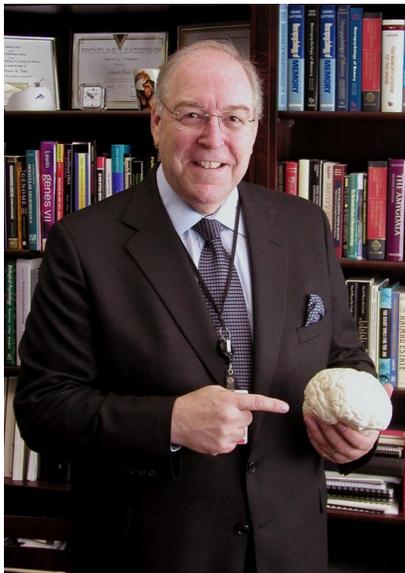


# Emory University School of Medicine Alzheimer's Disease Research Center

DR. STUART ZOLA, PHD



Stuart Zola, Co-Director of the Emory Alzheimer's Disease Research Center (ADRC) is one of the nation's leading neuroscientists. He came to Emory as the director of the Yerkes National Primate Research Center in

2002. By studying how the brain organizes memory and how this relates to memory problems, Dr. Zola has made significant progress in mapping out the human brain's intricate memory systems. This has important implications for research in diseases which affect memory such as Alzheimer's disease.

From autopsy studies, we know that Alzheimer's can produce considerable damage to the brain even before symptoms can be detected by traditional methods. As researchers work to develop treatments to halt or delay the progress of the disease, identification of persons in the very early stage of Alzheimer's becomes very important. This is where Dr. Zola's work comes in.

Dr. Zola's research moves back and forth between studies of humans and of non-human primates (monkeys, for example, have a brain structure very similar to humans). Through his

work with monkeys, Dr. Zola has been able to develop simple and accurate tests of human memory impairments.

In his most current work in the ADRC, Dr. Zola is heading up a research project that is exploring whether this non-invasive technique can identify persons in a very early phase of memory impairment, Mild Cognitive Impairment. He is currently recruiting a variety of people to take part in this study. Persons eligible for this include persons over 70 without memory problems, individuals of any age diagnosed with early Alzheimer's disease, Parkinson's disease or with mild memory impairment. He hopes that this simple memory test will prove useful in predicting the onset of Alzheimer's disease and other neurodegenerative diseases such as Parkinson's. If you are interested in participating in this or other AD related research studies at Emory, please call 404-728-6950.

This is the one hundredth anniversary of the first diagnosis of Alzheimer's disease by Dr. Alois Alzheimer. Below we print some of the answers to the question we posed to members of the ADRC: "What has been the most significant development in Alzheimer's in the past hundred years?"

- *Drug treatments that can slow the course of the disease.* The availability of a few medications gave immense hope and faith that more medications would be available in the future. Hope drives research and stimulates people to take part in it.
- *The development of new technology and the creation of animal models of Alzheimer's disease.* This development sets the stage for establishing laboratory models for diseases that have not had that research advantage. Up to now there has been no adequate animal model for Alzheimer's disease, but that important advance is imminent. When an effective animal model is established, particularly in the

## THE HUNDREDTH ANNIVERSARY

non-human primate, the world of Alzheimer's research will have turned an important corner and opened the way for studies in a species that closely resembles humans in brain organization and in cognitive and social functioning.

- *The partial sequencing of amyloid-beta and subsequent cloning of the amyloid-beta precursor protein.* These advances revealed a central element in the cause of Alzheimer's disease.
- *Identifying the abnormal structures in the brains of patients with Alzheimer's disease.* This established conclusively that the arrangements of amyloid-beta peptide provide important constraints on both the pathway for creating the Alzheimer's brain pathology and the possible causes of damage to brain cells.

We are eager to collect more opinions about breakthroughs you consider important. Email your suggestions to: [khepbur@emory.edu](mailto:khepbur@emory.edu).

## SO IF MY MOTHER HAD IT? . . . GENETICS AND ALZHEIMER'S DISEASE PANEL PRESENTATION

On November 30, 2006, the ADRC sponsored a panel discussion on genetics, genetic testing, and Alzheimer's disease. Over 125 people attended this session at the Nell Hodgson Woodruff School of Nursing on the Emory campus. Co-sponsors of the event included the School of Nursing, the Emory Yerkes National Primate Center, and the Georgia Chapter of the Alzheimer's Association.

The panel was moderated by Dr. Randy Martin, Emory University School of Medicine, Professor and WSB-TV (Atlanta) medical reporter. Allan I. Levey, MD, PhD, Professor and Chair of the Emory Department of Neurology and Principal Investigator of the ADRC provided background on current knowledge about genetics and Alzheimer's. His main message was that discoveries of genetic links are only just beginning, and much more is to be expected in the future.

Dr. Levey pointed out two important facts about three genes that researchers have located that are associated with the early onset of Alzheimer's disease. First, only a very small percentage of all persons with AD have

one of these genes; and, second, scientists believe that many more genes will be identified that are associated with AD.

Ms. Ami Rosen, MS, CGC, Emory ADRC genetics counselor discussed the apolipoprotein E (APOE) gene. This gene has been identified as a risk or susceptibility factor for the late onset (after 65) of Alzheimer's. Ms. Rosen pointed out that, while forms of this gene appear to predispose people to Alzheimer's, there are people with the gene who never develop AD.

Ms. Rosen and Dr. Paul M. Fernhoff, MD, FAAP, from the Emory Department of Genetics discussed genetic testing. Tests are available and are sometimes used in a clinical setting when a

physician is making a clinical diagnosis. However, such tests should not be performed on individuals with no symptoms of AD. Furthermore, genetic testing can pose ethical and legal problems, opening the possibility of insurance and employment discrimination.

Ms. Sheila Humberstone, an AD family member recounted the early onset of AD in her mother. She was greatly relieved to learn that she had less risk of inheriting Alzheimer than she had previously thought.

Many questions from the audience focused on how this information about genetics might be helpful in the future. The panel offered two specific suggestions. First, by bank-

ing DNA material now, a family has the opportunity to tap into findings as they are discovered. Second, brain autopsy at time of death is the only sure way to confirm diagnosis – and therefore the only sure way to make best use of developing knowledge about genetics. Brain autopsy is available without charge to persons participating in the ADRC. If you are interested in banking your DNA and learn more about our autopsy program, call 404-728-6950.

Future Panel Discussions:

- Alzheimer's Disease Research Update – April 26, 2007 at 7:00pm; Nell Hodgson Woodruff School of Nursing. For details call the Emory Health Connection at 404-778-7777.
- Alzheimer's Disease and Elder Law



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Emory Alzheimer's Disease Research Center Clinical Outpatient Research Studies January 2007		
Research Study	Eligibility	Contact Person
<b>Emory ADRC Research Registry</b> – Longitudinal study of changes in memory and other cognitive skills	Aging people over 65 with no memory problems or People with Mild cognitive impairment or Alzheimer's disease or Other forms of dementia	Ann Johnston 404-728-6950 <a href="mailto:asjohn2@emory.edu">asjohn2@emory.edu</a>
<b>Neuroimaging &amp; biomarkers study - ADNI</b> Normal Aging, Mild Cognitive Impairment & early Alzheimer's Disease	Aging people with no memory problems People with Mild Cognitive Impairment or Alzheimer's Disease Age 55-90 Study partner available Stable on medications	Janet Cellar, RN, CNS 404-728-6453 <a href="mailto:jcellar@emory.edu">jcellar@emory.edu</a>
<b>Rozerem for Sleep Problems -</b> Mild and Moderate Alzheimer's disease with sleep problems	Diagnosis of Alzheimer's disease Age 55-90 With any type of sleep problem including difficulty falling asleep, awakening at night & believing it is morning or nighttime wandering, etc. Study partner	Laura-Beth Straight 404-728-6968 <a href="mailto:lstraig@emory.edu">lstraig@emory.edu</a>
<b>Huperzine (Chinese herb) -</b> Mild to moderate Alzheimer's disease	Diagnosis of probable Alzheimer's Age 55 or older Have not taken Aricept, Exelon, or Reminyl in the past 2 months Can be on Namenda	R.D. Jewart, PhD 404-728-6414 <a href="mailto:rjewart@emory.edu">rjewart@emory.edu</a>
<b>Neuroimaging study</b> Mild Cognitive Impairment & Normal Aging	Diagnosis of Mild Cognitive Impairment or normal cognition Age 60 years and older	Ann Johnston 404-728-6950 <a href="mailto:asjohn2@emory.edu">asjohn2@emory.edu</a>

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Please make checks payable to:

Emory Alzheimer's Disease  
Research Center

1841 Clifton Road

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On November 18, 2006 Allan Levey MD, PhD, Director of the Emory Alzheimer's Disease Research Center (ADRC), James Lah MD, PhD, Co-Director of the Clinical Core of the Emory ADRC, and Michael Kuhar, PhD, of the Emory University Yerkes National Primate Research Center, participated in a program at the Cobb Galleria sponsored by the AARP Foundation and the Dana Alliance for Brain Initiatives called 'Staying Sharp'. The Program was attended

by over 600 individuals all interested in listening in on the two hour conversation between the panelists, all nationally recognized neuroscientists from Emory, discussing the latest research on the brain and aging. The panelists discussed the results of research studies which confirms that older individuals are able to learn things just as well as younger individuals however it may take a little longer and require more effort. The panel members emphasized the benefit of engaging in mentally and physically stimulating activities to keep your mind sharp and to help maintain a good quality of life.

The panel discussion was followed by a question and answer period allowing attendees to pose questions to the panel. Staff from the Emory Alz-

heimer's Disease Research Center were available to answer attendees' questions about how to participate in brain research at Emory with many individuals signing up so that they could learn more about research being conducted at the Emory ADRC. If you are interested in learning about or participating in Emory ADRC based research, please call 404-728-6950.



## SAVVY CAREGIVING

Family caregivers of persons with dementing disorders take on a new life role. In this new role, the savvy caregiver learns to think and act like a nurse or doctor – or a detective or scientist. He or she learns to step back and look at the scene coolly, figure it out, take charge, and decide what's best to do in the situation. S/he will see that, over time, the person with dementia will contribute less and less to solving everyday problems.

Having caregiving strategies is important. Developing these strategies takes three things. First, see what the disease is doing to the person – what's being lost. Second, have a realistic goal in mind – keeping the person content and doing things is more realistic than trying to help the person to

regain what's being lost to the disease. Third, with this goal in mind, try out ways to work around the damage the disease is creating.

Consider what Alzheimer's disease does to thinking powers (like memory, reasoning, perception, language, judgment, etc.). Or abstraction – We don't usually think about our ability to think abstractly – to think in terms of past and future or in terms of relationships. Ideas like Thursday and Sunday or 8:00 pm or brother and sister are just taken for granted in "normal" life. But all thinking powers decline and become less reliable with Alzheimer's.

So, given these declines, strategies are needed to keep the person content and to keep the caregiver from becoming frustrated. For

example, caregivers soon understand that telling a person with Alzheimer's disease on a Monday that "We're going to dinner at your brother's on Thursday" can lead to problems. The person may no longer be able to organize the days of the week into any meaningful order; s/he may no longer understand "brother." Confusion and repeated questions may follow, questions that can frustrate even the most patient caregiver.

The savvy caregiver will recognize that expecting the person to be able to make sense of a future event might be unrealistic. So s/he makes an adjustment, based on an assessment about what the person will likely understand. In this case, it might be best to say nothing about the dinner until Thursday when it is time to go – and then say, "We've been invited to

Bob's for dinner tonight; let's get ready so we can be on time."

The starting place in savvy caregiving is to step back and look. Think through whether the situation went in a way that was different from expectation. Look at that expectation and see if it might be changed (and lowered) by taking the person's losses more fully into account. If so, see if you can think of a way you would act differently, the next time the situation arises both to control the situation and to use the person's remaining strengths.

This new regular feature of the ADRC newsletter is drawn from The Savvy Caregiver Program, a caregiver education program developed at the University of Minnesota. The feature will excerpt sections focused on providing caregiving strategies.

**CONTACT US****Emory Alzheimer's  
Disease Research Center**

Wesley Wood Health Center  
 1841 Clifton Road, NE  
 Atlanta, GA 30329  
 404-728-6950  
<http://med.emory.edu/ADRC>

**Memory Assessment Clinics**

Wesley Woods Health Center 1841 Clifton Road, NE Atlanta, GA 30329 404-728-4936	Grady Memorial Hospital 80 Butler Street, SE Atlanta, GA 30335 404-616-4567
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<b>Event</b>	<b>Date</b>	<b>Location</b>
Early Memory Loss Group - <i>8 week class</i> Registration required – Call: 404-728-6273	Friday ▪ 10:30 – 12:00 February 2, 9, 16, 23 March 2, 9, 16, 23	Wesley Woods Health Center 1841 Clifton Road, NE Atlanta, GA 30329
Caregiver Challenges: Everything You Want to Know about the Middle Stage of Alzheimer's – <i>6 week class</i> Registration required – Call 404-728-6273	Friday ▪ 10:30 – 12:00 April 6, 13, 20, 27 May 4 & 11	Wesley Woods Health Center 1841 Clifton Road, NE Atlanta, GA 30329
Research Update: A panel of Emory ADRC researchers	Thursday ▪ 6:30 p.m. April 26	Nell Hodgson Woodruff School of Nursing Alumni Auditorium 1520 Clifton Road, NE Atlanta, GA 30322
Late Stage Alzheimer's Class – <i>4 week class</i> Registration required – Call: 404-728-6273	Friday ▪ 10:30 – 12:00 May 18, 25 June 1, 8	Wesley Woods Health Center 1841 Clifton Road, NE Atlanta, GA 30329



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