



UW-Madison
Institute on Aging



Department of
Veterans Affairs
VA Geriatrics Research
Education and Clinical Center

Aging Notes

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AARP/EUGENE LEHRMANN SCHOLARSHIPS

AARP SCHOLARSHIPS AWARDED TO UW-MADISON STUDENTS

Eugene Lehrmann, outgoing national president of the American Association for Retired Persons, presented scholarships of \$1000 each to four UW-Madison graduate students conducting research in aging. Deborah Carr, Sociology, Julia Champ, Nutritional Sciences, Lydia Wailing Li, Social Work, and Gina Vandenslangenbergh, Nutrition and Epidemiology received their awards during a ceremony at the UW Foundation November 14.

The AARP, a non-profit organization dedicated to helping older Americans achieve lives of independence, dignity, and purpose, gives past presidents an opportunity to award scholarships to an institution of their choice. Mr. Lehrmann, a Madison native and UW-Madison graduate, chose the UW for the scholarship program because of its active programs in aging. The students were selected by Institute on Aging faculty from both social-behavioral and biomedical science departments. This scholarship program elicited an enthusiastic and high-quality response from students from a broad spectrum of departments across the campus. As a result, Eugene Lehrmann will lead an effort this year, with the Institute on Aging Advisory Board, to make this a continuing scholarship at UW-Madison.

Following are brief abstracts of the research being conducted by the award recipients:

Deborah S. Carr **Major: Sociology**

Research summary

Deborah Carr is a doctoral candidate in Sociology and is writing her dissertation under the supervision of her advisor,

Professor Robert M. Hauser. Her dissertation, entitled *The Fulfillment of Career Aspirations and Midlife Mental Health*, examines continuity and change of occupational aspirations over the life course and the relationship between career goal fulfillment and mental health at midlife. Analyses will be based on data from the Wisconsin Longitudinal Study (WLS), a longitudinal study of more than 10,000 men and women who graduated from Wisconsin high schools in 1957.

The dissertation draws from the assumption of life course researchers that midlife is a time when individuals assess their past aspirations and current achievements and reformulate their goals for the future. Specifically, the analyses focus on how unfulfilled career goals influence adult mental health, after taking into consideration a variety of factors which may, independently, influence one's aspirations, one's career achievements, and one's mental health. These factors include education, the socioeconomic background of one's family of origin, and other dimensions of the midlife experience, including physical health and marital and parental statuses. The dissertation also examines whether the influence of goal attainment on mental health matters differently among people who value occupational success most highly, who were most certain about their career aspirations, and those who do not adjust their aspirations to match up with current circumstances.

Carr is also working as a research assistant to Professor Carol D. Ryff on the *Life Histories and Mental Health in Midlife* project. The purpose of this research is to conduct life history analyses of select members of the Wisconsin Longitudinal Study (WLS) and relate these histories to mental and physical health in midlife. Specifically, analyses have focused on differentiating the life pathways leading to membership in one of four possible mental health groups: (1) Depressed/Unwell are those with prior episode(s) of serious depression who also lack high psychological well-being at midlife; (2) Healthy are those with high levels of well-being at midlife and no history of depression; (3) Vulnerable are persons with no history of depression but who have low levels of psychological well-being at midlife; and (4) Resilient are persons with prior history of depression but who report high

**AARP/ EUGENE LEHRMANN
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CONT...**

Deborah S. Carr-cont...

levels of current well-being. Life pathways are conceptualized as including acute events, chronic conditions, work and family characteristics, social support, and individual reactions to advantages and adversities encountered in one's life.

**Julia Champ
Major: Nutritional Science**

Research summary

Osteoporosis, a condition leading to atraumatic fracture, is one of the most common diseases observed with advancing age. It afflicts approximately 1.3 million Americans, and approximately 40% of Caucasian women and 10-20% of men are at risk for developing osteoporotic fractures. Prevention of these fractures could save \$5-10 billion per year in medical costs in the US, allow many individuals to remain independent in activities of daily living, and retain quality of life with advancing age.

Atraumatic fractures develop in both men and women due to the uncontrolled loss of bone. Women can lose as much as 20% of their bone mass due to estrogen-depletion caused by menopause. However, age-related bone loss which affects both men and women after age 50 occurs at a rate of 1% a year. Atraumatic fractures typically develop from the results of both estrogen-depletion and age-related bone loss. While the exact etiology of age-related bone loss is unknown, research has suggested that poor nutrition may play a critical role; specifically, low dietary intakes of calcium and vitamins D and K. In fact, research has shown that older individuals may need more of these nutrients than younger people. If there is not enough of these nutrients in the diet, the body must remove calcium from the skeleton.

To understand the pathogenesis of osteoporosis one must utilize animal models. Rhesus monkeys are the best animal model available for the study of osteoporosis. Their correlation to humans is striking due to their similarities in reproductive cycle, natural menopause, skeletal structure, and observance of estrogen-depletion bone loss. However, there has never been a reported case of atraumatic fracture in monkeys. After considering rhesus monkeys' similarities to humans, it directs one to ask: why don't atraumatic fractures occur in these animals?

This is the main question of my master's thesis. We use dual energy x-ray absorptiometry (DXA) to assess bone mass in rhesus monkeys at sites evaluated in humans (lumbar spine, hip, total body, and radius). DXA is often used to evaluate human bone mass to assess need for drug intervention and efficacy. Female rhesus monkeys do lose bone with advancing age, but the loss is minimal. The observation of only minimal bone loss with advancing age was surprising and led us to postulate that the nutritionally replete diet minimized the loss. A following study supported this hypothesis. In this study, we observed elevated bone turnover in postmenopausal animals as compared to premenopausal animals, but detected no difference in bone mass between the two groups. Also, in a longitudinal study in older animals we have observed no bone loss one year after study initiation. Further research into the study of laboratory rhesus nutrition may well contribute to efforts to prevent human age-related bone loss.

This question is the main focus of my master's thesis. We use dual energy x-ray absorptiometry (DXA) to assess bone mass in rhesus monkeys at sites evaluated in humans (lumbar spine, hip, total body, and radius). DXA evaluation of bone mass is often used in humans to assess need for drug intervention and determine efficacy of treatment. Female rhesus monkeys do lose bone with advancing age, but the loss is minimal. The observation of only minimal bone loss with advancing age was surprising and led us to postulate that a nutritionally replete diet minimized the loss. We hypothesize this because the rhesus monkey on laboratory monkey chow consumes at least as much or more calcium and vitamin D than is considered optimal for adult humans. A following study supported this hypothesis. In this study, we observed bone turnover in postmenopausal animals as compared to premenopausal animals, but detected no difference in bone mass between the two groups. Also, in a longitudinal study of older animals we have observed no bone loss one year after study initiation. Further research into critical components of rhesus nutritional needs may well contribute to efforts to prevent human age-related bone loss.

**Lydia Wailing Li
Major: Social Work**

Research summary

The research project that I am working on is a longitudinal study of women caregivers who are providing care to their elderly parent or husband. Professor Marsha Seltzer is the principal investigator. The project aims to investigate how women adjust and cope with the caregiving role and how this role affects their life and well-being. This 3-wave data set uses

**AARP/EUGENE LEHRMANN
SCHOLARSHIPS
CONT...**

Lydia Wailing Li-cont...

a probability sample of caregivers in Wisconsin and will provide repeated measures of the caregivers' social support, coping strategies, physical health, psychological well-being, and caregiving demands. At the onset of the study, some respondents were caregivers, while others were not. During the course of the study, some respondents have changed their status from non-caregivers to caregivers, while others have exited from the caregiving role. In other words, we have data to examine the transitions in the caregiving career, as well as stability and change in many variables over time. Two waves of data have been collected and the fieldwork for the third wave is expected to be completed in February, 1997.

Using this 3-wave data set, I am investigating how to account for the heterogeneity of well-being outcomes for people who face comparable caregiving demands. In particular, I am interested in the role of social support and coping in the relationship between caregiving stressors and caregiver well-being outcomes. Social support has been found to be beneficial to well-being, especially in the face of stress. In the caregiving field, interest in social support is growing, yet research focusing on the mechanism by which social support affects well-being is still limited. Therefore, one of my research goals is to examine the dynamic relationship between social support and the well-being of caregivers and the mechanisms by which they relate to each other over time.

Coping is another factor that I am investigating. At the present time, studies on coping in the caregiving literature are limited by their cross-sectional designs and use of small biased samples. The research project that I am working on was designed to overcome these limitations and should allow the examination of coping effects over time and over life circumstances.

I am also interested in both positive and negative outcomes of caregiving. Past studies have focused mainly on the negative aspects of caregiving, and thus, the possibility that caregiving may have positive effects has been largely overlooked. Including both positive and negative indicators of well-being as outcome measures may provide a more thorough understanding of the implications of the caregiving role on the well-being of caregivers.

Demographic trends show that the need for family care is increasing. I hope that my research will contribute to developing better interventions to support caregivers as well as a better understanding of successful aging.

**Gina M. Vandenlangenberg
Majors: Nutrition & Epidemiology**

Research summary

For my doctoral thesis, I have investigated relationships between antioxidant intake (via diet or supplements) and the 5-year incidence of early age-related maculopathy (ARM) in the Beaver Dam Eye Study. Age-related maculopathy, the leading cause of blindness in persons over 65 years of age, is a degenerative disease of the macula, the part of the retina involved with central vision. As ARM progresses, it can severely compromise normal visual tasks, thus increasing the risk for falls and fractures and restricting physical activity and independent living. Current treatment strategies are of limited benefit for a minority of people with specific forms of this disease. Therefore, prevention of ARM at an earlier stage, if possible, may be the only means to reduce the public health burden of this condition, which will otherwise increase in magnitude as our elderly population expands.

Although the etiology of ARM is unknown, oxidative pathogenic mechanisms have been implicated, thus raising speculation that diets rich in antioxidants may serve to maintain retinal function with advancing age. In animal studies, the provision of antioxidant nutrients has been shown to modulate retinal oxidative damage. In contrast, results of epidemiologic studies examining the role of antioxidant nutrients have been rather inconsistent. One explanation may be that studies conducted to date have faced limitations such as weak design (i.e., case-control or cross-sectional) or the use of late-stage ARM cases (with potential confounding associated with comorbid conditions or resulting lifestyle changes).

The Beaver Dam Eye Study is the first prospective cohort study examining factors associated with age-related eye disease. As such, I have had the opportunity to examine associations between antioxidant intake and the incidence of early ARM lesions in this population. By studying earlier stages of this condition, we can determine whether dietary factors influence the natural history of this disease, and better assess whether antioxidants are causally related to ARM by minimizing the confounding effects of comorbidity and lifestyle changes.

Given the high rate of ARM and the substantial number of cases that could conceivably be prevented through the provision of protective nutrients, even a modest reduction in risk attributed to dietary factors would be of great clinical relevance and public health importance. Ultimately, this type of research is needed to evaluate the importance of antioxidants and to guide clinical recommendations regarding the prevention and treatment of this disabling disease.

VA GRECC NEWS

The GRECC Moves Up

After more than five years in temporary quarters, the Geriatric Research Education Clinical Center (GRECC) staff moved into new space according to Molly Carnes, MD, Acting GRECC Director. The new space is located on the 4th and 5th floors of the D wing of the VA Hospital. The 4th floor contains offices for clinicians, some researchers, students, support staff, and administrators. There is also a conference room on this floor that accommodates about 35 people or can be divided for smaller groups. The 5th floor houses research laboratories and offices for clinical and basic science researchers.

An open house was held November 21. A formal grand opening that will include speakers and a program is planned for March, 1997.

Staff Changes at the Madison GRECC

Since the last issue of this newsletter, there have been a number of staff changes at the Madison GRECC. Molly Carnes, MD, was appointed the Acting Director of the GRECC upon the departure of William Ershler, MD. Steven Barczy, MD, is serving as the Acting Associate Director for Clinical Programs. Thomas Miller, Ph.D., is Acting Associate Director for Education and Evaluation, replacing Theresa Drinka, Ph.D. who left the VA to start a consulting business in geriatrics, team training, and program development. Miller continues to also serve as the Director of the Interdisciplinary Team Training Program (ITTP).

Joining the GRECC program as Physician Fellows are Rebecca Knight, Tricia Langlois, Amit Sanyal, and Victoria Cabanela. Rhonda Danielson was recently hired as the Geriatrics section secretary and is located at the VA Hospital.

The Chief of VA Research Visits Madison GRECC

The newly appointed Chief Research and Development Officer from VA Headquarters, John Feussner, MD, met with GRECC, VA, and University staff on September 12 and 13, 1996, according to JoAnne Robbins, Ph.D., Associate Director for Research. In addition, Dr. Feussner held a question and answer forum on the topic "Relating Research and Education to Clinical Outcomes." He emphasized the importance of connecting basic and health services research to patient outcomes. Feussner addressed concerns about VA research funding and encouraged researchers to be creative in developing collaborative projects to leverage additional funds. He

cited a recent project proposal with the Juvenile Diabetes Foundation that will hopefully lead to joint funding of diabetes research centers within the VA.

Dr. Feussner also presented Medical Ground Rounds on "Geriatrics as a Paradigm for Health Care Delivery." He suggested that with the emphasis on primary care, Geriatrics may serve as a model of what good primary care looks like because it goes beyond the patient's current medical problems to consider their social, functional, and quality of life issues.

Prior to his new appointment, Dr. Feussner was the Deputy Associate Chief of Staff for Health Services Research and Chief of the Division of General Internal Medicine at Duke University Medical Center. He is involved in a number of VA and Institute on Aging research studies and has published widely.

Thomas F. Miller, Ph.D.

VA GRECC/IOA AFFILIATE RESEARCH

Jane Mahoney M.D.
Assistant Professor, Medicine

Epidemiology of Falls After Hospital Discharge

Hospitalization places older adults at risk for a number of adverse events, including falls, adverse drug reactions, and functional decline. However, little is known about how older adults fare in the post-hospitalization period. Dr. Jane Mahoney, Assistant Professor of Medicine with the VA GRECC in Madison, WI, has been the principal investigator of a large cohort study to examine the incidence of and risk factors for falls in the immediate post-hospitalization period. She hypothesized that, during the post-hospitalization period, older adults remain at very high risk for falls due to cumulative effects of illness, bedrest-associated deconditioning, and prolonged effects of delirium or new psychotropic medications introduced during hospitalization.

To date, 250 patients have been enrolled in this study, and preliminary analysis confirms a very high rate of falling. Among the first 250 patients, all of whom were hospitalized for acute medical illness and requiring home nursing services after discharge, 16% fell in the month after discharge. The rate of falls declined exponentially during the second and third months post discharge, suggesting that falls risk was not constant but varied substantially over time, depending on underlying health.

VA GRECC/IOA AFFILIATE RESEARCH-CONT...

Preliminary analysis shows that discharge functional and cognitive status were strong predictors of the risk of falling post discharge. Serious confusion in the 2 weeks prior to hospitalization was also a risk factor. Dr. Mahoney found that, compared to non-fallers, fallers post discharge were more likely to have improved in thinking compared to pre-hospitalization, suggesting that delirium prior to hospitalization may be a significant risk factor for falls post discharge. Poor balance post-discharge, as measured by the Tinetti Balance Assessment, was a strong predictor of falling, as was vision impairment. Therefore, simple functional and physical performance measures may help predict patients at high risk, who may benefit from multifactorial assessments and increased physical therapy.

Falls in the month after discharge incurred substantial cost and imposed significant burden on patients. In Dr. Mahoney's study, 14% of falls resulted in serious enough injury to require rehospitalization. Three month mortality among fallers was 12.5%. Among fallers requiring rehospitalization, the 3 month mortality was 44%. Dr. Mahoney hopes these findings will lead to the development of specific programs to decrease the risk of falling during this high risk period.

JoAnne Robbins, Ph.D.
Associate Professor , Medicine

Swallowing Study Awarded by NIH

Dr. JoAnne Robbins, Associate Professor of Medicine, Associate Director of Research for the Geriatric Research, Education and Clinical Center (GRECC), Director of Swallowing Service at the UW Hospital and Clinics and IOA Steering Committee member, has been awarded funding as Principal Investigator (PI) on a National Institutes of Health proposal to compare the short term and long term effectiveness of two different treatments commonly used for swallowing-related aspiration in older adults. The study, a multi-center clinical trial, is awarded through the National Institute of

Deafness and Communicative Disorders, as part of a cooperative agreement (U01) between NIH and the American Speech Language and Hearing Association (ASHA). The University of Wisconsin, through Dr. Robbins as PI, is the subcontractor on this agreement, which will receive funding from 1997 through the year 2002.

Twenty eight hospitals and their affiliated nursing homes across the nation, including UW and Wm. S. Middleton VA Hospitals locally, will participate as sites for data collection. Data will be transmitted to the GRECC/UW Swallowing Research Laboratory, of which Dr. Robbins is Director, for processing and analysis. The study is a multi-disciplinary effort involving Dr. Jeffrey Grossman, UW pulmonologist, and Dr. Julie Mares-Perlman, UW nutritionist.

The NIH Advisory Council has approved the initial request of \$1,225,000 for funding of this U01 of which \$824,000 is earmarked for the UW; however, Dr. Robbins, ASHA, and NIH are currently negotiating aspects of data collection which may require an increase in the award amount to accomplish this multi-site clinical trial. The grant includes funding for travel in order to train clinicians at the sites to recruit subjects and collect data, as well as to hire personnel at the UW to conduct this significant study.

Short term outcomes of the project include documentation of the frequency of occurrence of aspiration, while long-term outcomes include measures of nutritional and hydration status, as well as the incidence of pneumonia in patients with disordered swallowing secondary to dementia and/or Parkinson's disease. Dr. Robbins' hope is to have a positive influence, through this and other ongoing funded projects on health care, specifically as it is provided to dysphagic elderly individuals.

***IT IS NOT THE YEARS IN YOUR
LIFE BUT THE LIFE IN YOUR
YEARS THAT COUNTS.***

Adlai Stevenson

EMERITUS FACULTY LECTURE SERIES

The Institute on Aging co sponsors, with the Division of Continuing Studies, a lecture series titled "Eloquence and Eminence." The series, directed by Emily Auerbach, Professor of English and Liberal Studies, has been offered since 1993 and features UW emeritus faculty from various departments across campus. There are six lectures presented each year on Sunday afternoons, which enables retirees, students, and working professionals from on and off campus to attend. Each lecture has drawn between 75 and 250 people of all ages (18 to 101). In addition, they reach thousands more through regular community and campus newspaper features and statewide broadcast on Wisconsin Public Radio. Audiences have gained new insights and inspiration from hearing and seeing active older adults, who are known for their teaching excellence and historical perspective.

"Eloquence and Eminence" received the 1996 Phillip E. Frandson Award for Innovative and Creative Programming from the National University Continuing Education Association.

Lectures that have been presented to date in the 1996-97 series have included "Print Making and Print Collecting: A Half Century of Excellence at the UW," by Dr. James Watrous of Art History; "James Audubon and the Ego Ideal," by Dr. Richard Anderson of Pediatrics and Psychiatry; and "The Dead Sea Scrolls That Got Away," by Menahem Mansoor of Hebrew & Semitic Studies. The following are lectures scheduled for the remainder of the year:

February 9: "Health Care and the American Community," by Eugene Farley of Family Medicine (Memorial Union)

March 16: "West Africa before Columbus," by Jan Vansina of African Languages and Literature (Memorial Union)

April 13: "No Fault Divorce and Two Centuries of Reform," by Marygold Melli of the Law School (Memorial Union)

All lectures are held from 2—3 p.m.

The series is free and open to the public. For further information, contact Professor Emily Auerbach at 262-3733 or the Institute on Aging at 262-1818.

3RD ANNUAL WISCONSIN SYMPOSIUM ON EMOTION

The University of Wisconsin has become a nationally recognized center for multidisciplinary research on emotion. On May 2 and 3, 1997 the 3rd Annual Wisconsin Symposium on Emotion will be held at the Wisconsin Center. The topic for this year, organized by Dr. Carol Ryff of the Institute on Aging, will be "Emotion, Social Relationships, and Health." Prominent scholars from around the country will present recent research on the emotional qualities of enduring social relationships and their linkages to health outcomes. Of particular interest are the enhancing, health-promoting aspects of emotionally rewarding relationships.

EUGENE LEHRMANN TO SPEAK AT INSTITUTE ON AGING SPRING COLLOQUIUM

The 9th Annual Institute on Aging Colloquium will be held April 17 and 18, 1997. Mr. Eugene Lehrmann, outgoing national President of AARP, will speak at a dinner lecture Thursday evening, April 17, at the University Club. Preregistration will be required. A colloquium, featuring oral presentations and a poster session, will be held at the Wisconsin Center April 18.

INSTITUTE ON AGING WEBSITE

The Institute on Aging has established a home page on the world wide web. It includes information about the Institute and faculty and academic staff who are conducting research in gerontology, geriatrics, and life-span development. To access the home page: [HTTP://WWW.BIOSTAT.WISC.EDU/AGING](http://www.biostat.wisc.edu/aging)

VISITING HONARY SCHOLAR & RESEARCHER

Dov Shmotkin, Ph.D. Biographical Sketch

Dr. Dov Shmotkin is Senior Lecturer in the Department of Psychology, and Research Coordinator in the Herczeg Institute on Aging at Tel-Aviv University. He is a senior clinical psychologist with work experience in the Israeli Navy, psychiatric hospital, and mental health center. He teaches psychodiagnostics and psychotherapy in the Department's graduate clinical program. In the last years he has served as Head of the Department's undergraduate studies.

Dr. Shmotkin's research interests focus on subjective well-being in adulthood and old age, time perspective across the lifespan, mental health of Holocaust survivors, and intergenerational relations in later life. In his studies, he attempts to delineate the various aspects of subjective well-being and their relations with aging processes. A major objective is to differentiate between the explicit and declarative roles of subjective well-being and its more implicit, often dialectical, functions. His studies have been published in various gerontological outlets, such as Journal of Gerontology, Psychological Sciences, Psychology, International Journal of Aging and Human Development, Clinical Gerontologist, Educational Gerontology, and Journal of Adult Development.

Dr. Shmotkin is currently on sabbatical in the Institute on Aging at the University of Wisconsin-Madison.

GOOD NEWS ON GRANTS

Dr. Richard Weindruch, Professor, Medicine, received \$50,000 from the American Cancer Society for his project, "**Lymphoma, Calories, and Aging**." This award covers the period July 1, 1996 through June 30, 1997.

Dr. Carol Ryff, Professor, Psychology, was awarded \$40,808 for the project "**Linking Psychological Pathways to Biological and Health Outcomes: Toward Explaining SES/Health**

Associations." This award, funded by the MacArthur Foundation, is for the period April 1, 1996 through June 30, 1997.

Dr. Carol Ryff, Professor, Psychology, received an award from the MacArthur Foundation Research Network on Successful Midlife Development in the amount of \$75,095. The project, titled "**Diversity in Ways of Being Well**," began July 1, 1996.

Dr. Stefan Gravenstein, Associate Professor, Medicine, was awarded \$61,076 by Connaught Laboratories, Inc. to conduct a study titled "**Influenza Vaccine Response in Young Healthy Adults**." The study was completed between July 1 and October 31, 1996.

Dr. Richard Weindruch, Professor, Medicine, is the PI on the NIH training grant, "**Biology of Aging and Age-Related Diseases**." The grant, in the amount of \$736,523, funds four postdoctoral and four predoctoral stipends. It covers the period May 1, 1996 through April 30, 1999.

Kristen Kling, graduate student in Psychology, received an individual training grant from the National Institute of Mental Health. The 2-year award for the project titled "**Personality Processes and Adjustment During a Transition**," began September 1, 1996.

Ka Wing Wong, Undergraduate student in Biochemistry and Thomas Pugh, Associate Scientist with the Institute on Aging, received a 1996-97 Wisconsin/Hilldale Undergraduate/Faculty Research Award. The research project, titled, "**Invivo Interleukin-II Expression in Ovariectomized Rhesus Bone**," will be conducted between July 1, 1996 and June 30, 1997.

PENDING PROPOSALS:

NIH, **Carol D. Ryff**, Professor, Psychology, "**Mental and Physical Resilience to Cumulative Challenge**."

Kameron Maxwell, **Richard Weindruch**, Professor, Medicine, "**The Development of Novel Compounds to Reduce the Mitochondrial Free Radical Production and Aging**."

Eli Lilly Research Laboratories, **Neil Binkley**, Assistant Professor, Medicine, "**Effects of LY333334 in the Treatment of Postmenopausal Women with Osteoporosis**."

NIH, **Richard Weindruch**, Professor, Medicine, "**Mitochondrial Dysfunction in Aging Rat Myocardium**."

Mamastatin Research Institute, **Cynthia Cowden**, Associate Scientist, Institute on Aging, "**Regulation of Mamastatin Gene Expression in Human Mammary Cells**."

ANNOUNCEMENTS

Future Colloquium Dates:

April 18, 1997

April 24, 1998

NIH Grant Application Notice:

Effective January 2, 1997, an unsolicited application will be considered on time if it is received on or mailed on or before the published receipt date and proof of mailing is provided.

AFAR Grant Deadlines

Merck/AFAR Medical Student Research Scholarships in Geriatric Pharmacology.....January 21, 1997

John A. Hartford/AFAR Medical Student Geriatric Scholars Program.....February 5, 1997

Glenn Foundation/AFAR Scholarships for Research in the Biology of Aging.....February 26, 1997

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If you wish to submit an article or other information for this newsletter, please contact Michael Hunt or Kay Smith at 262-1818.