

2007 Annual Report

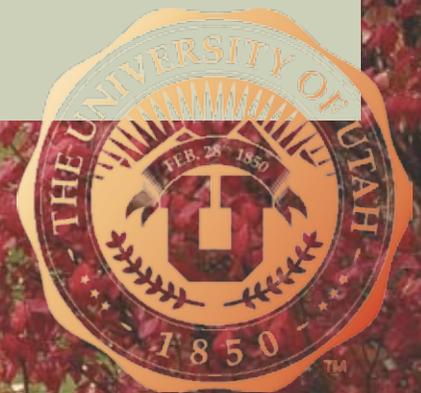
The University of Utah
Center for Alzheimer's
Care, Imaging and Research

proud to be part of the

Department of Neurology
School of Medicine

and

University Health Care



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2007

In this, our 3rd year, we have achieved our goal of truly becoming a nationally recognized program for Alzheimer's care and research. Over the past year, we were invited to join the Alzheimer's Disease Cooperative Study, a consortium of academic investigators funded by the National Institutes of Health (NIH) to evaluate promising new treatments for Alzheimer's disease and develop new clinical trials methods. We now are participating in several of their research studies. Under the leadership of Edward Zamrini, MD, our clinical trials program is rapidly expanding. Our first patient was enrolled in a drug trial at the start of 2007 and now pharmaceutical companies routinely contact us to help conduct studies of their most important new drugs. We continue our brain imaging research and have analyzed more than 900 FDG-PET scans for the NIH-funded Alzheimer's Disease Neuroimaging Initiative. In addition, we published important evidence demonstrating the usefulness of FDG-PET scans in clinical practice. This work is changing how FDG-PET is used in Alzheimer's care and in brain research.

These are exciting times filled with opportunities. The essential elements of our innovative clinical program now are in place and were recognized with a Health Care Heroes Innovation Award from Utah Business Magazine. We continue to expand to meet the challenges we face. Our education and community outreach efforts ensure that we have the broadest possible impact on improving care for patients with dementing diseases and their families.

We appreciate strong continuing support and encouragement we receive from our colleagues in the Department of Neurology, the Brain Institute, the University and the community. We gratefully acknowledge financial donations received this year, including another generous gift from the anonymous donor who helped establish the Center. Our accomplishments are possible only because of this support and the commitment of our patients and their families.

We are pleased to share our achievements of the past year and plans for 2008. We invite you to join us in meeting the new opportunities the coming year offers.



Director, Center for Alzheimer's Care, Imaging and Research (CACIR)



Meet Our Faculty and Staff

Front row (L-R): Rebecca Mesley, Marie Kay, Sommer Thorgusen, Tandy Jensen. *Middle row (L-R):* Matthew Nye, Carolyn Knudsen, DeeLayne Hutton, Karen Mara, Kathy Moran, Angela Wang, Emilie Franchow, Stephanie Card. *Back row (L-R):* Martha Stearn, James Levy, Troy Andersen, Norman Foster, Edward Zamrini, Gordon Chelune.

The Center grew tremendously in 2007. With the steady expansion of our programs, we have added several outstanding new staff members. We joined in welcoming Stefan M. Pulst, MD as the new Chair of the Department of Neurology. We acknowledge the contributions of our continuing staff and those who have left for other positions.

Continuing Faculty and Staff

Norman L. Foster, MD, Director
 Edward Zamrini, MD, Director of Clinical Trials
 Gordon J. Chelune, PhD, ABPP(CN), Senior Neuropsychologist
 James A. Levy, PhD, Neuropsychologist
 Karen Mara, Administrative Manager
 Tandy Jensen, Administrative Program Coordinator
 Carolyn Knudsen, Medical Secretary
 Stephanie Card, Lead Neuropsychology Technician
 Kathy Moran, MBA, Dementia Health Educator
 Troy C. Andersen, LCSW, Dementia-Specialist Social Worker
 Rebecca Mesley, Clinical Research Coordinator
 Angela Y. Wang, PhD, Image Analyst

Additions and Transitions in 2007

- **Sommer Thorgusen** joined CACIR in July as Research Assistant. She supports our neuropsychologists, administers neuropsychological tests for clinical trials, and helps provide Health Education services. Originally from Thousand Oaks, Sommer graduated in 2003 from the University of California, Santa Barbara. Now at the University of Utah, she is preparing for doctoral coursework in clinical neuropsychology.
- **Marie T. Kay** joined CACIR in September as Clinical Study Coordinator, to help manage our growing research program. She graduated in 2004 from the University of Madison-Wisconsin in Anthropology and Psychology. Marie has been involved in numerous research projects, including the "Lomas Barbudal Monkey Project" in Costa Rica.
- **Emilie I. Franchow** joined CACIR in November as Neuropsychology Technician. In 2007, she graduated from the University of Utah with honors in Psychology and Political Science. She has been involved in aging and MRI research with the Department of Psychology, and has worked with the Center for Disability Services and the Brain Injury Association of Utah.
- **DeeLayne Hutton** joined CACIR in June as Cognitive Disorders Clinic Coordinator. Born in Chicago but raised in California's Walnut Creek, DeeLayne studied Elementary Education at the

University of Utah and has worked in numerous health care environments, including hospice. A devoted mother of four sons, DeeLayne has enjoyed PTA, youth sports, cub scouting, and quilting.

- **Matthew Nye** joined CACIR in July as Work Study Office Assistant. Originally from Indiana, Matthew graduated in 2005 from Dartmouth College in English and Philosophy. He now is working towards a Master of Architecture degree

at the University of Utah. When not immersed in his studies, Matthew's interests include American fiction, creative writing, running, and hiking the Wasatch Front.

- **Camille Gleave** joined CACIR as Neuropsychology Technician in July 2006 and helped initiate our clinical neuropsychology program. She decided to pursue other career interests in October. We appreciate her many contributions and wish her well in future endeavors.

Adjunct Faculty

In 2007, we added one new University investigator to our three existing adjunct

faculty. These adjunct appointments, renewed annually, formally recognize our ongoing collaborations. Our adjunct faculty members are:

Continuing Appointments

John M. Hoffman, MD, Professor of Radiology and Neurology, Director of Nuclear Medicine

Steven S. Chin, MD, Associate Professor of Pathology, Director of Neuropathology, Adjunct Associate Professor of Neurology

Tolga Tasdizen, PhD, Assistant Research Professor of Computer Science, Adjunct Assistant Professor of Neurology

Added in 2007

Jason M. Watson, PhD, is Assistant Professor in the Department of Psychology and an Investigator for The Brain Institute. He joined the University of Utah faculty in 2005 after completing his doctorate at Washington University and quickly became a valuable member of our multidisciplinary team of researchers. Dr. Watson was appointed in late 2007 as an Adjunct Assistant Professor of Neurology. His research interests include cognition in aging and dementia as studied with functional magnetic resonance imaging (fMRI).

Training Tomorrow's Health Professionals

One of the Center's major goals is training the next generation of health care providers and researchers. We strive to educate the broadest possible audience about Alzheimer's and related diseases.

In 2007, we were able to increase the time 2nd year medical students at the University of Utah spend learning about dementia. We began a new one-hour patient conference, for the first time allowing students to talk to a patient with Alzheimer's disease and meet family members who could explain what dementia truly means for those affected.

We also are providing in-depth training to individuals with specific interest in dementing diseases. In the past year, we developed and received hospital approval for a "mini-fellowship" in cognitive disorders and expect our first fellow in 2008. We developed a new semester "capstone" course for senior nursing students and had our first trainee. We provided research training for a graduate student in computer science. We developed a three-year, 30 hour seminar series for neurology residents and continue to offer an elective rotation in cognitive disorders for neurology residents and geriatric medicine fellows.

Continuing Education

Our faculty provides practicing physicians and health care professionals education about dementia and related topics. Of particular note in 2007 were a course on imaging and dementia at the annual meeting of the American Academy of Neurology, the Intermountain Cognitive Health Conference in Jackson, Wyoming, and several Neurology and Geriatric Medicine Grand Rounds presentations at the University of Utah.

Our Proactive Model of Collaborative Care

Social Work Consultation: Helping Families Plan for the Future

Our social work program has evolved tremendously since its inception in early 2007. Our dementia-specialist medical social worker, Troy C. Andersen, LCSW, saw his first patient in January and by year's end had seen 120 patients and their families.

Throughout the past year, the Center has worked diligently to create an innovative social work consult service, designed to safeguard the welfare of our patients and their families through preventive planning. This planning is individualized and incorporates the medical diagnosis to address disease progression, safety, financial demands and caregiver support. We continue to enhance the financial viability of our consult service model and advocate for coverage of insurance providers for this essential service.

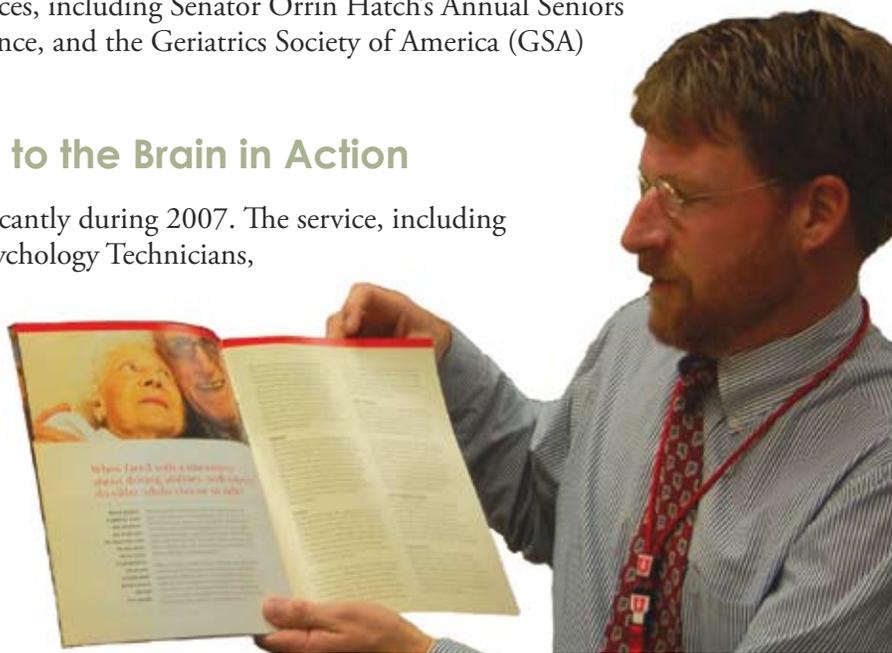
Health Education: Empowering Change through Knowledge

In the last year, our health education service has continued to play an essential role in our Clinic. Our health educator, Kathy Moran, met with more than 250 of our patients and their caregivers during 2007. We have continued to advocate for individualized health education and have met with others who share similar objectives, including The Johnson & Johnson Caregiver Initiative.

Throughout 2007, our Health Educator and Social Worker played an active role in the community. In conjunction with the Alzheimer's Association Utah Chapter, Kathy Moran has continued hosting a free, bimonthly workshop on the basics of Alzheimer's. She also helped form a progressive supranuclear palsy (PSP) support group, and was a regular presenter at awareness-raising events. Troy Andersen spoke at numerous local and regional conferences, including Senator Orrin Hatch's Annual Seniors Conference, the Utah Dementia Care Conference, and the Geriatrics Society of America (GSA) annual meeting.

Neuropsychology: A Window to the Brain in Action

Our Neuropsychology service expanded significantly during 2007. The service, including our two Neuropsychologists and two Neuropsychology Technicians, saw 328 patients for evaluation in 2007—double the number of evaluations conducted the previous year. Our program continued to expand and we began accepting referrals from other neurologists within the Department of Neurology and Geriatric Medicine, and from primary health providers both within and outside of University Health Care.



In our social work consult service, Troy C. Andersen, LCSW, helps our patients and their families understand how their symptoms will progress and helps them plan for important issues, like safety.

Improving Through Innovation

Our clinical research program is expanding, allowing us to respond to new research objectives always having accurate detection of Alzheimer's disease and more effective treatments. By partnering with academic institutions and joining forces in testing new compounds, we are working in Utah to realizing new diagnoses and treatments for this devastating disease.

In response to our research program, we have and implemented several new initiatives. We organized a group of community outreach underserved individuals to provide research opportunities, and our efforts continued to reach out to area clinicians.

We also launched an online registry. This registry allows people to register and participate in research studies. It is a way to involve more people in research to advance knowledge and develop new treatments. The registry is open to both those with normal thinking abilities and those with dementia. It is the best in learning more about research and whether they might qualify for our studies. Visit www.utahmemory.org and click on "Join the Registry". After registering, a member of our research team will contact you and provide information about the study and provide information about the study. We sincerely thank you for your time to participate in our research and hope it is possible to reach our goal of curing Alzheimer's disease.

Evaluating Promising New Treatments

the safety and efficacy of these new drugs, we are conducting related neuropsychological analyses that may aid in the validation of new testing techniques for Alzheimer's studies.

We began studying two novel drug treatments in 2007, with Merck Pharmaceuticals and Myriad Genetics. Rather than simply treating symptoms like current treatments, these drugs hope to slow disease progression and aid in short term memory recall. Along with testing

Expanding Our Research Capacity



Sommer Thorgusen in the new ABC Laboratory.

The ABC lab will unite Neurology faculty members from CACIR and elsewhere in the University of Utah Medical School with researchers from the Departments of Psychology and Educational Psychology on the University's main campus. Through this multi-disciplinary effort, we hope to better understand the biological underpinnings of cognition, both in healthy aging and in neurological disorders. Eventually, we hope to gain knowledge that will better the lives of all aging Utahns.

With funds from the Brain Institute, our Center opened the Aging Brain Cognitive (ABC) Laboratory in late 2007 in newly renovated space at the CAMT Building. We will use the ABC lab for computerized memory and cognitive testing of research volunteers in the study of several important areas, including memory, attention, language processing, and executive functions such as judgment, reasoning, cognitive control, and mental flexibility. We then will study the models tested in the ABC lab with powerful imaging techniques that can reveal the brain's metabolism while thought processes are occurring. We will utilize a new, research-dedicated 3T fMRI machine, located adjacent to the ABC lab, as well as MEG and ERP, other powerful technologies for peering into the brain at work.

Collaborations to Advance Research

In the past year, our colleagues have become intrigued by Neurostat analysis. We have developed collaborations with the University of Pennsylvania Alzheimer's Disease Center and Arizona's Banner Good Samaritan Medical Center to analyze PET scans with Neurostat and discuss the resulting images.

The Center has established many collaborations within the University, the state and throughout the country. We also have continued to develop research collaborations with academic colleagues across the country and with numerous pharmaceutical companies.

Historically, brain scans have been interpreted by visual inspection, making it difficult to distinguish among different neurodegenerative diseases with confidence. In 2007, we worked with Professor Tolga Tasdizen and his student Neda Sadeghi at the Scientific Computing and Imaging (SCI) Institute to develop an automated approach to distinguish between AD and FTD in PET scans. This method holds promise as an unbiased method for differentiating between causes of dementia.

Professor Thomas Fletcher of SCI has quantified metabolic asymmetry of glucose hypometabolism. Dr. Fletcher's method identifies the statistical significance of asymmetry as compared to a normal control population using a method based on large deformation diffeomorphic metric mapping derived from anatomical atlas construction.

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is evolving and expanding,
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This past year, much of our imaging research has been focused on quantifying and formulating an objective measure for diagnosing AD.

*Our Center uses a novel process called Neurostat Stereotactic Surface Projection (SSP) to analyze all the PET brain scans our patients receive. SSP analysis creates a statistical, visual map of metabolic activity in the cerebral cortex, allowing our neurologists to identify patterns typical in AD and distinguish AD from similar dementing diseases. Dr. Foster authored a major research article in the highly respected British journal *Brain* in 2007, reporting the value of PET imaging and this analysis method. In 2007, 98 clinic patients had PET scans on which we performed Neurostat SSP analysis. In addition, we performed SSP analysis on 901 research scans.*

ADNI Project

Our Center participates in the PET Imaging Core of the Alzheimer's Disease Neuroimaging Initiative (ADNI), an NIA, foundation and pharmaceutical company funded collaborative project. In this project, research subjects are studied and receive periodic brain scans at more than 50 academic centers throughout the United States. ADNI seeks to identify and compare sensitive biomarkers of AD progression in the blood, urine, cerebrospinal fluid and brain scans. Identifying such biomarkers can permit earlier diagnosis and allow us to track both the course of Alzheimer's and of normal cognitive aging. ADNI investigators have collected serial clinical, neuropsychological, biological and imaging data on 800 people and make this data available on their website as a public domain research resource. Our Center has committed to analyze and share our processed SSP data with the ADNI community.

We believe that Neurostat SSP analysis—with its statistically derived indicator summarizing the extent of degeneration in the brain—is a strong contender as an AD neuroimaging marker. We have submitted our data to the ADNI Biostatistics Core, who will make a critical examination of all the candidate markers. May the best "bio-marker" win.

Magnetoencephalography (MEG)

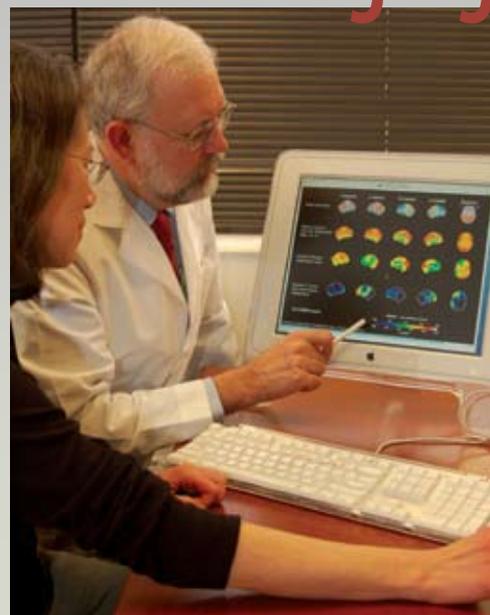
In 2007, we began studying magnetoencephalography or MEG as a new kind of imaging for Alzheimer's. Widely used in epilepsy, MEG measures the electromagnetic potential of the brain and can measure cognitive processing speed at the level of milliseconds, faster than any other modality. This can help us recognize patients with Alzheimer's, who show slowed cognitive processing speed on MEG scans. We have been developing a pilot study to demonstrate how MEG can distinguish between AD patients and normal controls. Once we collect pilot data, we plan to submit grant proposals to study Mild Cognitive Impairment (MCI), which often precedes AD.

¹¹C PIB PET

AD biomarkers have become extremely important for a number of reasons: to improve diagnosis, to measure severity of disease, progression of disease and effects of novel disease-modifying drugs, and to speed development of experimental drugs. One such biomarker is Pittsburgh Compound B (¹¹C-PIB), a radioactive carbon-tagged benzothiazole analog with kinetic affinities for the amyloid beta (Aβ) deposited in neuritic plaques—one of the neuropathological hallmarks of AD.

In October, the University of Utah became one of the few institutions across the United States capable of producing this compound. We wish to test ¹¹C-PIB imaging in patients with AD, frontotemporal dementia (FTD), and normal controls. We hope to detect a difference in neuritic plaques between these groups on a PIB PET scan. If successful, this will give us an additional diagnostic tool for use in our Clinic and new research studies.

Expanding Frontiers in Neuroimaging



Angela Y. Wang, PhD, and Norman L. Foster, MD, discuss a PET scan analyzed with SSP.

Alzheimer's Association and Community Alliances

In 2007, the Center has continued to collaborate with the Alzheimer's Association Utah Chapter. Karen Mara was appointed to the Board of Directors for the Utah Chapter, and Kathy Moran has continued to work closely with them to provide health education at the Utah Chapter offices and community outreach through free bi-monthly workshops on the basics of dementia. Kathy also helped organize the Utah Chapter's Annual Memory Walk.

Our Center sponsored a Memory Walk team of 15 faculty and staff members, who raised \$1,900 for the Alzheimer's Association. In addition, several of our faculty and staff participated in the Utah Chapter's 1st Annual Pillars of Dementia Care Conference, which included a keynote address by Dr. Norman Foster and various session presentations and panel discussions by Dr. Edward Zamrini, Kathy Moran, and Troy Andersen.

Leadership and Outreach

Center faculty and staff have continued to provide their expertise and leadership to professional organizations nationwide and the local community. Dr. Foster accepted an invitation to serve on the Clinical Neuroscience and Disease Study Section, an NIH Federal Advisory Committee. He also continued to serve on the External Advisory Committee for the Alzheimer's Disease Research Center at the University

of Alabama at Birmingham and was a grant reviewer for the Canada Foundation for Innovation. Dr. Zamrini served as an NIH ad hoc reviewer and was invited to participate in the ADCS steering committee. Dr. Chelune began a 2-year term as secretary of the International Neuropsychological Association, and Dr. Levy worked with the Scientific Advisory Board of the Lewy Body Dementia Association.

We have continued to reach out to the community. Dr. Foster serves on two advisory committees for the Utah Commission on Aging. We have begun to meet regularly with physicians and staff at the University Health Care Redwood and Greenwood Community Clinics to provide information about dementia, updates about our programs and facilitate communication. We also presented a course on Memory and Aging in association with the University's Osher Life-Long Learning Institute, and for the second year presented at the annual Senator Hatch Conference for Seniors and the Generations Conference. Our faculty made several presentations throughout the state in collaboration with AARP, and contributed to numerous media publications about Alzheimer's disease and our research.

Awards and Recognition

In 2007, several of our faculty members and collaborators were honored for their contributions in the field of Alzheimer's and dementia, bringing further recognition to our Center.

Dr. Foster received the Utah Health Care Hero Award from *Utah Business Magazine* for his innovative clinical program, and was named one of the Best Doctors in America for the ninth time in his career.

In March, Weber State University awarded our Center the Exemplary Collaboration Award for our work with Erik Stern on *Demolition Derby: When a Mind Loses its License to Drive*, his multimedia dance production on the challenges and hidden rewards of being a caregiver for aging parents. This program was presented in Utah and New York City, and now is being produced on DVD.

Regional & National Collaborations and Recognition

The Cognitive Disorders Clinic now has a nationwide draw. In the past year, we have seen patients from across the country—from Alaska to Alabama.

In 2007, we evaluated 322 patients for memory disturbances and dementia. There were 184 women and 138 men, and their average age was 70. The oldest patient seen was 95 and the youngest was 35.

90% of our patients were from Utah, 2% were from Idaho, and 6% of our patients were from other parts of the country. 67 patients were diagnosed with probable Alzheimer's disease, 14 with frontotemporal dementia, 10 with diffuse Lewy body disease, 3 with progressive supranuclear palsy, 22 with mild cognitive impairment, and 124 with other causes of memory disturbance.

Who Receives Care in Our Clinic?

Advocating for Appropriate Coverage

2007

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In the last year, our Center has worked closely with several regional insurance companies to enhance the availability and affordability of specialty tests and services that are essential for dementia diagnosis and care.

Our Appeals Advocate, Carolyn Knudsen, continues to help families and patients with the difficult task of contesting insurance company denials of necessary services. Such services follow current professional guidelines and are routine in other parts of the country, but still are unfamiliar to many Intermountain West providers.

By meeting with and explaining our specialty services to insurance companies, we successfully appealed 10 denials of coverage for our patients and their families—gaining approval and more routine acceptance of services such as neuropsychological testing and PET scans for distinguishing between different causes of dementia.

Remarkably, we witnessed nearly a 50% reduction in the number of appeals since 2006, indicating that local insurance companies have begun to recognize the importance of covering these specialized diagnostic services. In fact, we have learned that some insurance companies are adjusting and broadening their coverage for dementia care. Insurance companies have welcomed our faculty's collaborative and professional approach to the often contentious process of evaluating new technologies and services.

Improving Access for Patients and Families

In 2007, we improved the efficiency and quality of services in our Cognitive Disorders Clinic.

We centralized all responsibilities for clinic coordination into a single position, making the clinic experience easier for our patients and their families. Now one individual manages patient referrals, scheduling, and clinic records.

We worked with University Health Care to improve handling of calls from our patients and families. In addition, we developed educational brochures to guide new patients through their first visit and to help referring physicians understand how best to utilize our clinic.

Gift to Life Autopsy Programs

We continue to encourage our patients and their families to invest in the health of future generations through enrollment in our Gift to Life Autopsy Programs, which are designed to facilitate access to postmortem examinations. All patients and their families, including those in the University

Health Care system and in other regional health systems, are eligible.

In 2007, our Center enrolled 44 patients in the Gift to Life autopsy programs, including three families outside of Utah. Since beginning these programs in late 2006, eleven postmortem examinations have been completed—providing family members with definitive diagnosis and the comfort of contributing new knowledge that

will help researchers in their efforts to better understand Alzheimer's and related disorders.

Our Center owes a debt of gratitude to families who participated in these programs during the past year and for their contributions to the program's success. We also thank the University of Utah's team of pathologists under Dr. Steven Chin for their invaluable expertise.

Through scholarly publications, our faculty can discuss or challenge existing knowledge in their academic discipline, or introduce new ideas and research to their peers. Such publications are crucial to the advancement of science.

Peer-Reviewed Original Articles

- Fletcher PT, Powell S, Foster NL, Joshi SC. (2007). Quantifying metabolic asymmetry modulo structure in Alzheimer's disease. *Information processing in medical imaging: Proceedings of the 20th International Conference*, 20, 446-457.
- Foster NL, Heidebrink JL, Clark CM, Jagust WJ, Arnold SE, Barbas NR, Decarli CS, Turner RS, Koeppe RA, Higdon R, Minoshima S. (2007). FDG-PET improves accuracy in distinguishing frontotemporal dementia and Alzheimer's disease. *Brain*, 130(10), 2616-2635.
- Griffith HR, Den Hollander JA, Stewart CC, Evanochko WT, Buchthal SD, Harrell LE, Zamrini E, Brockington JC. (2007). Elevated brain scyllo-inositol concentrations in patients with Alzheimer's disease. *NMR in Biomedicine*, 20(8), 709-716.
- Kurlan R, Cummings J, Raman R, Thal L, for the Alzheimer's Disease Cooperative Study Group (including Zamrini E). (2007). Quetiapine for agitation or psychosis in patients with dementia and parkinsonism. *Neurology*, 68, 1356-1363.
- Lange RT, Chelune GJ. (2007). Examining the relationship between WAIS-III premorbid intellectual functioning and WMS-III memory ability to evaluate memory impairment. *Applied Neuropsychology*, 14(3), 1-7.

- Levy JA, Chelune GJ. (2007). Cognitive-behavioral profiles of neurodegenerative dementias: Beyond Alzheimer's disease. *Journal of Geriatric Psychiatry and Neurology*, 20(4), 227-238.
- Okonkwo O, Griffith HR, Belue K, Lanza S, Zamrini E, Harrell LE, Brockington JC, Clark D, Raman R, Marson DC. (2007). Medical decision-making capacity in patients with mild cognitive impairment. *Neurology*, 69(15), 1528-1535.
- Rahman A, Baker PS, Allman RM, Zamrini E. (2007). Dietary factors and cognitive impairment in community-dwelling elderly. *Journal of Nutrition, Health and Aging*, 11(1), 49-54.

Abstracts

- Andersen T. (2007). Master's level social worker's interest in working with aging. *The Gerontologist*, 47(S1), 717.
- Chelune GJ. (2007). Cognitive change as a biomarker in the early detection of Alzheimer's disease. *Joint Statistical Meeting 2007 Abstract Book*, 2007, 6.
- Chelune GJ, Attix, D, Story T. (2007). How reliable are reliable change methods across multiple time points? *Journal of the International Neuropsychological Society*, 13(S1), 107.
- Chen K, Reiman EM, Alexander GE, Smilovici O, Lee W, Reschke C, Bandy D, Foster NL, Weiner MW, Koeppe RA, Jagust WJ. (2007). The pattern and severity of FDG PET abnormalities in Alzheimer's disease and amnesic Mild Cognitive Impairment: Preliminary findings from the Alzheimer's Disease Neuroimaging Initiative. *Alzheimer's & Dementia*, 3(S1), S103-S104.
- Fletcher PT, Wang AY, Tasdizen T, Chen K, Jagust WJ, Koeppe RA, Reiman EM, Weiner MW, Minoshima S, Foster NL. (2007). Variability of normal cerebral glucose metabolism from the Alzheimer's Disease Neuroimaging Initiative (ADNI): Implications for clinical trials. *Annals of Neurology*, 62(S11), S52-S53.

- Landau SM, Madison CM, Lal RA, Cheung C, Foster NL, Weiner MW, Reiman EM, Jagust WJ. (2007). Region-specific longitudinal changes in cerebral glucose metabolism in Alzheimer's disease and Mild Cognitive Impairment. *Society for Neuroscience 2007 Annual Meeting Abstracts*, Program No. 889.5/O1.
- Levy JA, Chelune GJ, Zamrini E, Hoffman JM, Wang AY, Foster NL. (2007). Pattern of word generation differs in frontotemporal dementia and Alzheimer's disease. *Journal of the International Neuropsychological Society*, 13(S1), 100.
- Loring DW, Strauss E, Hermann BP, Barr W, Perrine K, Trenerry MR, Chelune GJ, Westerveld M, Lee GP, Meador KJ. (2007). Differential sensitivity of the Rey Auditory Verbal Learning Test and the California Verbal Learning Test to lateralized temporal lobe epilepsy. *Journal of the International Neuropsychological Society*, 13(S1), 257.
- Madison CM, Landau SM, Lal RA, Cheung C, Foster NL, Reiman ER, Weiner MW, Jagust WJ. (2007). A new technique for generating functionally defined meta-analysis rois (metarois) to study FDG uptake in Alzheimer's disease. *Society for Neuroscience 2007 Annual Meeting Abstracts*, Program No. 104.6/ BBB5.
- Reiser RH, Chin SS, Gambetti P, Foster NL. (2007). Clinical features in a patient with late-onset Sporadic VV1 Subtype Creutzfeldt-Jakob Disease. *Annals of Neurology*, 62(S11), S27.

Other Publications

- Porter AB, Healy L, Foster NL, Josephs KA. (2007). Compulsive urination as a presenting symptom of frontotemporal dementia [Letter]. *European Journal of Neurology*, 14(8), e16-7.
- Foster NL. (2007). A new framework for the diagnosis of Alzheimer's disease [Invited Editorial]. *Lancet Neurology*, 6(8), 667-669.

Scholarly Publications

Goals for 2008

We have set ambitious goals for the coming year. With our broad institutional and growing community and donor support, we hope to continue our work and accomplish the following:

Faculty & Staff

- Recruit a third neurologist specializing in Alzheimer's disease and related disorders to the Center faculty
- Recruit a third study coordinator to expand our clinical trials program

Patient Care

- Further develop our educational and social work services as financially viable models that others can adopt
- Train additional personnel to increase availability of health education services
- Formalize plans for completion of the Memory Loss and Caregiving Education Center
- Continue to streamline procedures for referring physicians and monitor the efficiency of our evaluations
- Increase awareness of the Gift to Life program and facilitate family enrollment
- Advocate for Medicare reimbursement of proactive medical social work services and health education for dementia
- Evaluate and streamline our battery of neuropsychological tests

Research

- Continue to expand clinical drug trials with novel drug compounds
- Further develop informatics for patient care and research

- Initiate human studies of ¹¹C-PIB, an amyloid PET agent
- Develop and evaluate novel imaging techniques such as brainwave analysis with magnetoencephalography
- Continue and expand research collaborations with the Alzheimer's Disease Cooperative Study, the Cache County Study of Memory, Health, and Aging and other research teams
- Enhance research collaborations with University Health Care's primary care network
- Establish a DNA repository for dementing diseases
- Enhance minority awareness of and participation in dementia research
- Collaborate on the development of a multi-center project to measure neuropsychological outcomes in dementia
- Develop plans to obtain funding for a comprehensive, multidisciplinary dementia research center
- Expand cognitive studies in the ABC Laboratory with faculty and resources from across the University of Utah
- Promote awareness of our web registry and develop other methods to expand our research base
- Host leaders of NIH-funded Alzheimer Centers during their 2008 annual meeting in Salt Lake City
- Facilitate development of new neuropsychological testing procedures

Education

- Increase professional education on dementia care among primary care providers in Utah and the Intermountain West
- Continue to present public education programs in collaboration with other groups
- Continue our clinical dementia elective for residents and fellows
- Host our inaugural mini-fellowship in Cognitive Disorders
- Participate in Reynolds Foundation-funded and University of Utah Center on Aging education programs
- Develop a proposal for a comprehensive neuropsychology training program to begin in July 2009
- Develop a geriatric neurology fellowship program
- Continue lecture series to U of U medical students, primary care and medical specialty trainees
- Conduct a course at the American Academy of Neurology (AAN) Annual Meeting in April 2008
- Continue to present dementia topics at Neurology and Geriatric Medicine Grand Rounds
- Present our research at the 2008 International Conference on Alzheimer's Disease (ICAD)
- Share our findings in scholarly publications to advance dementia care

Your Gifts Are Vital

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The University of Utah
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In Memory of Marion Gill
Jon Gill & Marilyn Nielson
Jim & Eve West

For Research
Martha Thomas &
Eric Huefner

In Kind Contributions
Dr. Jana Wold
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Durango, Colorado
The Riddle Family
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Jacksonville, Florida
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