

## **Geriatric Psychiatry**

### **1. Staff**

*Davangere P. Devanand, MD, Acting Chief, Psychiatrist (Research) II, Professor of Clinical Psychiatry and Neurology*

*Steven Roose, MD, Professor of Clinical Psychiatry*

*Harold Sackeim, PhD, Professor of Psychology in Psychiatry*

*James R. Moeller, PhD, Research Scientist V, Assistant Clinical Professor of Psychiatry*

*Joan Prudic, MD, Psychiatrist (Research) II, Associate Professor of Clinical Psychiatry (secondary appointment)*

*Yaakov Stern, PhD, Research Scientist VI, Professor Clinical Psychiatry.*

*Gregory Pelton, MD, Assistant Professor of Clinical Psychiatry*

*Matthias Tabert, PhD, Assistant Professor of Psychology in Psychiatry*

*Jeremy Coplan, MD, Psychiatrist I*

*Tarrique Perara, MD, Assistant Professor of Clinical Psychiatry*

*Joel Sneed PhD, Research Fellow*

*David Hardesty MD, Research Fellow*

*Brett Rutherford MD, Research Fellow*

*Deidre Devier PhD (Research Fellow)*

### **2. Overview**

The Division of Geriatric Psychiatry was formed in early 2007 after the former Department of Biological Psychiatry was split into the Division of Geriatric Psychiatry and the Division of Brain Stimulation. The Division of Geriatric Psychiatry is engaged in a wide range of preclinical and clinical research efforts focused on investigational studies and somatic therapies in geriatric psychiatry. These include the operation of three outpatient research clinics: Late Life Depression Clinic, Huntington's Disease Center of Excellence, and Memory Disorders Center. The department has laboratories for the study of psychiatric treatments in preclinical models, laboratories and research projects in Electroconvulsive Therapy (ECT) and is about to begin a program in deep brain stimulation (DBS).

### **3. Current Research**

#### ***Aging, Memory Disorders, And Late Life Depression***

Dr. Devanand is continuing his leadership of multi-center clinical trial to determine how long Alzheimer's patients who develop psychosis or agitation need to continue on antipsychotic medication treatment. He has also received a new 5-year federal grant to continue his studies of which patients with mild memory and cognitive problems go on to develop dementia. This work is coupled with Dr. Devanand's pioneering work on the use of olfactory identification of deficits as an early diagnostic marker of Alzheimer's disease. Dr. Matthias Tabert continues work on his K award from the NIA to expand this fMRI-olfaction work. In the area of late life depression, Dr. Devanand's work showed that fluoxetine may not be very effective in treating elderly patients with chronic mild-to-

moderate depression (dysthymic disorder), and that the dual serotonin-norepinephrine reuptake inhibitor venlafaxine, and now duloxetine, may be a promising treatment in this patient group. Dr. Gregory Pelton has begun the first prospective study of whether the use of combined antidepressants and cognitive enhancers will slow the onset of dementia in patients who present with both depression and mild cognitive impairment. Dr. Roose is part of a federal grant submission to study of the effectiveness of calcium channel blockers to prevent the progression of vascular depression. This study is part of a program to define the diagnostic criteria of vascular depression, which is the focus of a K-award received by Dr. Sneed. Dr. Roose and Dr. Prudic are collaborating on a study of the antidepressant and cognitive effects of VNS in late-life patients, and DBS in treatment refractory patients. Dr. Rutherford has begun a unique series of studies to define the impact of patient and doctor expectations on the outcome of antidepressant clinical trials. Dr. Devier has begun a clinical study in which MR spectroscopy and MR cerebral volume measurements will be used to evaluate the effects of antidepressant treatment on neurogenesis in humans for the first time. Dr. Moeller has been conducting brain imaging analysis on network approaches to understand the impact on CNS infection and inflammation on brain function, e.g., Lyme's disease.

***Electroconvulsive Therapy (ECT) and Neurogenesis***

Research studies on variations in ECT technique, and their impact on outcome have yielded important new insights into the challenges of bringing best practice into widespread implementation in the community. Dr. Perera continues his work on animal models of focal stimulation to define the neural effects of these procedures. Dr. Perera has shown that electroconvulsive shock, the animal analog of therapeutic ECT causes a robust increase in newly generated neurons. By blocking neurogenesis with irradiation in non-human primates, he demonstrated that neurogenesis is necessary for therapeutic effects of antidepressants. By implementing a dentate gyrus-specific task, he showed that neurogenesis was correlated with performance when animals were required to learn a modified version of a familiar task.

**4. Grants**

- 2005-2009            NIA P50 AG08702: 11-15. Alzheimer’s Disease Research Center. \$5,314,086 direct costs. Principal Investigator: Michael Shelanski. Co-Investigator: D.P. Devanand.
- 2001-2007            NIA. R01 AG17761. Questionable Dementia: Course and Predictors of Outcome. \$1,963,506 direct costs. Principal Investigator: D.P. Devanand.
- 2003-2008            T32-MH20004. Clinical Research Training in Geriatric Psychiatry. Total Direct Costs: \$1,250,000. Principal Investigator: Steven P. Roose. Co-Principal Investigator: D.P. Devanand.
- 2003-2008            AG021488. Antipsychotic Discontinuation in Alzheimer’s Disease. Total Direct Costs: \$1,260,840 (\$4,226,380 across 5 sites; multicenter

study with NYSPI as lead coordinating site). Principal Investigator: D.P. Devanand.

2006-2008 Eli Lilly. Duloxetine treatment of dysthymic disorder in the elderly. Total Direct Costs: \$120,000. Principal Investigator: D.P. Devanand.

2006-2008 Forest Laboratories. Effects of combined Memantine and Escitalopram treatment in elderly depressed patients with cognitive impairment. Total Direct Costs: \$150,000. Principal Investigator: Gregory H. Pelton. Co-Principal Investigators: Steven P. Roose, D.P. Devanand.

2006-2008 Glaxo Smith Kline. PET amyloid imaging in Alzheimer's disease, mild cognitive impairment, and healthy controls. Total Direct Costs: \$960,040. Principal Investigator: J. John Mann. Co-Principal Investigator: D.P. Devanand.

2006-2008 Glaxo Smith Kline. PET Imaging Of Mild Alzheimer's Disease And Healthy Elderly Subjects With [<sup>11</sup>C]-6-OH-BTA-1. Total Direct Costs: \$367,640. Principal Investigator: D.P. Devanand. Co-Principal Investigator: J. John Mann.

2007-2012 NIA. R01 AG17761. Questionable Dementia: Course and Predictors of Outcome. \$4,826,377 total direct costs. Principal Investigator: D.P. Devanand.

2006-2008 Glaxo Smith Kline. PET Imaging Of Mild Alzheimer's Disease And Healthy Elderly Subjects With [<sup>11</sup>C]-6-OH-BTA-1. Total Direct Costs: \$367,640. Principal Investigator: D.P. Devanand. Co-Principal Investigator: J. John Mann.

2006-2010 K23 MH70056-01A1. National Institute of Mental Health (NIMH) Vascular depression: A distinct diagnostic entity? Principal Investigator: Joel Sneed.

2004-2008 RO1 NS 047668 Eidelberg D (PI). Brain and Behavior in Dystonia. Co-investigator James R. Moeller.

2007-2010 R01 EB006204 Habeck C (PI). Multivariate Approaches to Neuroimaging analysis. Co-investigator James R. Moeller.

## **5. Publications**

Devanand, D.P., Habeck, C.G., Tabert, M.H., Scarmeas, N., Pelton, G.H., Moeller, J. R., Mensch, B., Tarabula, T., Van Heertum, R., Stern, Y. PET network abnormalities and cognitive decline in patients with mild cognitive impairment. Neuropsychopharmacology 2006; 31:1327-1334.

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Tabert MH, Steffener J, Albers MW, Kern DW, Michael M, Tang H, Brown TR, Devanand DP. Validation and optimization of statistical approaches for modeling odorant-induced fMRI signal changes in olfactory-related brain areas. Neuroimage. 2007;34:1375-90.

Devanand, D. P., Pradhaban, G., Khandji, A., Tabert, M. H., De Santi, S., Segal, S., Liu, X., Pelton, G. H., Honig L., Mayeux R., Stern, Y., de Leon, M. Hippocampal and entorhinal atrophy in the prediction of MCI conversion to Alzheimer's disease. Neurology, 2007;68:828-36.

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Sneed JR, Rutherford BR, Rindskopf D, Lane DT, Sackeim HA, Roose SP. Am J Geriatr Psychiatry. 2007 Nov 12 Design Makes a Difference: A Meta-Analysis of Antidepressant Response Rates in Placebo-Controlled Versus Comparator Trials in Late-Life Depression.

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