Mission
The Garrison Institute on Aging is a unique organization whose mission is to promote healthy aging through cutting-edge research in Alzheimer's disease and other diseases of aging, and through innovative educational opportunities offered to students, health care professionals and the public.

About us
The Garrison Institute on Aging (GIA), which was formerly the Institute for Healthy Aging, was established by the Board of Regents in 1999 to meet the Health Sciences Center's strategic priority in aging and as a collaborative initiative of the TTUHSC schools of Allied Health, Medicine, Nursing and Pharmacy. In the years 2000 – 2003, with the assistance of a $4.8 million grant from the U.S. Administration on Aging, the GIA set goals, formulated its mission and worked with an interdisciplinary team to foster research in aging at the Health Sciences Center, and endeavored to build a successful infrastructure for sustainability.

In its relatively short history, the Garrison Institute on Aging has implemented numerous research and outreach programs to expand research capacity in Alzheimer's disease and other neurodegenerative diseases of aging at the TTUHSC; to advance aging education and training through various programs to assist health care professionals, students and older adults; and to promote healthy aging in the community from birth through the end of life.

With more than $28.8 million in total funding since its original inception in 1997, the Institute continues to grow with emphasis on research ($4.8 million in NIH and NIA-funded grants to date); education, including the Geriatric Education and Training Academy (with more than $1.2 million in grants), and the Student Scholars in Geriatrics Program training students from all disciplines of health care; and community outreach, including the Lecture Series on Healthy Aging, and the community-wide Healthy Lubbock Initiative promoting healthy aging and disease prevention through fitness and nutrition.

The Garrison Institute on Aging continues to make strides in becoming nationally recognized as a center of excellence for cutting-edge research on dementia-related diseases and innovative interdisciplinary education.

The 2007 Garrison Institute on Aging annual report
Editor: Julie Toland
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RESEARCH

The Garrison Institute on Aging’s research team is at the forefront of research into the causes of and treatment for Alzheimer’s and other neurodegenerative diseases of aging. Recruiting NIH-funded scientists into the institute will increase opportunities for basic, translational and clinical aging research and will provide more opportunities for teaching and mentoring young scientists.

(All research publications and abstracts listed on pages 22 – 25)
### Grammas Research Group  
#### Funded projects

<table>
<thead>
<tr>
<th>Title</th>
<th>Effective date</th>
<th>Amount of Funding</th>
<th>Funding Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Is There a Link Between Alzheimer’s and Atherosclerosis?”</td>
<td>January 2004 thru December 2007</td>
<td>$786,576</td>
<td>NIH</td>
</tr>
<tr>
<td>“Vascular-mediated Neurodegeneration: A Novel Target for Acetaminophen”</td>
<td>December 2005 thru August 2007</td>
<td>$75,000</td>
<td>McNeil Pharmaceuticals</td>
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<td>“Vascular Inflammation in the Aging Brain”</td>
<td>August 2006 thru July 2010</td>
<td>$1,339,464</td>
<td>NIH</td>
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<td>“Vascular-mediated neuronal death in Alzheimer’s”</td>
<td>August 2007 thru July 2012</td>
<td>$1,522,125</td>
<td>NIH</td>
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</tbody>
</table>

Paula Grammas, Ph.D.
**GRANT:** Is there a link between Alzheimer’s disease and atherosclerosis?

**Hypothesis:** Risk factors involved in the pathogenesis of atherosclerosis are also causally linked to the development of vascular-mediated neuronal cell death in AD.

**Specific Aims:**

- **Aim 1** – Test the hypothesis that vascular release of thrombin and vascular-mediated neurotoxicity are regulated by apoE isoform expression and are affected by lipids oxidative stress.
- **Aim 2** – Test the hypothesis that vascular risk factors (apoE isotype, lipids and oxidative stress) control expression and/or release of neurotoxic proteins from brain blood vessels.

**Personnel:**
Paula Grammas, Ph.D.
Debjani Tripathy, Ph.D.
Linda Yin
Haripriya Vittal Rao, Ph.D.

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**GRANT:** Vascular-mediated neurodegeneration: A novel target for acetaminophen

**Hypothesis:** Administration of acetaminophen (Tylenol) prevents the release of neurotoxins from injured blood vessels within the aged brain.

**Specific Aim:** To test the hypothesis that administration of acetaminophen prevents the release of neurotoxins from injured blood vessels in the aged brain.

**Personnel:**
Paula Grammas, Ph.D.
Debjani Tripathy, Ph.D.

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**GRANT:** Vascular inflammation in the aging brain

**Hypothesis:** Age-related inflammatory changes in brain blood vessels contribute to age-related pathology in the brain.

**Specific Aims:**

- **Aim 1** – To test the hypothesis that expression of inflammatory proteins increases in the cerebral vasculature with age.
- **Aim 2** – To test the hypothesis that age-related inflammatory changes are causally-linked to vascular-mediated neuronal cell death.

**Personnel:**
Paula Grammas, Ph.D.
Debjani Tripathy, Ph.D.
Haripriya Vittal Rao
**GRANT:** Vascular–mediated neuronal cell death

**Hypothesis:** The angiogenic process does not progress to new vessel growth because an imbalance of pro- and anti-angiogenic factors results in aborted angiogenic signaling.

**Specific Aims:**
- **Aim 1** – To test the hypothesis that in AD brain microvessels become activated but fail to complete angiogenesis because an imbalance of pro- and anti-angiogenic factors results in aborted angiogenic signaling.
- **Aim 2** – To test the hypothesis that acquisition of the angiogenic phenotype contributes to the pathogenesis of AD pathology and cognitive impairment in animal models of AD.

**Personnel:**
- Paula Grammas, Ph.D.
- Alma Sanchez, Ph.D.
- Trevor Wall
- Marianne Evola, Ph.D.
- Ronnie Cole

Debajni Tripathy, Ph.D.
**Xingjia Wang, Ph.D. Research Group**  
Assistant Professor of Neuropsychiatry  
Director of Trainee Development, Garrison Institute on Aging

**GRANT:** COX 2–regulated testosterone biosynthesis in Male Aging

**Hypothesis:** COX2 produces a tonic inhibition of StAR gene expression, therefore increase in COX2 during the course of Leydig cell aging results in a decrease in StAR gene expression, which in turn reduces testosterone biosynthesis in the aged male.

**Specific Aims:**

- **Aim 1** – To directly demonstrate the inhibitory effects of COX2 expression on StAR gene expression and steroid biosynthesis in MA-10 mouse Leydig cells.
- **Aim 2** – To determine if a COX2-knockout enhances Luteinizing Hormone (LH)-stimulated StAR gene expression and testosterone biosynthesis in male mice.
- **Aim 3** – To study the role of 5-lipoxygenase in the regulatory effect of COX2 on StAR gene expression and steroid production in Leydig cells.
- **Aim 4** – To identify arachidonic acid (AA) metabolites in the COX2 pathway involved in the effect of COX2 on StAR gene expression and steroid production in Leydig cells.
- **Aim 5** – To determine elements in StAR promoter DNA sequences responsive to 5-HPETE or the COX2 metabolites identified in Aim 4.

**Personnel**

- Xingjia Wang, Ph.D.
- Douglas Stocco, Ph.D.
- James Huston, Ph.D.
- Simon Williams, Ph.D.
- Akhilesh Pandey, Ph.D.
- Tao Yu
- Raquel Calzada
GRANT: Gut to brain pathways for infection-induced anxiety

Hypothesis: The long-term goals of this proposal are to characterize the mechanisms by which a gut-to-brain axis mediates the ability of per orally acquired infections to influence behavior.

Specific Aims:

Aim 1 – To characterize the peripheral (gut-level) mechanisms by which per oral challenge with different doses of Campylobacter jejuni alters the behavior of animals.

Aim 2 – To determine the involvement of specific neural pathways leading from the infection site (gut) to regions within the CNS.

Aim 3 – To identify brain neurocircuitry driven by per oral bacterial challenge.

Personnel:
Mark Lyte, Ph.D.
Wang Li, Ph.D.
Sid O’Bryant, Ph.D., Research Group  
Assistant Professor of Neuropsychiatry

**GRANT:** Cochran County Aging Study (CCAS)

**Hypothesis:** The significance of the current project is the provision of information regarding cognitive decline, Alzheimer’s disease and other dementia syndromes in an oft-neglected rural area and traditionally underserved ethnic minority population, namely Mexican-Americans.

**Specific Aims:**
- **Aim 1** – One aim of the current research project is to take an initial step toward investigating cognitive decline and dementia syndromes in a rural setting by first estimating the prevalence of such conditions.
- **Aim 2** – A second aim of this study is the establishment of a collaborative relationship with Cochran County in order for studies of aging to be conducted over time.

**Personnel:**
- Sid O’Bryant, Ph.D.
- Vicki Ramirez
- Ann Laurence, MS
- Barbara Cherry, RN, DNSc
- Annette Nichols Boles, MS

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**GRANT:** Texas Consortium on Alzheimer’s Disease

**Hypothesis:** To identify potential genetic factors associated with earlier age at onset among patients with AD and examine the association between inflammation and AD and determine whether inflammation mediates the effect of cardiovascular risk factors on development of AD.

**Specific Aims:**
- **Aim 1** – To identify novel genes, potentially not previously suspected to be related to AD pathogenesis, that are associated with earlier age of onset among patients with AD.
- **Aim 2** – To identify polymorphisms in genes related to inflammatory function that are associated with earlier age of onset of AD.
- **Aim 3** – To test the hypothesis that patients diagnosed with Alzheimer’s disease (AD) will demonstrate a significantly different inflammatory profile relative to healthy controls.
- **Aim 4** – To test the hypothesis that inflammation mediates the relation between cardiovascular disease and Alzheimer’s disease.

**Personnel:**
- Sid O’Bryant, Ph.D.
- Randolph Schiffer, M.D.
- Merena Tindall, RN
RESEARCH ACTIVITIES

GIA Brain Bank Program helps families, researchers

The Garrison Institute on Aging in 2007 launched an innovative program to help families of dementia patients, as well as qualified researchers studying dementia-related diseases such as Alzheimer’s. The GIA Brain Bank Program provides families of dementia patients a free brain autopsy, which is the only way to confirm the clinical diagnosis of Alzheimer’s disease. The exam will determine a patient’s precise type of dementia. Results typically are available in six to nine months.

“We are seeking tissue donations from individuals who have had an age-related neurodegenerative disease like Alzheimer’s, Parkinson’s or Lewy Body, as well as tissue from patients with no dementia,” said Ruben Gonzales, program director, noting the importance of collecting control tissue. The brain tissue also is available to qualified scientific researchers across the country who are studying diseases related to dementia.

“By working together, patients, families and researchers can help us understand the origins of neurodegenerative disease and eventually improve the treatment and care of dementia,” said Paula Grammas, Ph.D., executive director of the Garrison Institute on Aging and a renowned Alzheimer’s disease researcher. “The banking of brain tissue creates an invaluable resource for scientists because there are no animal models that can precisely replicate the human brain.”

Aging Interest Research Meetings:

Since January, the GIA has been coordinating activities to identify current researchers with aging interests across the university system and developing a database of investigators, potential populations, and planning mechanisms for linking these researchers. Efforts in the last year included starting a monthly meeting series to develop new ways to expand collaborative research between basic scientists and clinicians. To date, the GIA has identified 108 contacts involved in research activities and made significant progress toward collecting background information to be made available in a database in FY2008. At the six meetings held in FY2007, brief scientific presentations were made by TTUHSC or TTU researchers and developments in the GIA research division were discussed. Goals for FY2008 include finalizing development on the researcher database and coordinating more work groups outside of these meetings to identify grants and projects for collaboration.

Alzheimer’s Disease Study Group:

The Alzheimer’s Disease Study Group began in the spring of 2005 under Dr. Grammas’ initiative to increase the amount of AD funded research at TTUHSC. Scientists from all the TTUHSC schools as well as TTU are represented; namely: neuropsychology, nursing, medicine, engineering, database management and epidemiology, neurology, psychiatry, genetics, pharmacy, microbiology and biochemistry. The group of about 30 meets monthly. At each meeting, a senior or junior investigator presents on the progress of current studies, journal articles detailing recent or relevant scientific developments in AD are discussed, or new areas for related interdisciplinary studies are discussed.
COMMUNITY PROGRAMS AND EVENTS

The Garrison Institute on Aging continues to strive toward increasing knowledge and awareness of age-related health care issues through educational offerings to TTUHSC students and faculty, health care professionals and the general public (with special emphasis on seniors, caregivers of seniors and aging adults).
The Annual Aging Symposium: “Managing Chronic Diseases in Older Adults” was held on March 22, 2007, with an attendance of 120 HSC faculty, primary care physicians, pharmacists, nurses, allied health professionals and long-term care administrators in the region. The symposium featured nationally known geriatrician Janice Emma Knoefel, M.D., and included local faculty presentations from Brian Irons, Pharm.D., Carol Felton, M.D., Sid O’Bryant, Ph.D., and Alyce Ashcraft, Ph.D. Poster presentations of aging research conducted at TTUHSC also were on display. Information regarding chronic disease prevention, diabetes, osteoporosis, depression and pain management was presented. Learning objectives included the following: a) describe common chronic diseases in older adults; b) identify effective interventions for preventing or reducing chronic disease progression; and c) identify methods for appropriate management of chronic diseases across the continuum of care (office, hospital, home, long-term care). Along with 4.0 units of Long Term Care administrator credit, 4.6 hours of CNE, and 0.500 units of Pharmacy continuing education credit were provided to registered attendees.

Lecture Series on Healthy Aging: This program celebrated its third year with a host of interesting speakers on healthy aging, innovative research and caregiving needs. With an average attendance of 81, the audiences consisted mostly of retired seniors, but many other health professionals, HSC students and researchers also attended.

Lectures in 2006 – 2007:

January 24
“Good Information is the Best Medicine”
by Laura Heinz

February 21
“Spending in Your Golden Years” by Robert Ricketts, Ph.D., CPA

March 28
“Loss and Grief – A Natural Life Process” by Thomas McGovern, Ed.D.

April 25
“Locating a Happy Home – Senior Housing” by Stephanie Bundick

May 23
“Hearing Loss in Aging: What’s Normal and What Can We Do about It?” by Tori Gustafson, Au.D.

September 26
“The Latest in Alzheimer’s Research” by Parastoo Momeni, Ph.D.

October 24
“Infectious Disease and the Elderly” by Steven Berk, M.D.

November 28
“Holiday Stress and Spirituality” by Thomas McGovern, Ed.D.

Integrated Geriatrics Clinic: The GIA has collaborated with the School of Medicine’s Reynolds Foundation grant stewards to establish an Integrated Geriatrics Clinic in the Department of Family and Community Medicine at the HSC. Michael Ragain, M.D., chair of the department and Lynn Bickley, M.D., project director for the Reynolds Grant coordinate the clinic which is designed to bring together medical residents from family medicine, internal medicine and neuropsychiatry to assess geriatric patients with complex medical problems and, as a group, to develop an interdisciplinary plan of care for the patient. The clinic was implemented in September 2006 and also includes a geriatric pharmacist, a family nurse practitioner and a medical social worker.
West Texas Cares:
The West Texas Cares program was named a “Caregiver Champion” program by the U.S. Administration on Aging in 2004 because of its excellent array of services including public service announcements, website (www.westtexascares.com), training on how to communicate with health professionals, and a 2006 calendar featuring inspirational caregiver stories. This success has created a solid foundation for further initiatives between the GIA and Area Agencies on Aging.

In the fall of 2006 and spring of 2007, the Garrison Institute on Aging developed and implemented a long-distance education program for family caregivers in four rural towns (Morton, Plainview, Floydada and Spur). Training sessions were broadcast using technology available through the Region 17 Educational Service Center and the Rolling Plains Educational Consortium.

Healthy Lubbock Initiative:
It is well documented that physical fitness and good nutrition contribute to both longevity and quality of life as we age. The Healthy Lubbock Initiative seeks to make Lubbock and its surrounding communities a healthier place by supporting and motivating people to become active through physical exercise and improved nutrition. By collaborating with Lubbock organizations to make Lubbock one of the healthiest cities in Texas, the GIA is addressing healthy aging by using preventive strategies in adults of all ages.

The Healthy Lubbock coalition was established in fall 2006 with 15 participating organizations. As a result, two community programs have been developed: the annual Healthy Lubbock Day and the new Get Fit Lubbock program, implemented in fall 2007. More than 800 children, adults, and seniors attended the third annual Healthy Lubbock Day festivities on June 9, 2007, at Maxey Park in central Lubbock.

Response to Get Fit Lubbock has been widespread and enthusiastic throughout the city. The program is geared toward businesses in the community and is sponsored not only by the GIA but also by Mayor David Miller’s office, the Lubbock Chamber of Commerce and Bodyworks.
Community teams up for Get Fit Lubbock

When Carlota Reigner signed up for Get Fit Lubbock in September with her team, the Butterballs, she had more than winning on her mind. She was ready to take control of her health.

Reigner has battled high blood pressure, and many of her family members suffer from diabetes. “With the extra weight, I was sure I was headed there too,” she said. Now 44 pounds lighter and her blood pressure under control, she continues to exercise every day.

Healthy Lubbock, a community-wide initiative of the Garrison Institute on Aging, launched the 12-week Get Fit Lubbock competition Sept. 15 to help people in the community meet their health, fitness and weight loss goals. The competition included exercise and weight loss activities, encouragement and support from health and fitness professionals and free Get Fit lectures. About 145 teams of six to 10 people competed. These 1,200 participants logged a total of 42,644 hours of exercise along with 5,694 pounds of weight loss.

“We are thrilled that the community’s response was so positive, and we are especially excited to see so many successful outcomes,” said Paula Grammas, executive director of the Garrison Institute on Aging, noting that becoming fit will improve cardiovascular function as well as help keep Alzheimer's disease at bay.

Reigner was the overall female winner in points earned. “I enjoyed the competition because I wasn’t focusing on weight loss; I was focusing on the points. I’m a team player and this really forged a strong bond for our team,” she said.

Overall male winner Chris Gallarneau said the competition helped him surpass a plateau in his fitness and weight loss efforts and ultimately drop from 227 to 170 pounds.

“This program gave me the desire to increase my exercise efforts, monitor my diet more closely, encourage and challenge my team mates, and become involved in community health and fitness events,” he said, adding that he plans to continue working toward his personal fitness goals.

Get Fit Lubbock will launch again in September 2008. “Changing people’s health behavior is a complex endeavor which takes time, commitment and incremental steps. The initiative is working to develop small changes which, over time, will add to big improvements in the health of Lubbock’s citizens,” Grammas said. “This program is an excellent step in the right direction.”
Help and Hope Caregiver Library: In June of 2007, the GIA inaugurated a new community outreach called the Help and Hope Caregiver Library. The library is located at the GIA administrative offices at the TTUHSC Southwest campus and is open five days a week. Books, DVDs, videos, pamphlets, brochures and internet access for research are available to caregivers who either wish to learn more about the diseases associated with aging and/or their role as caregivers. The GIA received assistance from the Area Agency on Aging of the South Plains and the Star Chapter of the Alzheimer’s Association in stocking the library with materials. Staff also have worked with Lubbock Public Library personnel to expand the libraries' caregiver resources and to publicize the Help and Hope Caregiver Library.
EDUCATION

The Institute strives to meet educational needs of the long-term care workforce in West Texas by increasing knowledge of both geriatric care and leadership among long-term care staff and administrators and thus improve resident care and quality of life.

The Geriatric Education and Training Academy (The Academy)
The Geriatric Education and Training Academy was established by a $248,000 grant from the U.S. Department of Education in the summer of 2003 and a second grant from the same agency, in the amount of $198,000, the following summer. The initial focus of the funding was to address the high turn-over rates, low job satisfaction, and quality of care issues that plague the long-term care workforce, especially in rural and underserved areas. The Academy’s goal was to develop and implement four different programs to supplement the education of direct care workers in long-term care. The four programs targeted: 1) individuals interested in completing a basic certified nursing aide course; 2) Certified Nurse Aides (CNAs) currently employed in long-term care who are interested in advancing their knowledge of geriatrics and care of the elderly; 3) Licensed Vocational Nurses (LVNs) employed in long-term care who desire training in supervisory skills to assist them in their role as charge nurses; and 4) LVNs employed in long-term care who desire advanced training in geriatrics. In its first year, the Academy trained 327 individuals from both rural and urban areas in West Texas. Since 2003 the Academy has not only been able to continue the four programs listed above, but also to expand training to include Registered Nurses (RNs) who work in long-term care, family caregivers, and surveyors from the state regulatory agency. In all, more than 1,500 individuals have been trained to date.

Since its inception, the Academy has received more than $1.2 million in grants from federal and state funding sources as well as private donors. While pursuing the ultimate goal of becoming self-sustaining, the Academy continues to offer programs that meet educational needs and promote best practices in long-term care.
The following Academy programs took place in 2006-2007:

**Nurse Aide Certification Courses:** The Academy offers nurse aide certification courses at least five times a year. Each class educates about 20 new CNAs to meet the continuing need for aides to work in long-term care facilities throughout the region. Graduates of the program receive high praise in that 97 percent of employers surveyed agreed that these CNAs were either “above average” or “well above average” in their on-the-job performance. A total of 75 new aides have been certified in FY 2007.

**Advanced Training for Certified Nurse Aides:** The Academy has offered advanced training for nurse aides in geriatric care since 2004. These one-day trainings are offered four times a year in Lubbock and in other locations in the region such as Abilene and Big Spring. Topics typically include subject matter mandated by the state such as common emergencies and communication skills, along with areas of interest to caregivers of the elderly. CNAs are encouraged to take what they have learned back to their facilities and share it in training sessions for their peers. Topics taught in FY2007 include: Common Emergencies in Geriatric Care, Disease Processes, Skin/Wound Care, Nutrition and Hydration, Team Building, Conflict Resolution, and the Importance of Career Nursing Assistants. Seventy nurse aides employed in long-term care were trained in FY 2007.

**Training in Supervisory Skills for Licensed Vocational Nurses (LVNs):** LVNs provide supervision for nurse aides and often serve as charge nurses and assistant directors of nursing in long-term care facilities; however, they receive no managerial training during their LVN training and may be thrust into a position of authority for which they have no experience. The Academy addresses this issue by offering training in supervisory skills to LVNs. One-day courses are held approximately four times a year in both Lubbock and other cities in West Texas. Topics in supervisory skills taught to LVNs in FY 2007 include: Conflict Resolution, Communication Skills, Toxic Management Behaviors, and the Role of State Regulatory. Two courses in geriatric care were taught in FY 2007: Pain Management in the Geriatric Patient and Infection Control.

**Leadership Training for the RN Workforce:** WorkSource of the South Plains funded a leadership seminar for RNs in June, 2007 on the topic of Exploring Strategies for Healthier Workplaces in Long-Term Care. Six School of Nursing faculty provided instruction for the one-day seminar. The seminar was targeted toward nurses working in long-term care settings wishing to improve their work environment.
Reynolds student activities: The School of Medicine (SOM) received a $2 million award from the Donald W. Reynolds Foundation to strengthen physician training in geriatrics. The GIA education division coordinated the grant-related interdisciplinary student activities: Healthy Ager Interviews, Healthy Horizons – Student Chapter of the American Geriatrics Society (AGS) and the Summer Research Program in Geriatrics.

The goal of the Healthy Ager Interviews is to connect community elders with first-year medical students for life-history interviews to promote positive perceptions of aging. More than 80 community elders were matched with first-year medical students over a two-month period. Students completed a personal essay about the experience for their Early Clinical Experience I class. Evaluation results showed it was a positive experience for both the students and community elders.

The goal of the Healthy Horizons – Student Chapter of the AGS is to educate HSC students about geriatric careers, aging issues and the latest research about health care for seniors. Leadership in starting the new chapter was provided by the Student Scholars in Geriatrics and their faculty mentors in FY2007. Under their direction, the AGS chapter was established in January of 2007 and successfully coordinated three educational events that included an average of 50 fellow students. These events included a panel discussion with family caregivers of seniors affected by dementia, the discussion and viewing of the movie “Aging in America,” and a pharmacology presentation by faculty mentor Rebecca Sleeper-Irons.

The Summer Research Program in Aging Sciences coordinated the mentoring of three SOM students and one Allied Health Sciences student by faculty research scientists in aging from the Schools of Medicine, Nursing and Allied Health Sciences. Research activities took place in science laboratories, clinics and community settings as part of an active research program. The program provided selected students with new opportunities in research and hands-on science activities to apply previous research training, interests and understanding.

Student researchers, projects and faculty mentors:
• **Suchin Wadhawani**, School of Medicine. Project: Elucidating the effects of Vascular Endothelial Growth Factor (VEGF) on endothelial cells isolated from the rodent brain. Faculty mentor: Paula Grammas, Ph.D., executive director, Garrison Institute on Aging.
• **Leah Maenius**, School of Allied Health Sciences. Project: Designing, creating and implementing a computer-based training module for medical students and other students pursuing professional degrees in health care. Faculty mentors: James Dembowski, Ph.D., and Ming Zhang, Ph.D., Department of Speech, Language and Hearing Sciences.
• **Manuel Ruiz Jr.**, School of Medicine. Project: Pilot study of auditory evoked brain responses in the elderly population with dementia. Faculty mentor: Ming Zhang, Ph.D., Department of Speech, Language and Hearing Sciences.
• **Elizabeth Zacharia**, School of Medicine. Project: A retrospective medical record review to examine the presence or absence of resident care elements for physical assessment, skin assessment, nutritional status and pain, fall and fever events. Faculty mentor: Barbara Cherry, DNSc, School of Nursing.
Student Scholars in Geriatrics Program:

The Student Scholars Program was established to develop a cadre of students from allied health sciences, medicine, nursing and pharmacy who have a long-term commitment to advancing health care for older adults and are actively engaged in projects designed to improve the quality of health care for older adults. Eight students were selected in the inaugural 2005-2006 academic year, and the program was expanded to select 13 students in 2006-2007.

Student Scholars:
- Lydia Castillo, School of Allied Health Sciences - Occupational Therapy
- Chelsey Dobrovolny, School of Allied Health Sciences - Occupational Therapy
- Kelly Gandy, School of Allied Health Sciences - Speech & Language Pathology
- Keri Gardner, School of Nursing
- Eser Graham-Marski, School of Allied Health Sciences - Physical Therapy
- Kelsey Kelso, School of Medicine
- Ryan Nipp, School of Medicine
- Christine Ratzzer, School of Nursing
- Missy Rosalez, School of Medicine
- Edgar Salas, School of Medicine
- Sheldon Sonnenberg, School of Allied Health Sciences - Physical Therapy
- Tonia Srubar, School of Allied Health Sciences - Speech & Language Pathology
- Latisha Tomlinson, School of Pharmacy

Faculty Mentors:
- Barbara Cherry, School of Nursing
- Rebecca Sleeper, School of Pharmacy
- Lynn Bickley, School of Medicine
- Matthew Geddie, School of Allied Health
- Laura Baker, School of Nursing
- Donna Owen, School of Nursing
- Carolyn Perry, School of Allied Health
- Daniel Poulsen, School of Allied Health
- Lynn Bickley, School of Medicine

Under faculty mentorship from each discipline, these student leaders have initiated several projects at the Lubbock campus including:
- Grand Rounds or “Lunch & Learn” events for fellow students (average attendance of 50 students)
- Interdisciplinary Health Assessments for community dwelling seniors in which students perform assessments (15 seniors were assessed) relevant to their discipline then meet as a group to compare their findings and make recommendations.
- A student chapter of the American Geriatrics Society (AGS).
The Institute is committed to developing and expanding its research and outreach efforts through growth in resources, endowments and grant funding. Three new $1 million endowed chairs, the Don-Kay-Clay Cash Regents Chair in Alzheimer’s Disease, the Corrine Payne Wright Regents Chair in Alzheimer’s Disease and The CH Foundation Regents Chair in Parkinson’s Disease have been identified for the recruitment of other nationally ranked scientists into the TTUHSC aging initiative. Executive Director Paula Grammas, Ph.D., is also working closely with other department chairs, deans and the Office of the President to secure additional support.

Friends of the Garrison Memorial and Honorary Donations

2004-05: $1,740
2005-06: $10,021
2006-07: $60,420
Appendix

Research Publications

“Is there a link between Alzheimer’s and atherosclerosis?”
Abstracts:
7. Tripathy D, Thirumangalakudi L, Grammas P. MIP-1α expression is elevated in Alzheimer’s vessels and is regulated by oxidative and lipid stress. FASEB 2007.

Manuscripts:

“Vascular-mediated neurodegeneration: A novel target for acetaminophen”
Abstracts:
Tripathy D, Thirumangalakudi L, Grammas P. MIP1-α expression is elevated in Alzheimer’s vessels and is regulated by oxidative and lipid stress. Experimental Biology, 2007

Manuscripts:
“Vascular inflammation in the aging brain”

Abstracts:

Publications:

“Vascular-mediated neuronal cell death”


“COX 2-regulated testosterone biosynthesis in male aging”


“Gut to brain pathways for infection-induced anxiety”


11. Lyte, M., Opitz, N., Goehler, L.E., Gaykema, R.P. and Overmier, J.B. Recommended housing conditions and test procedures can interact to obscure a significant experimental effect. Behavior Research Methods, 37:651-6, 2005.


Facility and Staff

Brad Bachetti
Graduate Student Assistant

Lynn Bickley, M.D.
Professor, Internal Medicine

Diane Botello, RN
CNA Nurse Educator and Training Program Coordinator

Jessica Bowley, RN BSN
CNA and LVN Nurse Educator

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Medical Research Technician II

Marianne Evola, Ph.D.
Pharmacology and Neuroscience

Paula Grammas, Ph.D.
Executive Director and Professor, Neuropsychiatry
Mildred and Shirley Garrison Chair in Aging

Ruben Gonzales
Senior Director, DNA Bank

Ann Laurence, MS
Senior Director of Education

Mark Lyte, Ph.D.
Professor, Pharmacy Practice and Director,
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Sid O'Bryant, Ph.D.
Assistant Professor, Neuropsychiatry

Sheilah Patridge
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Vicki Ramirez
Coordinator, Brain Bank

Kristina Rios
Graduate Student Assistant

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