



Newsletter

Center for Neuroscience Research

WINTER/SPRING 2005

CONGRATULATIONS!

2005 CNR Pilot Project Grants Awarded

The review and award process for the first annual CNR Pilot Project Program has come to a conclusion, and we are happy to award pilot grants to two collaborative research teams this year.

Michele Jacob, Doug Vetter, and Fotini Gounari were awarded a pilot grant for their proposal: "Proper Assembly of Auditory System Cholinergic Synapses." This study will provide important information regarding organization of a central sensory cholinergic synapse, and will also clarify its similarity to peripheral neuronal cholinergic synapses. This study will use all four CNR cores to analyze changes in the formation, molecular organization and function of cholinergic synapses in APC-deficient cochlear hair cells.

Suzanne Roffler-Tarlov and Bill Brunken were also awarded a pilot grant for their collaborative studies of the albino riddle: "Molecular Links between Pigment Epithelium and Neural Retina." The project will be focused on the developing visual system, comparing gene expression profiles in albino and pigmented mice. Drs. Roffler-Tarlov and Brunken will make use of the CNR Bioinformatics Core and TEAC array facility to study the retinal wiring defects of albino mice.

The purpose of the CNR Pilot Project Program is to stimulate collaborative interactions among NINDS and other neuroscience investigators at Tufts and



Image from the Vetter lab: expression of Cre recombinase in outer hair cells of the mouse inner ear, as revealed by staining for the reporter beta-galactosidase.

Tufts-New England Medical Center. An additional goal is to provide start-up funds for research ideas that utilize CNR core facilities that may eventually lead to new individual funding by the NINDS. The funds for these awards have been generously provided by the Tufts University Office of the Vice Provost.

We hope to continue and expand the program next year; information on applying for a 2006 CNR Pilot Project grant will be posted on our website this Fall. For more information, please visit: <http://www.tufts.edu/sackler/neuroscience/CNR/center.html>

Congratulations again to the recipients of the 2005 CNR Pilot Project Program grants and thank you to Peggy Newell and the Office of the Vice Provost!

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RENOVATIONS TO DLAM COMPLETE

Animal Behavior Research Core facilities to open soon

The Animal Behavior Research Core (ABRC) is the newest research core facility on the Boston campus, providing facilities and services to assess sensory and motor capacity, complex behaviors, and to do general mouse behavioral profiling. The ABRC is housed within the Department of Laboratory Animal Medicine, newly renovated by an investment of over \$500,000 by Tufts University and Tufts-NEMC. The new facility aims to provide sophisticated animal behavioral research services to support investigators funded by the NINDS, NIMH, NIDA, and other sources.

The ABRC recently held an open house to celebrate the completion of construction within the Department of Laboratory Animal Medicine (DLAM) on the third floor of the South Cove building. Please contact Dr. John Byrnes at john.byrnes@tufts.edu or 6-3795 for information about behavioral testing services and scheduling of experiments or use of equipment. Additional information about the core can be found at: <http://www.tufts.edu/sackler/neuroscience/CNR/behavior.html>

ABRC Services Currently Available:

- **Functional Observation Battery** for complete phenotypic assessment.
- **Automated locomotor** and **open field activity** tests for drug-induced or motor disorders.
- **Acoustic startle and prepulse inhibition** tests for audition, anxiety and schizophrenia.
- **Tail flick** for spinothalamic assessment.
- **Rotarod** test for locomotor coordination disorders.
- **Elevated plus maze** and **swim test** for anxiety and depression.
- **Morris and other maze** tests for learning and memory assays.
- **Surgery** and intracranial implantation or brain lesion assays.

Future Additions:

- **Grip strength** test for motor weakness.
- **Conditioning tests** for learning and memory disorders.
- ***In vivo* metabolic chambers** for metabolic disorders.
- **Acoustic threshold** test and acoustic isolation chamber.
- **Others:** depending on investigator needs and available funds.

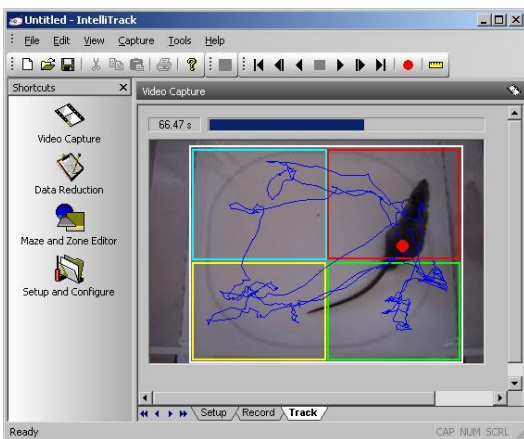


Illustration of Morris Water Maze (above) and Open Field Activity Testing box (right)

New Scheduling Guidelines for the Imaging Core

During the month of February, the Imaging Core implemented new scheduling guidelines for reserving use of the confocal microscope. Every other week, there will be designated days for use of the inverted and upright microscopes with the confocal instrument (see schedule from March – April; schedule also posted on WebEvent online sign-up calendar). This scheduling change will eliminate the need to move the scan head between platforms during the course of a single day. Weeks in which the microscope platform is designated will alternate with an open schedule in which either platform can be used to maintain scheduling flexibility. Please feel free to contact Lai Ding or Rob Jackson with questions or concerns regarding this new scheduling system. We are open to comments, feedback, and suggestions, and will do our best to accommodate specific needs for your experiments.

Lai Ding: 6-3795 or lai.ding@tufts.edu

Rob Jackson: 6-6752 or rob.jackson@tufts.edu

Confocal Schedule March 21st – April 15th

Week 1: (3/21 – 3/25)
M/W/F: inverted
T/Th: upright

Week 2: (3/28 – 4/1)
Open schedule

Week 3: (4/4 – 4/8)
M/W/F: upright
T/Th: inverted

Week 4: (4/11 – 4/15)
Open schedule

EBCF SERVICES NOW AVAILABLE, ADDITIONAL PLANS FOR FUTURE

Electrophysiology & Biophysics Core Facility Now Open

The Electrophysiology and Biophysics Core Facility has been providing experimental and consulting services to many Tufts and Tufts-NEMC investigators. At the present time, the core has a complete single cell recording setup with fluorescence capability for standard single-channel and whole-cell patch clamp recording. In addition, a simple slice recording setup is available for extracellular field potential recording. The core is in the process of acquiring

several major pieces of equipment for a new intracellular tissue slice recording setup. These include a Leica vibratome, a TLC antivibration table, an upright Nikon IR-DIC microscope with fluorescence capability, and a matching Burleigh micromanipulator. It is estimated that the new slice recording setup will be operational by this summer. Please contact Chuang Du at 6-4938 or chuang.du@tufts.edu for more information.



Above: Leica Vibratome; Above right: Nikon microscope set-up

Attn: Tufts Core Users NEW INTERNAL BILLING PROCESS

Due to the volume of core usage and billing, we have recently initiated an electronic process for submitting core billing on a monthly basis. This will expedite our billing process and eliminate the need to send multi-part paper requisitions back and forth for signatures and processing. All Tufts PIs will now receive a monthly statement for their records, showing core usage and the amount charged to the DeptID/Grant# provided at time of service and kept on file. No action is required except in case of error, or in the case that your billing information should change. Should any changes need to be made, please direct these to Carolyn Chen for immediate resolution. Please also be sure to review and keep us updated on your current billing information. Thanks for your help with process and please feel free to contact Carolyn with any questions or concerns at carolyn.chen@tufts.edu or 6-3624.

How to Contact CNR Personnel...

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We welcome any comments, questions, and suggestions regarding the CNR newsletter. Please direct them to:

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