

**LSU Health Sciences Center
School of Medicine in New Orleans**

**The 16th Annual Retreat
NEUROSCIENCE CENTER OF EXCELLENCE**



**Grass Lecturer, Keynote Speaker
and Chancellor's Award Lecturer
in Neuroscience**

Carla J. Shatz, Ph.D.

**Nathan Marsh Pusey Professor and Chair,
Department of Neurobiology,
Harvard Medical School, Boston, MA
Member of the National Academy of Sciences**

**“Brain Waves and Immune
Genes in the Brain Wiring”**

Connections in the adult CNS are highly precise. In the visual system, retinal ganglion cells connect to target LGN neurons in adjacent, non-overlapping eye-specific layers. During development, retinal inputs are intermixed and the layers emerge as axons from the two eyes remodel. Remodeling requires ganglion cell action potentials, which are endogenously generated in utero long before rods and cones are present: ganglion cells fire spontaneously and synchronously, generating “waves” of activity that sweep across retinal domains. Waves are also required for regulation of gene expression by LGN neurons, including Class I major histocompatibility complex (MHC I). In mice lacking cell surface class I MHC, or CD3 zeta, development of the retinogeniculate projection is abnormal and adult mice have supranormal hippocampal LTP and lack LTD. Thus, these molecules are required for normal activity-dependent structural and functional synaptic modifications. These observations indicate that long before visual experience, nerve cell function is essential for activity-dependent gene expression and for the initial structural remodeling that leads ultimately to the adult precision of connectivity.

**Dr. Shatz will be the guest of the Neuroscience Center and
Department of Cell Biology and Anatomy, School of Medicine.**

**Monday,
April 19, 2004**

**from 8:00 a.m. to 2:00 p.m.
LSU Health Sciences Center**

KEYNOTE LECTURE: 9:30 a.m.
1st Floor
Medical Education Building (MEB)
Lecture Room B
1901 Perdido Street

Registration: 8:00-9:00 a.m.
2nd Floor, MEB or 8th Floor
LSU-Lions Medical Research Center
2020 Gravier Street

Poster Set-up: 8:00-9:00 a.m.
Poster Viewing: 11:00 a.m.-1:00 p.m.
8th & 9th Floor
LSU-Lions Medical Research Center
2020 Gravier Street

Light Lunch/Awards: 1:00-2:00 p.m.
8th Floor Conference Room
LSU-Lions Medical Research Center
2020 Gravier Street

Members of the Greater New Orleans
Society for Neuroscience chapter are
invited to submit abstracts and
participate in the event.

**Deadline for abstract and
registration submission
is April 5, 2004.**

**Contact Z. Davis
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