



INTERNATIONAL SOCIETY FOR NEUROETHOLOGY

Newsletter
November 1999

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MEMBERSHIP DIRECTORY

Please check your entry in the Membership Directory at the ISN Website and notify Panacea Associates: ISN@panassoc.com of any changes to be made. The Website URL is <http://www.neurobio.arizona.edu/isn/>

NEUROETHOLOGY LISTSERV

Reminder: The ISN maintains a Listserv as a benefit of membership. Any member in good standing may join the Listserv and use it to broadcast announcements, requests for information or materials needed for research, etc. Members who have joined the listserv receive all notices posted to it, including meeting announcements, advertisements of job openings and postdoc positions, fellowships, etc. To join the listserv or update your e-mail address for its messages, please send e-mail to John Hildebrand, Past President of the ISN, at jgh@neurobio.arizona.edu.

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REPORT FROM THE EXECUTIVE COMMITTEE

With the growth of ISN, and the need to discuss society business and address many pressing issues including finances and governance, the Executive Committee met on November 13th in Chicago, IL (USA), at Loyola University. In attendance were Malcolm Burrows (President), Albert Feng (President-Elect), Sheryl Coombs (Treasurer), and Arthur Popper (Secretary). (John Hildebrand, Past President, could not join us.) We briefly report on the meeting in this issue of the newsletter. A fuller report is being provided to members of the ISN Council, and copies of that report will be available to all members upon request to Arthur Popper. The Council is being asked to approve a number of initiatives and some of these will be brought to ISN members for their input and vote.



ISN Executive Committee members (L to R):
Malcolm Burrows, Albert Feng, Sheryl Coombs, Arthur Popper

- We propose to renew our contract with Panacea Associates for an additional two years (until Dec. 31, 2001). They provide an array of services that would otherwise impose an immense burden on officers. These include dues collection, maintenance of our mailing lists, mailings, and keeping our archives.
- To improve communication to members, we will set up an E-mail list of all ISN members. The use of this list will be restricted and will only be "one-way" (to members). The president will approve all use of the list. This service will be used for Congress announcements, special notices, etc. At the same time, we will maintain our Listserv for those members, and others, who wish to join actively in the dissemination of information about neuroethology.
- We propose to set up three ad hoc committees that will report to the Executive Committee. These committees will deal with the following topics:

Education and outreach - to discuss how our society might better communicate with the public, communicate with other scientists to help them learn about our field, reach out to schools, and ensure that people are aware of our field.

Long Range Planning - to think about the future of the society and where it will be going over the next few years. Seek input from members about their goals for the society.

Science - consider possible workshops and other meetings between Congress years. What other kinds of programs might ISN sponsor?

Members are being sought to serve on these committees. If you would like to serve, please E-mail Malcolm Burrows (mb135@cus.cam.ac.uk) by January 15, 2000. Malcolm will set up committees from those who volunteer. The committees will reflect the scholarly and geographic diversity of ISN.



ISN President Malcolm Burrows examining EC meeting documents.

- We should work to develop *a stable funding base for future Congresses*, and develop a set of guidelines for major issues such as financing. Our goal is to make each Congress self-supporting. At the same time, our goal is to try and keep costs (e.g., registration) as low as possible, provide for the lowest possible registration fee for graduate students, and find ways to provide additional support for individuals from Third World countries. With approval of Council, we will seek to provide a guaranteed level of funding to each Congress for plenary speakers and young investigator awards. We also will implement methods for better reporting of Congress budgets and accounting guidelines, and have a set rules for Congress organization and management.
- As you will see in our next issue when Treasurer Sheryl Coombs makes her annual report, ISN is *financially in good shape* due to sound investments over the past years. These funds earn interest that will be used to offset costs of each Congress (see above) and other society initiatives. One major concern is what might happen to ISN in the event of a Congress losing money. To cover Congress and/or the society's operating costs in case of cash shortfalls, we will hold investments in a contingency fund. To reduce the chances for future loss, we are also setting guidelines for Congress management.

In consultation with a certified financial planner, we propose to institute, after Council discussion and approval, a formal financial plan to govern future investments and use of our funds. We will look in to providing a bond for our treasurer and liability insurance for ISN officers. We will look in to major disaster insurance to offset loses that may incur to Congresses if disasters (earthquake, terrorism) prevent members from attending a Congress.

- We will seek Council's approval to stop printing a *membership directory*. This costs \$3,000/issue. Most members have access to a regularly updated directory on our web site. Members who do not have access will be able to request a hard copy printout of the directory from Panacea.
- We will ask Council to recommend to the members that we change the *term of office* of all officers of the Society to the end of the fiscal year in which a Congress takes place. This will enable the treasurer, in particular, to see the whole process of finances and reporting of Congress funds to appropriate authorities (the funds are governed by US law since we are incorporated as a society in the US). Now, there is a transition between officers in the middle of this reporting, and this is both inefficient and unfair to an incoming treasurer.
- We will prepare a specific list of responsibilities of each officer and a Procedure Manual for the society so that our rules and procedures will be codified.
- We believe that meetings of the Executive committee are essential so that the officers can work as a team to address the many issues that arise as the society grows and becomes a more substantial force in the neuroscience and behavior community. We propose to meet again next year. We also propose to have two Council meetings at each ISN Congress, one at the beginning to cover old business and one towards the end, after the business meeting, to cover topics suggested in discussions with members.

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SIXTH INTERNATIONAL ISN CONGRESS

The Sixth International Congress of Neuroethology in Bonn (Germany) takes place July 29 till August 3, 2001. The following two articles describe the program and the venue

PROGRAM

The society has formed a program committee for the 2001 meeting. The members are:

- Ellen Covey, USA (email: ecovey@u.washington.edu)
- Eve Marder, USA (email: marder@brandeis.edu)
- Catherine Rankin, Canada (email: crankin@neuron3.psych.ubc.ca)
- Claire Rind, United Kingdom (email: Claire.Rind@newcastle.ac.uk)
- Fujita Ichiro, Japan (email: fujita@bpe.es.osaka-u.ac.jp)
- Fred Libersat, Israel (email: libersat@bgumail.bgu.ac.il)
- John Montgomery, New Zealand (email: j.montgomery@auckland.ac.nz)
- Hermann Wagner, Germany, chair (email: wagner@bio2.rwth-aachen.de)

The members of the Committee have already talked about a possible schedule and agreed that we should have: eight plenary talks on four morning sessions, including talks by Young Investigator award winners; many symposia; one or two special evening lecture(s); more time for poster sessions should be reserved than was available in San Diego.

In the name of the program committee I am asking the members of the Society for proposals for speakers in the plenary sessions and the special evening lecture(s) as well as for proposals for symposia. Many of you may have received a similar invitation already by Email. I did this, because we have to move fast and because Email is the fastest communication means. When the Newsletter arrives at your desk, the Committee will have started the discussion about the program. However, you should not hesitate to send suggestions, preferably by Email to me or to any member of the program committee. We look forward to hearing from you.

Hermann Wagner
wagner@bio2.rwth-aachen.de

VENUE

Bonn - as you may already know - is in the middle of Europe. Bonn is easily be reached by train and plane from all other European countries. Those of you who come from abroad may want to enter Germany through the international airports in either Frankfurt or Duesseldorf. Bonn can be reached from both airports by fast ICE trains. Travel time by train is usually within 40 to 70 minutes. In addition, there is the national/international airport Bonn/Wahn, a 30 minute bus ride from downtown Bonn.

The main campus of the university is located in the heart of the city. From the lecture halls, which are spaced close together, you can walk to the river Rhein in five minutes and downtown Bonn with its famous restaurants and shopping places is just around the corner.

To make your stay in Germany not only pleasant but also affordable the University has promised to provide 250 student apartment rooms (each with a shower and toilet) on campus for 150 dollar per week. In addition we have reserved a guest house at \$60 per night for up to 140 people, with prices about 20% lower for those who share rooms. Meals (lunch and dinner) are available at the campus dining rooms at about \$12 per day. For those of you who want more elegant accommodations Bonn has reasonable priced (from about \$70 - \$150 per night) hotels, many of which are in the immediate vicinity of the university. The Tourism's and Congress GmbH of BONN will handle all hotel arrangements for us free of charge.

For a small fee this agency is happy to arrange for any excursions you might want. For instance, the cathedral in Cologne can be reached within 20 minutes, a boat trip on the river Rhein is a must and the mountains of the Eifel are just a short distance away. Munich, Berlin, Hamburg, Amsterdam and Paris - to mention just a few of the many exciting places in Europe - are just a few hours train ride away.

As always, the Congress Committee will take care of the scientific part of the conference. It is up to you to convey to the Committee your ideas, opinions, and specific proposals to make the meeting in Bonn a scientific success. I count on you and look forward to seeing all of you in 2001.

Horst Bleckmann
Bleckmann@uni-bonn.de

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AUTOBIOGRAPHICAL SKETCH

SLIP-SLIDING TOWARDS SCIENCE

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I came to science through reading. I had somehow persuaded my mother that my high school's summer reading list was meant to be engulfed in its entirety. Included was "Nobel Laureates in Physiology and Medicine", containing a vivid account of Banting and Best's experiments leading to the discovery of insulin. Their work provided me with stimulation to dream up additional experiments, a good early warning system for scientific direction.

My family was literary and urban and for a long while my only scientific role model was a family friend and mentor, the child psychoanalyst, Dr. J. Louise Despert; medicine and psychiatry were my initial intentions. My diversion into neuroethology came about because of Russia. The launching of Sputnik stimulated a strong national interest in high school science education and led the NSF to establish summer programs for high school students. I was accepted at two: one at Mt. Holyoke in chemistry and one at Grinnell College in the biological basis of behavior. I hadn't imagined that there was a biological basis for behavior (the psychoanalytical influence) and found the whole idea much more appealing than chemistry so I headed out from New York City to the cornfields of Iowa.

I thought it odd that the requirements for admission for the summer program included a psychological test of religious beliefs. These had apparently been a source of difficulty for previous students faced with the strong behavioral, mostly Skinnerian, emphasis of the curriculum. "Walden Two" was fun but more exciting was the introduction to animal behavior and to human language. Somehow the program's organizers managed to get several major figures in these various fields to travel to Iowa in the hot summer to speak to us: Jay Rosenblatt was among them. I began to think that I would be more effective doing research than medicine and returned home convinced that the scientific study of behavior was what I wanted.

The tedium of watching rats press bars helped to extinguish my conversion to operant conditioning. Another book, "Listening in the Dark", redirected my efforts. Don Griffin was then at Rockefeller and with the help of David Ehrenfeld, my advisor at Barnard College, I began a project on the development of bat echolocation. Since I couldn't drive (the urban influence) I managed to persuade Rich Penney from the Bronx Zoo to transport me to a bat roost in a country barn. We were accompanied by Marta Nottebohm who had very kindly offered to teach me how to hand rear the baby bats I was proposing to wrest from their mothers for my isolation studies. I got the baby bats home to Manhattan from the Bronx without dehydration by the relatively simple expedient of tucking them into my bra, my subway trip accompanied by strange looks from my fellow passengers.

I wanted to work on brain and behavior in graduate school but I didn't want to be pigeonholed as either a psychologist or an ethologist. Cornell and Rutgers each had a program that fit the bill but I had by then imprinted on the Rockefeller University. After a brief stint with Jim Simmons and colleagues collecting bats in France I took the boat home to NYC in the early summer of 1970. Biochemistry was a real challenge to

someone who had never held a pipette as was neurophysiology. Neurochemistry with Bruce McEwen turned out to involve long hours in the cold room running columns. Neuroanatomy, however, was fun. Don Pfaff alerted me to Witschi and Mikamo's experiments on a funny looking frog from South Africa, *Xenopus laevis*, which could be sex reversed in tadpole stages by putting estrogen in the water. Genetic males which are completely female, phenotypically, could be used to determine whether hormones alone are responsible for sex differences in behavior or whether sex chromosomes play a role. I chose clasping behavior to work on following on previous studies of Aronson at the American Museum of Natural History, Russell at Oxford and John Hutchison (then in South Africa) and soon found that genetic females treated with androgens can be made to clasp in a manner indistinguishable from male behaviors. This observation (and a lab disaster in which all my sex-reversed tadpoles were killed by copper-laden water after a holiday weekend) diverted my attention from sex determination until this year. I decided to find out where in the brain the testosterone was acting by seeing which cells concentrated radioactive androgens, a method Pfaff had pioneered. Except for a second, holiday-related disaster with toxic levels of estrogen, the behavioral studies were straightforward, perhaps too much so. At my thesis defense, Don Griffin pointed out that frog vocal behaviors might be a more amusing topic of study.

Fernando Nottebohm and his colleagues had begun outlining neural pathways for song in canaries. New methods for tracing connections between brain regions had just been developed (HRP and tritiated amino acids) and the song system was an exciting area to try them out so I joined Fernando's lab for a post-doc. It seemed, and was, possible to discover entirely new brain regions important for song and for song learning and I began to think that Don Griffin had been right about vocal behaviors. However, as delightful as the bird system is, I felt it too complex for the kinds of mechanistic studies I wanted to do. When I got my first job, at Princeton, I returned to *Xenopus* but this time with a focus on vocal behaviors: frog songs.

It was an enormous pleasure to walk into my own lab every morning and know that I could do any experiment I wanted to. My first graduate student, Dan Wetzel, began to work on the hormonal control of male songs in *Xenopus* and I began to figure out what those hormones did to neurons to change behaviors. With the students in my first (and only!) term-time lab course in neuroscience - Terry Sejnowski, John Paton, Marilyn Yodlowski and Dan Sanes - I used new tracing and activity methods to discover that hormone concentrating regions include auditory and vocal nuclei. Having not been able to give up NYC for Princeton life, I next gratefully abandoned the 2-hour-each-way commute when John Hildebrand, Eduardo Macagno and Cy Levinthal recruited me to Columbia.

Columbia's biology department was a somewhat mysterious world of TATA boxes and splicing and it took me several years to sort out 3' from 5'. A collaboration with Mark and Eva Dworkin, however, convinced me of the power of molecular biology and the utility of *Xenopus* development as a system. I became interested in whether I could identify behaviorally important patterns of gene expression in the vocal system and in their regulation by endocrine systems. The key observation was made by Martha Tobias who had come to me as a post-doc from Roy Ritzman's lab. She discovered that the *Xenopus* vocal organ, the larynx, could be made to sing in a dish if current pulses of an appropriate temporal pattern were applied to the motor nerve. This "vox in vitro" preparation allowed us to bridge behavior to cell and molecular biology via physiology. Today we have extended these efforts to field studies of vocal behaviors (rapping, the aphrodisiac song of females) and to a new model for genetic studies of vocal and auditory systems, insertional mutagenesis in the related frog *Xenopus tropicalis* (details at: <http://www.columbia.edu/cu/biology/faculty/kelley/index.html>).

Except for the bit about bats in the bra, all of the above could easily have been written by a senior male scientist. What was it really like? The lore of animal behavior is sadly no talisman against the pain of the crying child when one leaves for work though it helps to know that the sobs stop abruptly after the elevator door closes. The most difficult part of combining a career in science with raising a family is that each task demands considerable effort and creativity. It helps to accept the inevitable: at any one moment simultaneous excellence will be next to impossible. Having successful role models (Tiana Leonard, Bernice Grafstein and Mimi Halpern) was a great help to me. By deciding to remain in NYC my husband and I also secured tremendous support from our mothers with the raising of our two children while we were establishing ourselves. We had both children, now 23 and 21, during my 2 year post-doc while my husband was a medical fellow.

Any 1500 word autobiographical essay will read better than it lived; see me over a beer for the grisly details. I do think though that my path was smoother than Sheryl Coombs' ([ISN March newsletter](#)) and have wondered why. I once heard Ted Bullock advise a group of young scientists to position themselves in the center of a field and stay there. I have never been able to follow his advice because it seems to me that the difficult task of figuring out the brain's highest activity, producing behavior, benefits from the widest array of perspectives. In this view I was strongly influenced by my training at Rockefeller. For someone whose research continually requires learning new fields, learning how to learn made much more sense than any standard curriculum would have. Differences in the cultural anthropology of scientific sub-fields can also be helpful. Developmental neurobiology, for example, is rich in accomplished senior women scientists while early *Xenopus* development has even fewer women than ethology/neuroethology. The difficult problem of brain and behavior needs all the talent we can bring to bear and we must work to improve this aspect of our field. Slip/sliding my way through many areas of biology has been most enjoyable and I recommend it. What to avoid? Well, starting a long term project before leaving on vacation is at the top of the list. And, yes, I did finally learn how to drive!

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RESEARCH CONFERENCES IN NEUROETHOLOGY

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In August of 1981, a NATO Advanced Study Institute entitled "Advances in Vertebrate Neuroethology" was organized by Jürg-Peter Ewert, Robert Capranica and David Ingle and held at Kassel, Germany. Eighty participants attended meetings in a castle (near Kassel) where many of the presentations had neuroethology in the title and described work on the canonical vertebrate systems: owls, bats, fish, frogs, birds, monkeys. That meeting was midwife to an exuberant birth of the "International Society for Neuroethology" and, more conventionally, to a volume edited by the organizers describing the presentations (Advances in Vertebrate Neuroethology, Plenum, 1983). So, here we are in late adolescence 18 years on and what has happened. The fledgling Neuroethology Society has flourished, sponsoring an international meeting every third year to encourage the study of integrative biological processes at many levels of organization and not just in vertebrates. The membership has grown steadily including increased student membership. And the members consistently report that the neuroethology meetings are still fun, interesting and exciting. On the larger scientific landscape, the J. B. Johnston Club gathers each year, just prior to the gargantuan Society for Neurosciences meeting and is another, more recent venue for neuroethologists to meet others interested in understanding how and why animals do what they do. And the Society for Behavioral Neuroendocrinology (<http://www.sbne.org/>) formed a few years ago gathers many neuroethologists who think hormonal activities may influence behavior as well.

So, into this mix appeared, for the first time, a Gordon Conference entitled Neuroethology: Behavior, Evolution and Neurobiology held at Queens's College Oxford, August 29-September 3, 1999 (<http://www.grc.uri.edu/programs/1999/neuretho.htm>). This conference was the brainchild of John Hildebrand who received help from his many friends in the neuroethology community but particularly Harvey Karten and Harold Zakon who served as co-chairs. As is typical for a Gordon Conference, about 125 people attended and of those, only about 20% made presentations. The conference was organized (as are all Gordon Conferences) to allow ample time for discussion. There were no competing sessions or overlapping satellite meetings and it was held in Queens College. This fostered the (correct) sense that we were all in it together. Unlike most meetings, the actual presentations occupied only about 20% of the time with the rest available for discussion.



The author of this article (right) and friends.

This feature of the conference served wonderfully to encourage long and interesting interactions. In the many interstices, there were poster presentations on a wide range of topics from neural models to African fieldwork and many heated discussions emerged from these poster sessions which were conveniently adjacent to the college pub.

What actually happened and what themes were there? First, there were some speakers new to the scene, including an historian of science asking where and how neuroethology arose, a paleontologist discussing the constraints on evolutionary tinkering and several robotics experts asking whether and how there could be fruitful exploitation of knowledge of animal locomotion for building robots. All these sessions were quite interesting and useful, particularly in stretching our minds about the goals and roles of neuroethology. Other speakers spanned the gamut from behavior to genetics, suggesting how the new molecular insights and techniques could be instrumental in helping us gain ground in our understanding of mechanisms. Surprisingly, there was some concern expressed about the role of molecular biology in neuroethology.

Specifically, how and where it could be useful for the systems level of analysis. However, it seemed clear that this is yet another (potentially) useful tool for the neuroethologist. Since the molecular biologists are intent on addressing behavior (even though most do so badly), it behooves neuroethologists to bring real behavior back into their experiments and thinking. And, to use molecular techniques themselves where appropriate. Many techniques, molecular or otherwise, now allow a wide range of focused questions to be answered, even in animals without an associated genome project.

The pace of the meeting led to wonderful discussions, delightful punting on the Thames and a vote to continue this nascent tradition. As a place to have interesting, direct conversations, see novel systems under study and have time for old and new scientific friends, the Gordon Conference is the place.

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