000. He was awarded the ASA's second Silver Medal in Animal Bioacoustics in 2005.

The highly original, groundbreaking field studies of auditory and seismic communication and correlated physiological investigations with amphibians and mammals of **Peter Narins** (Department of Integrative Biology & Physiology, UCLA, USA) have altered our understanding of how animals perceive their world. To date, Peter has carried out 54 overseas expeditions on all seven continents plus Madagascar.



Although primarily focused on amphibians as a model system for understanding of auditory signal extraction from noise, Peter's research has also contributed fundamental insights into the mechanisms underlying the generation, propagation and detection of seismic signals by amphibians, mammals, and more recently, insects. Peter is the consummate teacher and excels as a scientific mentor and communicator. He has been a consistently strong voice for neuroethology both in the US and abroad through his work on various Editorial Boards and

participation as an invited instructor for 15 overseas Neuroethology/Bioacoustics/Sensory Biology graduate courses in Latin America and Europe. He has served the International Society for Neuroethology as Society President, Treasurer, and Council member.

Peter's research has produced nearly 200 publications resulting in numerous honors and awards for his outstanding work including election to the rank of Fellow of the Acoustical Society of America, the Animal Behavior Society, and the American Association for the Advancement of Science.



ANNOUNCEMENTS

Contact Eric Warrant (eric.warrant@biol.lu.se) if you want more information about the 2016 Lund International Postgraduate Course in Sensory Ecology.

<http://www.biology.lu.se/education/phd-studies/phd-courses/sensory-ecology>

Contact Daphne Soares (daphne.f.soares@njit.edu) if you want more information about the Neuroethology Book Project described at ICN2016 Business Meeting.



One more photo of lovely Montevideo taken by Fred Delcomyn to enjoy before you turn your attention to ICN2018...

