



International Society for Neuroethology

Newsletter
November 2002

International Society for Neuroethology
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Next International Congress: August 9-13, 2004. Hotel Nyborg Strand, Nyborg, Denmark

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The ISN President's Column

Albert S. Feng, ISN President (a-feng@uiuc.edu)
Univ. of Illinois, Urbana, Illinois, USA

As announced previously in my email to the membership on October 17, 2002, thanks to the excellent response to the runoff poll, the journal affiliation issue was satisfactorily concluded with a clear majority voting for "no affiliation with a journal." Out of a total of 235 votes cast, 148 voted for the above option and 87 voted for the *Journal of Comparative Physiology A*. The society will therefore not further pursue the issue of journal affiliation.

The Executive Committee convened earlier this month in Orlando, just prior to the 2002 Annual Meeting for the Society for Neuroscience (see page 3). We had a full agenda to begin with, and the EC ended up having to expand the coverage of the meeting significantly as a result of having received an unexpected notice from Panacea Associates (a few days before the EC meeting) announcing their intention of not re-bidding on the ISN contract when it comes up for renewal at the end of December, 2003. Susan and Michael Lampman, and Pat Meredith, from Panacea



Associates, who came to Orlando to participate in the early part of the EC meeting, informed us that they wish to retire from the business of scientific organization management because the work is simply too much for them (since they all have full time jobs at Florida State University).

A change in management firm at any time is inconvenient and undesirable, especially when the firm has done a terrific job for us and given us a stable home base. The early notice, however, gives us a chance to look for a service provider that can replace PA in 2004, or to find alternate mechanisms to manage society affairs. So, the EC devoted a substantial amount of time to address this issue. The Chairs of the Long-Range Planning Committee and Web Oversight and Education Committee, who participated in the early part of the EC meeting, also contributed to the discussion. Nonetheless, the discussion was limited mostly to examining our options because we really did not have time to explore beforehand whether any of the options were viable. Thus, the EC will be exploring the various options over the next few months.

A high-priority item for the ISN is to enrich the content of the Society website, especially with materials appropriate for outreach and education. For this, the Long-Range Planning Committee will shortly conduct a survey to solicit members' input. The EC felt that the Web Oversight and Education Committee can determine how best to increase the content of the website but we should not burden the Committee with tasks to come up with ideas for artistic design of the website. For this reason, the society would like to hire a part-time web designer to assist the Web Oversight and Education Committee. If you know of a good web designer who has worked for your institution and is available to help the ISN, please ask the person to contact us (thanks in advance). ♦

Eric Knudsen elected to US National Academy of Sciences

ISN member and Councilor, Eric I. Knudsen, was recently elected to the US National Academy of Sciences. The NAS, established in 1863, is a private organization of eminent American scientists and engineers. Knudsen is the Edward C. and Amy H. Sewall Professor in the School of Medicine and chair of the Department of Neurobiology at Stanford University, USA. His research focuses on the cellular mechanisms by which experience shapes anatomical and functional connections in the central auditory system of barn owls. Knudsen is an elected



fellow of the American Academy of Arts and Sciences and has received the Newcomb Cleveland Prize from the American Association for the Advancement of Science and the Troland Research Award from the NAS. Congratulations, Eric! ♦

Deadline for SFN Symposia: January 10, 2003

Would you like neuroethology to have a higher profile at the annual Society for Neuroscience meeting? The deadline for proposing symposia for the 2003 meeting is Friday, January 10, 2003. Suggestions for developing a successful proposal, and a convenient online submission system, can be found at: <http://apu.sfn.org/Template.cfm?Section=Infocus&Template=/symp/SympMain.cfm>. The 2003 SFN meeting will be held November 8-12, in New Orleans, Louisiana, USA. ♦

Add your website address to the ISN Member Directory!

To keep our membership directory current, check your current listing at <http://neuroethology.org> and send any updates to our webmaster at Panacea Associates, <lampman@panassoc.com>. We are adding members' website addresses to the directory so please submit this information as well. ♦

Add our link to your website!

Adding a link to ISN (<http://neuroethology.org>) on your website will help raise our profile in the scientific community. ♦

Comments from the Bonn Meeting: a report from the ISN Long-Range Planning Committee

Arthur N. Popper (apopper@umd.edu)
Univ. of Maryland, College Park, Maryland, USA

Shortly after the Bonn meeting, attendees were asked to fill out a questionnaire about the meeting and return it to the Long-Range Planning Committee (members: Ansgar Büschges, Ichiro Fujita, Ron Harris-Warrick, Cathy Rankin, Arthur Popper). We want to briefly report on the results of the questionnaire. While there were many comments and good suggestions, it was clear from the responses that this was a highly successful meeting. Even the negative comments were meant to be constructive and will help in the design of future meetings.

The answers to the multiple-choice questions showed that the respondents were generally satisfied with the meeting. The average score of all answers indicated that things were just right. This included location, format of the meeting, opportunities to interact with colleagues and friends, and the presentations. The only places where there may have been some slight dissatisfaction with the meeting itself was with a desire for more posters. There was also some indication for a need for more written and web-based information about the meeting in advance.

In open-ended questions, the participants made positive comments about the meeting location (32% of those responding), posters and sessions (22%), socials (20%), plenary lectures (18%), and symposia (18%). Many other positive things were said, but only by a few respondees. It is clear from the poll that the least favorable feature of the Bonn meeting was the arrangement of the poster session. The posters were separated in two different rooms, the rooms were "impossibly" hot and overcrowded, the poster supports were U-shaped and prevented approaching the posters, and the boards were too small. Despite these technical problems, people generally liked the poster sessions, and almost 25% of the respondents wanted more posters. While there were few comments about having the posters up all week, as we had in Bonn, it is clear that it would be worthwhile to leave posters up overnight.

There were generally positive comments about the symposia and few negative comments. Several people made the suggestion that no one should be permitted to speak in more than one symposium at each meeting. Others suggested that we should allow additional time for discussion at the end of each symposium. Another comment about symposia is that they often did not stay on time, and clearly this is something that we will have to work on so that people can go between concurrent sessions in the future.

There were many other comments, and the only ones mentioned here are those that were made by several people. However, all comments have been shared with the organizers of the Bonn meeting and with the organizers of the 2004 meeting in Denmark. Anyone who would like to see the full compilation of responses should email Arthur Popper (apopper@umd.edu) (note, these have been set up so it is impossible to tell who made any comment). ♦

Your Executive Committee and Committee Chairs in Action



Left to right, rear: Albert Feng, president; Janis Weeks, secretary; Art Popper, chair, Long-Range Planning Committee; Sheryl Coombs, treasurer; Ed Kravitz, president-elect. **Front:** Zen Faulkes, chair, Web Oversight and Education Committee.

The ISN Executive Committee (Albert Feng, president; Ed Kravitz, president-elect; Sheryl Coombs, treasurer; Janis Weeks, secretary; and Malcolm Burrows, past president, who attended by telephone), held an all-day meeting on November 2, 2002, prior to the start of the annual Society for Neuroscience meeting in Orlando, Florida, USA. Also attending were Art Popper (chair of the Long-Range Planning Committee), Zen Faulkes (chair of the Web Oversight and Education Committee), and representatives from Panacea Associates. Despite bone-chilling air conditioning in the conference room, your officers and chairs carried out an extensive agenda of ISN business. ♦

The Fabric of Science I: Ethics for whom??

Edward A. Kravitz, special columnist to the newsletter and ISN president-elect (edward_kravitz@hms.harvard.edu) Harvard Medical School, Cambridge, Massachusetts, USA
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One reason I jumped at the opportunity to write essays is that, through them, I am offered a forum to comment on the many threads that form the fabric of the life of a scientist. Too often the fabric is rough, the hues are unmatched, the patterns are unharmonious. Trying to do good science is hard enough without the myriad daily demands that tear at the fabric of our existence as scientists: the pressure to publish papers in high-profile



journals every year; the demands of administrators to bring in more grant money for our laboratory space; the critiques from grant reviewers that cause us to wonder whether they are commenting on the same applications we have written; the lack of appreciation for doing things for the good of our departments or our institutions; or the absence of anyone even caring about excellent teaching. By writing about such matters I can vent the frustrations that I feel and that I suspect most of us feel, but think we can do nothing about. Here I deal with a matter that can easily be rectified — all that is required is better behavior towards each other.

Like most colleges and universities, Harvard Medical School runs a required "instruction" program in "The Responsible Conduct of Research" for our graduate students. I am one of the small corps of aging faculty volunteers who offer to mentor these sessions. Our program involves nine contact hours over a semester, usually divided up into six 1.5 hour sessions, and targets all first and second year graduate students. Invariably, at the first meeting, students have no idea why they are there. After all, they have been raised with strong moral principles that never would allow them to cheat, steal or lie to get ahead in science. So why, other than that they are mandated on training grants funded by the National Institutes of Health, should they have to sit through all those hours of instruction in scientific ethics? Yes, they've heard or read about government investigation of prominent "incidents" of the past, like the Baltimore and Gallo cases, but whatever went on there couldn't possibly apply to them. With their skeptical attitude on beginning the course, it's little wonder that most students show an only slightly modified attitude at the end. The general theme of the comments I hear at the end of the six sessions is: "Well, some of the discussions were interesting, but I really doubt that they will influence my behavior." or "What we were talking about was politics, not science, and while hearing other people's opinion about these issues may be worthwhile, I don't see the relevance to anything I will be doing."

Actually, it was an incident involving two students in our Program, well before instruction sessions were mandated by NIH, that led Tom Fox (then Associate Director of the Graduate Program in Neuroscience that I directed) and I to start discussion groups on ethics for our graduate students. The precipitating event was that one of the students, a young woman, broke down in tears in my office while relating something that happened at a Society for Neuroscience meeting that had just ended. Several months earlier, the young woman, in a conversation with another student whom she considered a close friend, had described an exciting result she had obtained demonstrating the existence of a new enzyme activity in the pathological inclusions associated with a high-profile disease. Although her friend worked in a closely related research area, the young woman had no hesitation in sharing her results because she trusted the friendship. She had not yet written up her results at the time of the society meeting.

At the meeting she attended a symposium at which her "friend" was talking, only to hear a presentation of essentially the same findings she had described several months earlier, with no mention whatsoever of her results. Moreover, the second student commented that a *Science* note was in press on the work, which also did not mention her studies. Feeling completely betrayed and bewildered by what had happened, she came to speak with me as head of the program, to ask what, if anything, could be done to rectify the situation. Discussion with the second student eventually led to citation of the young woman's work in the final published work, but that did little to redress the issue of the second student's betrayal of trust. Tom and I felt that "ethics" discussion sessions with all of our students, in as non-threatening a format as possible, might be helpful in forestalling the emergence of similar situations in the future.

Howard Schactman talked about scientists in the following terms: "Many scientists, like others in our society, are ambitious, self-serving, opportunistic, selfish, competitive, contentious, aggressive, and arrogant; but that does not mean they are crooks." His article went on to talk about the necessity to "distinguish between the crooks and the jerks" in defining scientific misconduct.

In structuring these sessions we recognized that real "cheating" in science was rare. We did not expect that any of our students were going to make up experimental results, steal results, or copy verbatim text that had been written by others (i.e., engage in "falsification, fabrication or plagiarism," the current definition of misconduct in science). Instead, we felt that our discussions would have to deal with the most difficult areas involved in scientific ethics, the "gray" areas, where no rules actually were broken that could lead to criminal prosecution. These were the areas where people had behaved badly towards each other, but had done nothing illegal. In an essay published in *Science* in 1993 (261:39-40), entitled "What is misconduct in science?", Howard Schactman talked about scientists in the following terms: "Many scientists, like others in our society, are ambitious, self-serving, opportunistic, selfish, competitive, contentious, aggressive, and arrogant; but that does not mean they are crooks." His article went on to talk about the necessity to "distinguish between the crooks and the jerks" in defining scientific misconduct. Not a very flattering definition of a scientist, but it was the behavior of "the jerks" that Tom and I decided to address with our students.

The format we decided upon was to give examples of situations in which I had found myself during my career, where "gray" area issues were involved, and then to discuss the situations and their resolution with the students. In one example I offered, Tony Stretton and I had been showing numerous colleagues how we

were using the dye Procion Yellow as a tool for the determination of neuronal geometry. We also told colleagues where they might get free samples of the dye and described for them in detail the methods we used to inject the dye into neurons, process the tissues and ultimately visualize the dye in whole mounts or tissue sections. Procion Yellow was the first of what now is a large family of dyes that could successfully be injected into neurons, survive fixation and tissue processing and reveal in elegant detail the finest branches of pre-selected neurons. Tony and I had not yet written the method up at the time we were showing the results to colleagues, because we wanted to include experimental results in any published description of the procedure, and the experiments we planned to use to illustrate the method had not yet been completed. A few months after one such demonstration, we found out *by accident* that a colleague had a paper in press in *Science* describing the Procion Yellow injection method and their experimental results using the method.

I am fully aware that Tony and I might have been naïve in talking so openly about what we knew would be an important discovery. At the same time, I do believe in free and open communication in science.

Without saying what happened next, I ended my presentation and threw the matter open to discussion by the students. What did they think about our colleague's actions? Our actions? It was interesting to hear the range of comments offered by the students. "You were foolish to have shown the method to anyone before it was published." "How could you guys have been so dumb?" "Call the journal and tell them what happened." "Sue!" "Why on earth would you have shown the results to anyone without protecting yourselves?" I don't recall that anyone commented on why we actually had shown the results to other investigators. For Tony and myself, it was "the moment of discovery" syndrome all over again. We were excited and proud of our accomplishment, and wanted to share it with others. It was that simple. Oh, and the ultimate resolution was that, after I called our colleague to discuss the matter with him, he immediately called *Science* to delay publication of their article until we could write one that would appear before theirs. He also requested that we hurry up and write an article for *Science*.

My favorite example of just how strange these matters can become involved my friend Marshall Nirenberg. Marshall and I were graduate students together in the Biological Chemistry Department at the University of Michigan. He was easygoing, highly intelligent and great fun to talk with on almost any topic. After he finished his Ph.D., Marshall went to NIH, where he began the groundbreaking studies on protein synthesis that led to his cracking the genetic code, and ultimately to winning the Nobel Prize in Physiology and Medicine in 1968. About a year after Marshall

announced the cracking of the code at the International Congress of Biochemistry in Moscow in August 1961, he came to MIT to deliver a seminar. The seminar focused on the cell free bacterial protein synthesis system that Marshall had developed with a postdoctoral fellow, Heinrich Matthaei, and presented the latest of their 3-letter codons for amino acids that had been established using synthetic oligonucleotides of known composition as messenger RNAs. Delivered in his measured, southern style of speaking, Marshall proceeded to blow the audience away with the simplicity, elegance and beauty of the approach, and with the monumental discovery he was unveiling for us.

At the end of Marshall's seminar, after a period of sustained applause, someone from the audience stood up, walked to the slide projectionist and handed him a set of slides. Then the person, still standing, proceeded to go through the codons they had identified, taking 15 minutes and the entire discussion period to do so. At dinner later that evening at our house, I commented that I thought that was the strangest thing I had ever seen happen at the end of a seminar. Marshall said that he was used to it. The person, it seems, was from the Ochoa laboratory in New York. He followed Marshall around the country standing up at the end of every seminar Marshall delivered to present their codons.

Where does something like this fit in the lexicon of scientific ethics? It's certainly not falsification, fabrication or plagiarism. The Nirenberg-"shadow" did nothing illegal — research seminars are open to the public and anyone can comment during a discussion period. Still I was shocked, and felt this to be completely unethical behavior. If ethics is a set of moral principles and values, where is the morality in attempting to discredit or diminish the discovery of another investigator? What is the value in doing what the "shadow" did?

Morris Karnovsky, who was the head of the Cell and Developmental Biology Program at Harvard Medical School, asked Tom and me whether we would be willing to run an ethics discussion session with their students and faculty. In an earlier essay ("Death of the moment of discovery," ISN Newsletter, July 2000), I already have described that session in which we made the discouraging discovery that more than half the graduate students in the room had been told by their faculty advisors that they could not talk about their research results with anyone until they were published. I do not plan to go over the same ground again here. I want to stress, however, the ultimate point of that earlier essay. By our actions, we, the mentors of the next generation of scientists, weave the fabric of science for present and future generations. We all can cite examples like the ones presented above of questionable behavior on the part of our colleagues. Perhaps we might even recognize times when we have not behaved in the forthright manner we would like our students to emulate. I am fully aware that Tony and I might have been naïve in talking so openly about what we knew would be an important discovery. At the same time, I do believe in

free and open communication in science. Therewith is the dilemma. There are no simple rules to follow *at all times and in all cases* in dealing with the “gray” areas in which we operate on an almost daily basis. Let’s try harder though, not to be “jerks.” ♦

Meetings and Courses

Research apprenticeship opportunities at **Friday Harbor Marine Laboratories**, USA, for undergraduates and postbaccalaureates in Spring, 2003. *Analyses of Decision-Making and Computational Network Simulations in Behavior of Cnidarian Polyps*, 10 weeks living and working in the San Juan Islands, \$2500 support. Further information can be found at: <http://depts.washington.edu/fhl/apprentice03.html>. ♦

Marine Biological Laboratory Summer Course, Neural Systems and Behavior. Woods Hole, Massachusetts, USA. June 15 - August 8, 2003. Directors: Catherine Carr, University of Maryland; and Richard Levine, University of Arizona. An intensive eight-week laboratory and lecture course focusing on the neural basis of behavior, from the cellular and synaptic levels to the analysis of complex systems. Intended for graduate students, postdoctoral students, and independent investigators. Limited to 20 students. Application deadline for 2003: February 1. The central theme of the course is the investigation of how neurons and neural circuits produce behavior and plasticity. Laboratory and lecture components combine state-of-the-art neurobiological techniques with behavioral and developmental analyses. The lecture series begins with a consideration of electrophysiological and anatomical principles of neuronal function. Topics then move on to how properties of individual neurons come together in simple neural networks for behaviors such as locomotion, escape, and the generation of rhythmic patterns of activity. Modulation of neural activity and neural circuits by transmitter and hormone action, long-term potentiation, and genetic approaches to the analysis of neural circuits and behavior are also covered. Finally, emphasizing computational approaches, we consider questions such as how animals process complex auditory stimuli or accomplish spatial and vocal learning. Weekly seminars are given by invited lecturers and distinguished Scholars-in Residence. The heart of the course is the laboratory, where advanced techniques in cellular neurobiology are brought to bear on neural systems. Methods taught include intracellular recording; single cell dye-injection; single and double-electrode, patch, and whole-cell voltage clamp; analysis of synaptic transmission and plasticity; brain slice; computational and behavioral approaches. A variety of vertebrates and invertebrates serve as experimental systems. For further information and application forms, see the course web site: <http://courses.mbl.edu/>. ♦

International Conference on Animal Bioacoustics. The Center for Comparative and

Evolutionary Biology of Hearing (C-CEBH) at the University of Maryland and the Acoustical Society of America (ASA) announce an International Conference on Animal Bioacoustics (ICAB) to be held at College Park, Maryland, USA, on July 27-30, 2003. The purpose of the conference is to share data, ideas, and methods in this growing and exciting field of research. The emphasis in the conference will be to integrate information across animal taxa. There will be a strong emphasis on neuroethological approaches to acoustic communication. The conference will include keynote talks by Donald Griffin, Jack Bradbury, and Darlene Ketten, as well as plenary talks, contributed papers and posters, and evening workshops. Plenary speakers (and their general topics) include: Whitlow Au (Hawaii), marine mammal sound detection/echolocation; Henry Bennet-Clark (England), resonators and sound radiation in insects; Christopher Clark (Ithaca), acoustic communications in whales, an evolutionary perspective; Torsten Dabelsteen (Copenhagen), bird communication; Robert Dooling (College Park), bird hearing; Richard R. Fay (Chicago), fish hearing; Brock Fenton (Toronto), problem of appreciating and understanding variation in bat calls; Tecumseh Fitch (Cambridge), mammalian sound communication; Ron Hoy (Ithaca), communication strategies in insects; Arthur Myrberg, Jr. (Miami), fish acoustic communication; Cynthia Moss (College Park), integration of acoustic and motor systems in bats; Peter Narins (Los Angeles), seismic communication in vertebrates; Arthur N. Popper (College Park), evolution in hearing (new ideas); Ron Schusterman (Haywood), pinniped communications; James Simmons (Providence), sound detection and echolocation by bats; Andrea Megela Simmons (Providence), identifying individuals in noisy choruses; Chuck Snowdon (Madison), development of vocal communication in primates; Annemarie Surlykke (Odense), evolution of hearing and acoustic communications in moths; Rod Suthers (Bloomington), mimicry and bi-phonation. For detailed information about the meeting, and to receive the second announcement, please see our web page at: <http://asa.aip.org/communication.html>. ♦

Second International Symposium on Adaptive Motion of Animals and Machines. Kyoto, Japan, March 4-8, 2003. The meeting is heavy on robots that are based on biological principles of motor and behavioral control. There may be some possible financial help for students and post-docs. Anyone interested should contact Dr. Hiroshi Kimura, (hiroshi@moa.kimura.is.uec.ac.jp) for more information. He should also be contacted for registration information. They are very interested in having people who do motor and behavioral control attend and present, so don't be intimidated by the technical nature of the title. ♦



New Books by ISN Members

Acoustic Communication, edited by Andrea Megela Simmons, Arthur N. Popper, and Richard R. Fay. Springer-Verlag, New York, 2003. ISBN 0-387-98661-8, \$149 US. 404 pages. This is volume 16 of the *Springer Handbook of Auditory Research* (SHAR) series edited by Richard R. Fay and Arthur N. Popper. The contributors to *Acoustic Communication* take a neuroethological approach to the study of acoustic behavior, examining the response of hormones and the nervous system to a complex environment of sounds and how specific adaptations give rise to patterns of auditory communication. The authors attempt to derive common principles from a variety of vertebrate species. Chapters are: (1) Perspectives and Progress in Animal Acoustic Communication: A.M. Simmons; (2) The Physical Acoustics of Underwater Sound Communication: A.H. Bass & C.W. Clark; (3) Unpacking "Honesty:" Vertebrate Vocal Production and the Evolution of Acoustic Signals: W.T. Fitch & M.D. Hauser; (4) Social Sounds: Vocal Learning and Development of Mammal and Bird Calls: J.W. Boughman & C.F. Moss; (5) Selection on Long Distance Acoustic Signals: M.J. Ryan & N.M. Kime; (6) Hormonal Mechanisms of Acoustic Communication: A. Yamaguchi & D.B. Kelley; (7) The Neuroethology of Vocal Communication: Perception and Cognition: T.Q. Gentner & D. Margoilash. ♦

Positions available

Postdoctoral position: acoustic signal processing. Crickets communicate using acoustic signals, and much of the signals' information is coded into their temporal patterns. We have found that several identified, first-order auditory interneurons exhibit behaviorally relevant temporal filtering. The neurons are members of a well characterized network and are accessible for intracellular study. This presents the opportunity to study the cellular and network mechanisms for temporal filtering in detail. The position requires an individual skilled at intracellular recording, preferably in insects. Familiarity with the application of information theory to neuronal information processing will be an asset. The project is funded by the Canadian Institutes for Health Research; salary is according to CIHR norms (www.cihr.ca). The position is available immediately, and may last for up to three years. Send applications, including contact information for two referees, to: Gerald Pollack, Department of Biology, McGill University, 1205 Avenue Docteur Penfield, Montreal, Quebec, Canada H3A1B1, <gerald.pollack@mcgill.ca>. ♦

Postdoctoral and graduate assistant positions to investigate the behavioral function, sensory neurobiology and evolution of the laterophysic auditory system in coral reef butterflyfishes are available at the University of Hawaii, USA. A doctoral

student is sought to investigate the behavioral contexts of sound production by butterflyfishes in their coral reef environment. This research will involve extensive underwater field work using scuba and closed-circuit rebreather systems, acoustics recording, videography and computer analyses. A postdoctoral position is available to investigate the neurophysiological responses of the lateral line during the reception of acoustic stimuli. Both positions will have the opportunity to gain experience with field experiments and laboratory techniques (extracellular/intracellular recording, ABR, neuroanatomy, immunocytochemistry). Start date is 2003. Please send inquiries (cover letter, CV, names of 3 references) to Timothy C. Tricas, Department of Zoology, University of Hawaii at Manoa, 2538 The Mall, Honolulu, HI 96822. Email <tricas@hawaii.edu> for further information. ♦

Postdoctoral position in insect visual neuroscience, at the University of Newcastle upon Tyne, UK, with Drs. Peter Simmons and Claire Rind. The position is available to start between February and June 2003, and lasts for 3 years. It is supported by a grant from the BBSRC (UK): "From Sense to Action: how the Nervous System Interprets the Codes used by Visual Interneurons in the Locust." We are seeking a highly motivated researcher who is skilled in either electrophysiological recording or in practical and theoretical signal analysis. The project concerns the way signals are transformed in two different visual pathways of the locust: the motion-sensitive DCMD pathway, and the ocellar pathway (see *TINS*, May 1999; *Neuron* **35**: 749 and <http://www.ncl.ac.uk/biol/research/psychology/nsg/insectvision/>). Our group is part of the newly formed School of Biology, in which Visual Neuroscience is a major research strength. For further details please contact: <p.j.simmons@ncl.ac.uk> or <claire.rind@ncl.ac.uk>. ♦

Two postdoctoral positions available immediately to develop a biologically inspired collision warning system based on the performance of locust looming sensitive visual neurons. The positions are for 36 months. The positions, in the visual neuroecology group in the School of Biology at the University of Newcastle upon Tyne (UK), are part of a larger European Community funded project. The overall objective of the project is to gain knowledge and to progress towards the practical exploitation of artificial Vision Systems on Chips (VSoC) based on the emulation of natural vision systems. Candidates should have experience in two or more of the following areas: visual neuroscience, computational modeling, analogue VLSI design or robotics. Salary reflects the candidate's experience and would be expected to attract individuals able to work in a multidisciplinary environment. Please send a CV, description of research experience and the addresses of two referees to <claire.rind@ncl.ac.uk>. For more information see <http://www.ncl.ac.uk/biol/research/psychology/nsg/insectvision/>. Dr. F. Claire Rind, School of Biology, The Medical School, Newcastle upon Tyne,

UK, NE2-4HH. Ph: UK 0191-2226681 FAX:UK 0191-2225227. ♦

The Department of Biology at McGill University is recruiting a **tenure-track faculty member in Neurobiology** who will complement a department that has strengths in the molecular genetics of several model systems as well as in neuroethology. The successful applicant will be expected to conduct a vigorous program of independent, externally funded research and to teach at both the undergraduate and graduate levels in a department with an established neurobiology curriculum. Candidates must have a Ph.D. or equivalent degree and postdoctoral experience demonstrating excellence in their field. This position is at the Assistant Professor level; however, exceptional senior candidates will also be considered for recruitment at the Associate or Full Professor level. Applicants should forward a CV, copies of representative reprints, statement of research interests, statement of teaching interests, and arrange to have three letters of reference sent to the following address: Neurobiology Search, c/o Louise Sabaz, Department of Biology, McGill University, 1205 Avenue Docteur Penfield, Montreal, Quebec, Canada H3A 1B1. Application deadline is Dec. 15, 2002. In accordance with Canadian immigration regulations, this advertisement is directed in the first instance to Canadian citizens and landed immigrants, however, applications from individuals of other nationalities will also be considered. ♦

Systems Neuroscientist. The Department of Biological Sciences at Bowling Green State University, USA, invites applications for a senior neuroscience position beginning August 2003. Full professor preferred; senior associate professor considered based on research credentials. Applicants are expected to have a research interest in the neural mechanisms of behavior with an appreciation for multiple levels of biological organization. Further information about the Department, the J.P. Scott Center for Neuroscience, Mind and Behavior, and position can be found at <http://caspar.bgsu.edu/~neuro/BGSUneuro.html>. Applicants must send a CV, statement of research plans and teaching interests, four representative reprints, and three reference letters by December 1, 2002 to: Paul A. Moore, Systems Neuroscientist Search Chair, Department of Biological Sciences, Bowling Green State University, Bowling Green, OH 43403-0212. AA/EEO Employer. ♦

The Section of Integrative Biology seeks an **Assistant Professor in Animal Behavior/Sensory Ecology**. We are particularly interested in candidates whose research integrates underlying sensory mechanisms of behavior with considerations of how the animals interact with the environment. The primary undergraduate teaching responsibility will be in Animal Behavior. The position requires a Ph.D. (awarded prior to September, 2003). Applicants should send a curriculum vitae; a statement of teaching Animal Behavior/Sensory Ecology and research interests; no

more than 5 reprints or preprints; and have at least 3 letters of recommendation sent to: Animal Behavior/Sensory Ecology Search, Integrative Biology, 1 University Station C0930, University of Texas, Austin, TX 78712-0253, USA, by December 10, 2002. For more detailed information see <http://www.biosci.utexas.edu/jobs/>. UT-Austin is an EEO/AA employer. ♦

Material for Future ISN Newsletters

We welcome material for future newsletters in a number of categories. Advertisements for positions are limited to 150 words. Announcements of new books (copyright 2002) *written or edited by ISN members* should include the full citation information (including ISBN) plus a 40-50 word description of the book (note: if an ISN member contributes only a chapter to a book it is not appropriate for inclusion in the newsletter).

We also welcome announcements of future meetings, reports on recent meetings, discussions of research areas or topics of interest to neuroethologists, laboratory profiles, editorials, and obituaries. Word limits depend on the type of article. Have an idea for an article that you or someone else would write? Contact the Secretary!

All material must be submitted electronically, preferably as a file attached to an e-mail message. Send queries or submissions to Janis Weeks (weeks@uoneuro.uoregon.edu). The deadline for the March issue is **February 15, 2003**. ♦



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