This word changes to epilepsy, PSTD, depression, Parkinson's Disease, OCD, anxiety disorder, Alzheimers,

\* \* \* Responsive on all screen

resolutions\* \* \*

Display news in 5 rotating

small buttons to navigate

slides - auto rotating,

between news slides

Banner sentence at bottom of banner.

http://tympanus.net/ Tutorials/CSS3Rotating Words/

"Depression" should appear every third word

#### WHAT IS **NEUROMODULATION?**

WHAT IS **OUR MISSION?** 

FREQUENTLY ASKED QUESTIONS LEARN MORE...

PATIENT RESOURCES

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RESEARCH PROGRAMS

LEARN ABOUT THE TEAM

EDUCATION RESOURCES **TOOLS, MEDIA AND LINKS** 

WHY

UCLA?

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#### SECTION Who We Are

We are a unique transdisciplinary group of leaders in Psychiatry, Neurosurgery, Neurology, and Engineering who are developing novel individualized treatment approaches for psychiatric and neurological disorders. Please explore our site to learn more about the expanding field of neuromodulation.

Andrew Leuchter, M.D. Director

Nanthia Suthana, Ph.D. **Associate Director** 

#### Our Mission: SECTION

The Neuromodulation Division of the Semel Institute integrates the work of experts from across the campus to develop new approaches to understanding the brain, and new treatments for psychiatric and neurological disorders.

### SECTION

What is Neuromodulation?

Neuromodulation is a process that modifies the natural signals sent among groups of neurons in the brain. Read More...

### - When clicked (displays following text):

Neuromodulation is distinct from neurotransmission, which is the direct transmittal of information from one neuron to another. Neuromodulation modifies neurotransmission: it changes the excitability of neurons, and therefore the how they will communicate in response to chemical or electrical input signals. Neuromodulation allows us to adapt to the environment, allocate cognitive resources, and regulate arousal, appetitive behaviors, movement, and mood.

## SECTION

What are Neuromodulation Treatments?

Neuromodulation treatments are an emerging class of technologies that apply magnetic or electrical energy to the brain to treat depression, epilepsy, Obsessive-Compulsive Disorder, Parkinson's Disease, and other neuropsychiatric illnesses. Read More...

# When clicked (displays following text):

"Neuromodulation treatments can be used as either an alternative or an addition to medications for the treatment of illness. These cutting edge technologies modify the activity of neural networks, and include invasive methods that utilize electromagnets or small electrodes applied to the scalp, and invasive techniques that involve insertion of electrodes int the brain. Non-invasive treatments include repetitive transcranial magnetic stimulation (TMS), transcranial direct current stimulation (tDCS), trigeminal nerve stimulation (TNS), transcranial alternating current stimulation (tACS), and synchronized transcranial magnetic stimulation (sTMS). Invasive techniques include deep brain stimulation (DBS) and electrocortical stimulation. Treatments frequently are targeted to stimulate brain regions specific to individuals' illness, but also may be applied to the brain as a whole. (read more...link to technologies page) Regardless of the method, neuromodulation signals spread rapidly through brain networks, affecting multiple structures systems beyond the targeted region. This applied electromagnetic energy shares the common effect of increasing neuroplasticity, altering brain connectivity, and thereby altering brain network function."

#### SECTION Why UCLA?

The transdisciplinary breadth our faculty is both unparalleled and unique. We brings together leading faculty from Psychiatry, Neurosurgery, Neurology, and Engineering to utilize and develop individualized treatment approaches for psychiatric and neurological disorders. Read More

When clicked (displays following text)

The Neuromodulation Division of the UCLA Semel Institute:

- Improves psychiatric treatments
- Elucidates the mechanism of how treatments work
- Develops and tests novel technology Promotes dialogue among experts in the field of Neuromodulation
- Educates the next generation clinician-scientists Develops and shares tools to promote collaborative research

# **SECTION** Faculty

Andrew Leuchter		Nanthia Suthana
Director		Associate Director
Faculty Member	Faculty Member	Faculty Member
Faculty Member	Faculty Member	Faculty Member
Faculty Member	Faculty Member	Faculty Member
Faculty Member	Faculty Member	Faculty Member
Faculty Member	Faculty Member	Faculty Member
Faculty Member	Faculty Member	Faculty Member

# SECTION FAQ

Links to http://wheresmyhippo.com/research/wordpress/?page\_id=280