A year of growth

Our 2010-11 investigator roster is comprised of 21 faculty from 6 departments across 4 colleges. Also among our Investigator ranks are 3 post-docs, and 2 PhD students.

Welcome to the newest members of the Institute, Robert Renthal (Biology), who works on insect sensory systems, and Orkid Coskuner (Chemistry) who studies small molecule interactions in neurodegeneration.

Fiscal Snapshot

Institute Funding Growth in Year One

Federal Awards received during FY 09 totaled $2.83 million. New awards include Nicole Wicha's R03 on "Brain Indices of Arithmetic Organization in Bilinguals," and Todd Troyer's NSF award on "Computational investigation of songbird vocalization.

People

Advisory Board

Dan Johnston PhD, Professor & Director, Center for Learning & Memory, UT Austin.

James Roberts PhD, Ruth C. & Andrew G. Cowles Professor of Life Sciences, Trinity University.

David Weiss PhD, Professor & Director, Department of Physiology, UTHSCSA.

Steering Committee

The steering committee is comprised of investigators carrying current federal funding that is sponsored through the institute.

Carlos Paladini PhD

Rama Ratnam PhD

David Senseman PhD

Kelly Suter PhD

Todd Troyer PhD

Nicole Wicha PhD

Charles Wilson PhD

Acknowledgment

Administration

This year, Gregory Granados joined the Institute as our head admin. Thanks to him, and the Biology staff for excellent support and trouble shooting throughout the year.

Fiscal Growth

Investigators vie for federal dollars

This year our investigators submitted a total of 19 federal grants through the Institute.
Institute Activities

The year at a glance

Neural Patterning Symposium

On April 9th, the Institute welcomed a distinguished panel for its second annual symposium. This year’s theme, “Wiring the Nervous System from the Brain to the Spinal Cord,” united 4 top developmental neurobiologists to present their research findings at UTSA. On the panel: Pasko Rakic (Yale), Goichi Miyoshi (NVU), Raj Awatramani (Northwestern), and Jeremy Dasen (NYU-HHMI). Speaking among them was the symposium’s organizer, Institute Investigator Gary Gauf. Institute Associate Director Salma Quraishi led the panel in a podcast discussion, available as part of the Neuroscientists Talk Shop Podcast, on iTunes Music Library.

The symposium was attended by researchers, fellows and students from UTSA and UTHSCSA.

Hands-on training

The Neurosciences Institute presented two workshops this year, aimed at providing our faculty with robust analytic tools to mine data, both image and numerical.

On January 16 and 23, a two-part workshop was given by Statistics professor and Neurosciences Institute Investigator Dajjin (DJ) Ko on “the R language: A statistical tool for biologists.” Over 30 faculty and graduate students attended each session.

On April 30th, the Institute hosted a workshop on “Image analysis in 3 Dimensions.” Institute Investigator Colleen Witt hosted the developer of Autoquant X Deconvolution software and the head of tech support from Bitplane AG to provide attendees with theory and practical training in image analysis.

Handed-on training

In November the Institute hosted a pair of Distinguished Lectures for the Public on Huntington’s Disease featuring sibling scholars and advocates, neuroscientist Nancy Wexler (Columbia) and historian Alice Wexler (UCLA). The companion lectures highlight two academic perspectives on Huntington’s Disease from researchers who have had personal experience with it in the form of being genetically at risk. Alice’s work pursues the disease from a sociological perspective; Nancy’s work focuses on its biological basis and led to the discovery of the gene for Huntington’s. The events drew a collective audience of around 350, including members of the South Texas Huntington’s Disease Support Community.

Faculty Kudos

Funding success

Institute investigators won 17 federal awards (new and continuing) including 12 from NIH and 4 from NSF (see box, right). Nonfederal funding received during FY09 included UTSA’s intramural Collaborative Research Seed Program (Rama Ratnam & Jim Bower) and Tenure-Track Research Award Competition awards (Fidel Santamaría).

Scholarly output

Institute faculty generated 62 publications in fiscal year 2008-9 (see Faculty in Press, below for details).
NIH AWARDS
NIH F31NS064755  PI: Deister, Chris A
The Role of Intrinsic Variability in the synchronization of pallidal neurons
NIH SC1NS066987  PI: Derrick, Brian E
Synaptic Regulation of Neurogenesis in the Dentate Gyrus
NIH F31MH084494  PI: Lobb, Collin
GABAergic Inhibition of NMDA-mediated Bursting in Midbrain Dopaminergic Neurons
NIH R01MH079276  PI: Paladini, Carlos A
Cellular Mechanisms of Dopamine Neuron Bursting
NIH R03DC009050  PI: Ratnam, Rama
Effects of Aging on Evoked Otoacoustic Emissions in the Common Marmoset
NIH P51RR013986  PI: Ratnam, Rama
Measurements of Otoacoustic Emissions in the Common Marmoset
NIH R01HD045436  PI: Suter, Kelly J
Control of GnRH Neurons by Excitatory Circuitry
NIH R21HD049664  PI: Suter, Kelly J
Studying Coordinated Firing in Hypothalamic GnRH Neurons
NIH R01HD060818  PI: Suter, Kelly J
Pubertal Control of GnRH Neurons
NIH SC1HD060435  PI: Wicha, Nicole Y
Brain & Behavior of Bilingual Language Comprehension
NIH R03HD060756  PI: Wicha, Nicole Y
Brain Indices of Arithmetic Organization in Bilinguals
NIH R37NS037760  PI: Wilson, Charles J
Neostriatal Cholinergic Interneuron Firing Patterns
NIH U54NS060658  PI: Wilson, Charles J
Quantitative Neurobiology at the University of Texas San Antonio. * Subproject PIs are Gaufo, Ko, Paladini & Witt.
NIH P50NS047085  Co-PI: Wilson, Charles J
Rhythmicity and Synchrony in the Basal Ganglia  Pi: Surmeier, Northwestern University Udall Center Subcontract.

NSF AWARDS
NSF DUE 0837248  PI: Robbins, Kay; Senseman, David. Teaching Computing to Biologists Through Data Visualization
NSF IOS 0517572  PI: Bower, James
Models of the Cerebellar Purkinje Cell and Cortex
NSF EF 0634588  PI: Senseman, David
Preparing Computational Biologists by Encouraging an Academic Minor
NSF DMR 0934218  Co-PI: Santamaria, Fidel
Oxide and Metal Nanoparticles - The Interface Between Life Sciences and Physical Sciences
NSF IOS 0951310  PI: Troyer, Todd
Computational Investigation of vocalization in songbirds.

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On May 1st, the Institute hosted a workshop on "Image Deconvolution and Analysis."

Institute Investigator Colleen Witt hosted the developer of Autoquant X Deconvolution software and the head of tech support from Bitplane AG to provide attendees with theory and practical training in image analysis.

Going local
OCNS 2010
This coming July, members of the Neuroscience Institute co-hosted (with the UT Health Sciences Center San Antonio) the biennial conference of the international Organization for Computational Neuroscience. The meeting was a forum for applied and theoretical research, and featured a two-day retrospective symposium on the last 20 years in the field. Our students and faculty attended and presented original research among an international community of computational neuroscientists. The published abstracts are available through BMC Neuroscience, Volume 11.

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SYMPOSIUM 2010
Wiring the CNS from Brain to Spinal Cord, 04.09.10
From left: Charles Wilson, Jeremy Dasen (NYU), Pasko Rakic (Yale), Gary Gaufo (UTSA), Raj Awatramani (Northwestern), Goichi Miyoshi (NYU).
Publications


1 Citations presented alphabetically by senior Institute Investigator. If neither is senior, citation appears alphabetically by first named Investigator.


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