



Division of Neurobiology

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DNB Officers & Representatives

James A. Murray
Chair 2007-2012

Thomas J Pirtle
Secretary 2007-2012

Duane McPherson
Program Officer 2007-2012

Darcy Kato Ernst
Student/Postdoc Representative
2010-2013

Roger Croll
ICB Editorial Board Representative
2008-2013

Message from the Chair

James Murray

We will have a new secretary in 2012, thanks to Lisa Mangia-mele of Bowdoin College. The Student/Postdoctoral Affairs Committee representative is still Darcy Kato Ernst <darcy.kato@gmail.com>, so please contact her if you have any concerns you would like to bring to the officers. Duane will apprise us of the upcoming program in Charleston, and DNB has supported a couple of symposia. The DNB submitted one symposium proposal for San Francisco in 2013, but it was not approved. Only 1/3 of the proposals could be approved due to limited resources, but do please continue to develop ideas for new symposia. The due date is always in late summer, so start beating the bushes for speakers now. See you all in Charleston.

Course in Neuroethology. A course in Neuroethology is offered at Friday Harbor Laboratories, Friday Harbor, Washington. The following are details for this exciting course offering:

Monday, June 18 - Friday, July 20

APPLICATION DEADLINE: Feb 1st (deadline may be extended if space available)

Each course is 9 credits

Instructors: Dr. Jim Murray, Dr. Russell Wyeth, Dr. Shaun Cain

This 5-week graduate course will focus on learning techniques in neuroethological research such as behavioral recording and analysis, electrophysiology of intact and reduced preparations, and pharmacology, immunohistochemistry, and confocal microscopy of neural structures. Each pair of students will explore a project that helps them to learn the techniques they need in their own research. The course research will focus on the nudibranch sea slug *Tritonia diomedea* because of its amenability to neuroethological analysis and use as a teaching model. Lectures will focus primarily on background necessary to understand fundamental techniques in neurophysiology as well as behavioral analysis.

This course is one of very few advanced courses offered worldwide on advanced topics in the neurobiology of behavior. Neuroscience, like molecular biology and genetics, has tended



over recent decades to emphasize reductionistic techniques that have been extremely fruitful in illuminating the basic principles of how cells function and interact in nervous systems. But now we find that our ability to collect large data sets of recordings from dozens or hundreds of nerve cells have often outstripped our ability to relate these data back to the behavior of the organism, and ultimately to the ecological context of that behavior. The sea slug *Tritonia* has served as a model system both in this reductionist approach, and also in a complementary neuroethological approach that focuses more on relating the activities of multiple nerve cells to behavior in a natural context. In particular, the system is ripe for an integrative analysis of how the animals orient using multimodal sensory cues and how their brains make ecologically-relevant decisions on a cellular level (e.g. how does a slug decide to turn right or left if it smells both food and predator).

Students will be paired for 4-week projects, each pair with its own "rig" of electrophysiological equipment. The rigs will include neural activity amplifiers, digitization equipment to record data onto computers, microscopes to help guide the recording electrodes, and other devices as necessary. We will instruct students in techniques such as intracellular recording, single-cell inactivation, whole nerve recording, and fine-wire recording in freely-moving animals. We will also teach students how digital video can be used to record and quantitatively analyze many aspects of behaviour how to correlate these data with neural activity. Possibilities include tracking animal movement and measuring components body movement, amongst others. Students will be exposed to lesion experiments that isolate behavioural function to specific neurons (through drug inactivation) or parts of the nervous system (by nerve cuts) by comparing be-

haviors between sham-operated animals with that of lesioned animals. Students will also learn to label specific nerve cells using iontophoresis of fluorescent tracers, to immunolabel neural markers, and to process tissue for confocal microscopy.

Enrollment limited to 12 students.

Message from the Program Officer

Duane McPherson

Greetings to all DNB members! I hope you are all enjoying a pleasant autumn and making plans to attend the January SICB meeting in Charleston, S.C.

Another Large Meeting for SICB

The Charleston meeting will be among the largest in SICB history, with 1459 contributed presentations in addition to the symposia. Of the contributed abstracts, 660 are poster presentations and will be distributed across three days of the meeting (Wednesday, Thursday, and Friday). Saturday, the final meeting day, will have a full schedule of talks from 8 a.m. to 3 p.m., but no poster session. There will be instead a closing reception was held as last year in Salt Lake City.

Presentations related to neurobiology (i.e., organized as Neurobiology sessions) total 77, with 32 as talks and 45 as posters. The DNB presence at SICB continues to grow.

Judges Needed for Best Student Presentations

There are 23 presentations entered for the Best Student Presentation (BSP)

Ashli Moore



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awards in our division, of which there is one award for the best talk and one for the best poster. We need volunteers to judge those presentations! BSP presentations will begin on Wednesday, so we need to have judges lined up before the meeting begins. Please contact the division chair, Jim Murray (james.murray@csueastbay.edu), if you can do some judging. Thanks!

DNB Social

Neurobiology will again combine with Animal Behavior for a joint social. The social will be on Wednesday evening, beginning at 6:00 p.m. after the end of the DAB business meeting and running until 7:30. All DNB members and friends are welcome!

DNB Business Meeting

The DNB business meeting will take place on Thursday, January 5th, from 5:15 to 6:00 p.m. Please check the program for the room assignment. The annual business meeting is important and I look forward to seeing many of you there.

Childcare Service Survey

SICB is considering whether to provide childcare and babysitting service at the Charleston meeting. If you are one of those who desires childcare service, please fill out the survey form on the SICB website as soon as possible. The survey results will be reviewed in early November and a decision will be made soon after that.

Airport Shuttle to the Embassy Suites

Yes, there is a free shuttle bus to take you from the Charleston Airport to the Embassy Suites (and yes, the drivers do accept and appreciate gratuities). There will be a courtesy telephone to the hotel at the baggage claim area of the airport – look for the illuminated board with a number of hotels advertised and a set of telephones on each side. Or, you may call

on your own phone. The ride is brief as the hotel and convention center are quite close to the airport.

Shuttle Service to Downtown Charleston

There will be a free shuttle bus operating from 6:30 – 11:00 p.m. on the evenings of January 4th, 5th, and 6th, to facilitate downtown dining and sightseeing. These shuttles will depart from the Convention Center, next door to the Embassy Suites. In addition, the Embassy Suites hotel has a shuttle service to downtown during the day as well as in the evening for a modest fee (I think it's \$5 apiece). There are lots of interesting sights and shops in the downtown area. The SICB website will have a "Notes from the Underground" page as the meeting date approaches.

Symposia for the Meetings in San Francisco and Austin

A surprisingly large number of symposia were proposed for the 2013 meeting in San Francisco. Thirty-one symposium applications were submitted, while only 11 symposia could be accepted. As a result of the stiff competition, the symposium proposed from within DNB on Chemical Ecology did not make the cut. However, there will be a number of symposia with strong neurobiology interest at the San Francisco meeting. And it is not too early to begin planning symposium proposals for the 2014 meeting in Austin, Texas.

Other Meetings of Interest in the Future

The 2012 Experimental Biology meeting will be held in San Diego from April 21 – 25. The American Physiological Society is one of the sponsors and there will be sessions on the Central Nervous System and on Neural Control and Autonomic Regulation, as well as on related areas of physiology, pharmacology and biochemistry. The abstract deadline is November 8th, 2011 and the meeting website is www.experimentalbiology.org.



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The 10th Annual International Congress of Neuroethology will be held at the University of Maryland, College Park, August 5th – 10th. The meeting is associated with the International Society for Neuroethology (www.neuroethology.org) and the meeting website is: <http://icn2012.umd.edu>. This will be a great opportunity to attend the neuroethology meetings within the U.S. Please check the website for information on abstract submissions, meeting registration, and travel arrangements.

Message from the Secretary

Thomas Pirtle

Greetings members of DNB and other interested readers. I want to thank all those who participated in the spring elections. Additionally, congratulations to Lisa Mangiamele, the new secretary for DNB. As I leave the office of secretary I want to thank many of you for the support I have been given during my time as secretary. I want to especially thank Duane and Jim for their input in keeping me informed when I could not attend the meetings.

As Duane has indicated please volunteer to judge the Best Student Presentation (BPS) Awards. We want to support those students presenting their research in neurobiology and this is one important and easy way you can be involved in promoting this goal. Finally, if you are a student or are mentoring students please give serious thought to Jim's neuroethology course. This will provide students in neurobiology a unique opportunity to learn a variety of research techniques.