

# Aging Exchange

Fall 2004

VOLUME 14 • ISSUE 2

*Tracking the Way We Age*

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### Upcoming national meetings:

**Gerontological Society of America**, November 19-23, 2004, in Washington, D.C.

**Association for Gerontology in Higher Education**, February 24-27, 2005, in Oklahoma City, OK.

Joint Conference of the **American Society on Aging and the National Council on Aging**, March 10-13, 2005, in Philadelphia, PA.

## Center on Aging and the Life Course Early Origins of Adult Health: Social and Behavioral Processes



Dr. Dennis Savaiano, Dean of the School of Consumer and Family Sciences, opened the September 23 life course symposium with several examples of industries that will be transformed by the changing demographics of a large older population. "We are on the tip of the iceberg. The next 20-30 years will witness tremendous change."

Especially for people in poverty, the next twenty years is largely shaped by the last twenty years. Dr. Linda Burton, a distinguished scholar from Human Development and Family Studies and Sociology at Penn State University, has studied the effects of early poverty on reproductive behavior and adult health outcomes. The results of her three-city

ethnographic study indicate that in families where one member has a mental or physical illness, the likelihood of another family member to be ill increases. Often, a caregiver with an illness has two or three mental or physical infirmities. The implications of family co-morbidity are central to governmental policy making and health insurance.

Dr. Richard Settersten, of Case Western Reserve University in Cleveland, OH presented his work on the value of childhood studies to gerontology. As more of the population ages, the heterogeneity within old age is more pronounced. He discussed the tension between commonness and difference in old age, which is more exaggerated than in childhood. The markers of age periods blur in adulthood. Ambiguity in describing old age is part of the resistance to using the term "old" to describe late life.

Both Burton and Settersten illustrated the value of looking at aging with a "wide angle lens," focusing on the process of aging as a lifelong phenomenon rather than the final period of life.

To view a videotape of this outstanding symposium, contact Peggy Favorite, via e-mail, [favorite@purdue.edu](mailto:favorite@purdue.edu).



## Early Origins of Adult Health: Social and Behavioral Processes

Poster Session

**Paula Y. Goodwin—Purdue University**, Sharon W. Williams—University of North Carolina at Chapel Hill, Peggye Dilworth-Anderson—University of North Carolina at Chapel Hill

*Predictors of Depressive Symptoms Among African American Female Caregivers: The Role of Resources*

**Heidi B. Iglay<sup>1</sup>, Michael G. Flynn<sup>2</sup>, Anne K. Mahon<sup>1</sup>, Laura K. Stewart<sup>2</sup>, Kim M. White<sup>2</sup>, Wayne W. Campbell<sup>1</sup>**

<sup>1</sup>Dept Foods & Nutr, Purdue Univ, <sup>2</sup>Dept Health & Kinesiol, Purdue Univ,

*Comparison of body composition assessment methods in overweight and mildly obese postmenopausal women*

**Shalon M. Irving, M.S. and Kenneth F. Ferraro, Ph.D.**

Department of Sociology and Anthropology, Center on Aging and the Life Course, Purdue University  
*Reports of Abusive Experiences During Childhood and Adult Health Ratings: Personal Control as a Pathway*

**Tetyana Pylypiv**, Department of Sociology, Purdue University

*The Racial Paradox of Hospital Length of Stay*

**Dan Ritchie, Cody Sipe, Jenny Dill, Roger Seehafer**, Department of Health & Kinesiology

*Examining the outcomes of the Home Support Exercise Program on community dwelling older adults.*

# CALC goes to GSA

The theme for the 2004 Annual Meeting of the Gerontological Society is "Promoting the Health of an Aging Population." Presenters will be thinking broadly about the biology, clinical science, and social science contributions to the study of aging and health promotion. Much of the recent focus has been on factors contributing to healthy aging, but there is much to be done to identify effective interventions to change unhealthy behaviors, reduce risk, and encourage healthier life styles. A life span perspective of risk, as well as promotion of healthy behaviors at all ages, is an important focus.

The Center on Aging and the Life Course at Purdue University will again have a prominent presence at the GSA annual meeting, November 19-23, 2004 in Washington, D.C. Faculty members presenting their work are: **Victor Cicirelli**, Psychological Sciences; **Kenneth Ferraro**, Sociology; **Karen Fingerman**, Child Development and Family Studies; **Gerald Hyner**, Health and Kinesiology; **Roseann Lyle**, Health and Kinesiology; **Laura Sands**, Nursing; **Roger Seehafer**, Health and Kinesiology; and **Jill Suitor**, Sociology. Graduate students presenting their work are: **Pei-Chun Chen**, Sociology; **Kimberly Hurley**, Health and Kinesiology; **Shalon Irving**, Sociology; **Tetyana Pylypiv**, Sociology; **Steven McKenzie**, Health and Kinesiology; and **Minjung Seo**, Health and Kinesiology. Congratulations to these presenters!

For more detailed information about their presentations, including time and place at the GSA meeting, click on the [What's New?](#) section of the CALC website: <http://www.purdue.edu/aging>.

### *Congratulations to*

**Dr. Roseann Lyle**,  
recipient of the  
**Exemplary  
Engagement Award**  
from the  
Center on Aging  
and the Life Course.

CALC is pleased to honor Dr. Lyle for her singular contributions to the health and well-being of the older adult population through the concept, planning, and implementation of the **Coalition for Living Well After 50**.

## Aging Exchange

Aging Exchange is a publication of the *Center on Aging and the Life Course* at Purdue University.

### **Director**

Kenneth F. Ferraro, Ph.D.

### **Associate Directors**

Gerald C. Hyner, Ph.D.

David J. Waters, DVM, Ph.D.

### **Project Coordinator**

Margaret A. Favorite

### **Secretary**

Marilyn McCammack

### **Student Web Designer**

Kelly Wright

### **Visit our website at:**

<http://www.purdue.edu/aging>

## CALC adds Research Associates to roster

Purdue researchers who do not hold faculty appointments may be eligible to become Research Associates of the Center on Aging and the Life Course. By nomination of a faculty associate and invitation by CALC director, Ken Ferraro, Dawn Cooley, Yu Chen, Amber Pond, and Shuren Shen are new research associates. Dr. Dawn Cooley, profiled here, serves on the Steering Committee.

Dawn M. Cooley, DVM,  
Diplomate ACVIM-Oncology  
Clinical Investigator in Comparative  
Oncology, Purdue University

Dr. Cooley received her DVM degree from Purdue in 1995. In 2000, she completed a Residency in Oncology at Purdue University and in 2001 she became a Diplomate of the American College of Veterinary Medicine - Oncology. In 2003, Dr. Cooley received the Award for Excellence in Research on Aging and the Life Course from Purdue University's Center on Aging and the Life Course. Dr. Cooley is currently a PhD Candidate at Purdue University.

Dr. Cooley's research has focused on comparative oncology and comparative biogerontology. In 2002, she published her findings that early neutering (before 12 months of age) in Rottweiler dogs significantly increases their risk of naturally-occurring bone cancer as adults. These results lend further support to a growing body of evidence that early life events can significantly contribute to adult health outcomes, reinforcing the importance of using a life course perspective to study aging and age-related disease. Her most recent work, published in the December 2003 issue of the *Journal of Gerontology: Biological Sciences*, provided the first detailed description of extreme aged pet dogs and opened new vistas into the comparative aspects of exceptional longevity in dogs and humans.

## Welcome Dr. J. Jill Suitor

Jill Suitor joined the faculty of CALC and the Department of Sociology and Anthropology in August. Dr. Suitor spent the previous thirteen years as a member of the Department of Sociology at Louisiana State University. She was Director of Women's and Gender Studies at LSU from 1999 to 2002 and was one of the co-founders of the LSU Aging and Life Course Center in 2001.

Dr. Suitor's interests focus on the effects of status transitions and life events on interpersonal relations and psychological well-being. She has completed three NIH-funded panel studies of family caregiving that emphasized the ways in which caregiving affects psychological well-being and relations with spouses, siblings, and friends. She is currently conducting two studies of interpersonal relations across the life course. The Within-Family Differences project focuses on parental favoritism, intergenerational support, and generational differences in parents' and children's perspectives on their relationships. With funding from the National Institute on Aging, Dr. Suitor and her collaborator, Dr. Karl Pillemer, have collected data from 556 mothers over 65 years of age, their husbands, and each of their adult children. The project is currently in its first phase; Suitor and Pillemer plan to request funding to conduct both a five and a 10-year follow up to explore intergenerational relations as parents age. The second project, Work, Family, and Friends Across Time, is a 25 year study of women who returned to college in the early 1980s while raising their families. The 50 women who participated in the original project have been interviewed three times since 1980; a fourth set of interviews is being completed this fall, focusing on the long-term effects of returning to school on women's careers, family lives, and friendship networks.

Dr. Suitor is a participant in many professional activities. She is currently serving a four-year term as a member of the National Institutes of Health study section on Social Psychology, Personality, and Interpersonal Processes. In recent years she has served as an elected member of the American Sociological Association Council on Family and the ASA Council on Aging and the Life Course. She has also served on the editorial boards of *Social Forces* and *Gender & Society*. In November, Dr. Suitor will begin a three-year term as a member of the Publications Committee of the Gerontological Society of America.

## Spotlight on the Steering Committee, part 1

A group of fifteen individuals provide direction to the Center on Aging and the Life Course. Graduate student, research associate, staff, and community perspectives join with those of active gerontology faculty associates in charting the course of the study of aging at Purdue. These Steering Committee member profiles underscore the disciplinary depth and interdisciplinary breadth of the Center.

### Karen L. Fingerman, PhD, Berner Hanley Scholar in Gerontology

Dr. Fingerman's research focuses on relationships in adulthood, including: 1) the emotions individuals experience in their social ties, 2) the behaviors individuals use to deal with these emotions, and 3) the way individuals think about problems they encounter. She is interested in age and gender differences in relationships.

Dr. Fingerman's current research looks at emotional qualities of relationships between parents and their grown children, and more specifically, at how these relationships can affect the parents' mental and physical health. This research, funded by the National Institute of Aging, examines how parents and grown children communicate with one another about problems in their relationship, including their experiences of worry, guilt, and disappointment. The study includes African-American and European-American families in the greater Philadelphia area. A son or daughter and both parents participated in telephone interviews, videotaped interviews, and self-reported questionnaires. In collaboration with colleagues at Penn State, this is the only data set, to date, with such in-depth information about emotional qualities of ties between adults and their parents.

Her recent research, funded by the Brookdale Foundation, examined family ties when parents incur common health problems of late life. There were 3 groups

in the study, older adults who suffer: 1) hearing loss, 2) uncorrectable vision loss, and 3) no uncorrectable sensory losses. The older adult and their grown child who knows the most about their health each provided reports of the parents' health conditions and the changes they have experienced in their relationship in recent years. In addition, we obtained medical records for the older adult. This study breaks new ground by examining grown offspring's understanding of parental health problems and how these problems influence parents' and offspring's perceptions of the relationship. Responses to open-ended questions about changes and continuities in the relationship revealed that most parents and offspring saw the relationship as improving, though many also saw problems in it. Offspring perceived more declines in the relationship and in parental functioning than did parents. Findings revealed that parents' and offspring's descriptions of changes and continuities were associated with parents' age and functional abilities; when parents were older and less able to function independently, parents and offspring, alike, perceived declines in the relationships. Daughters were also more likely to perceive declines in the relationship than were sons. These findings suggest the parent/offspring relationship shifts as parents lose functional abilities in late life.

### Jessica E. Huber, PhD

Dr. Jessica Huber received her Ph.D. in Speech Science from the University at Buffalo - State University of New York in June 2001. She joined the Department of Speech, Language, and Hearing Sciences at Purdue University in Fall 2001. Dr. Huber was trained in the collection and analysis of physiologic data from the speech subsystems. Specifically, she uses kinematic, aerodynamic, and acoustic analyses to describe how these subsystems function in speech.

Dr. Huber's primary area of research is how motor control for speech production changes with aging and in individuals with motor speech disorders. Currently, she is working on an NIH grant to study the respiratory and lip and jaw kinematics of normal speakers and individuals with Parkinson's disease. The aims of the grant are to determine if the method used to cue individuals to increase their vocal loudness affects the physiologic mechanisms used to speak louder, to study whether these mechanisms change with aging, and to examine whether increasing loudness elicits more normal kinematic patterns in individuals with Parkinson's disease.

Dr. Huber holds the Certificate of Clinical Competence in Speech-Language Pathology from the American Speech-Language-Hearing Association. She has experience working with adults with motor control disorders and voice disorders.

## Laura P. Sands, PhD

Dr. Sands' research is focused on promoting optimal functioning in older adults. She analyzes large datasets to identify factors that contribute to loss of functioning and quality of life in older adults. Currently, she is analyzing several large data sets to determine: 1) which patients are at highest risk for experiencing poor outcomes after surgery, 2) which community living frail elders are at highest risk of living alone

without needed help in carrying out daily activities, 3) the health consequences and health services utilization patterns of frail elders living alone in the community without needed help, and 4) the optimal care pathways for dementia patients who are dependent on public assistance for their health care. Dr. Sands has also developed methods for detecting whether individual dementia patients benefit from pharmaceutical therapy designed to

enhance cognitive functioning. She contributes to the evaluation of programs for frail and demented elders such as Adult Day Health Care and Alzheimer's education programs. She also contributes to the development of instruments for frail and demented elders including a quality of life instrument for persons with dementia, a patient satisfaction measure for frail elders, and a patient preference measure for older men with prostate cancer.

## Michael G. Flynn, PhD

Dr. Flynn's specialty area is exercise physiology with an interest in physiology of aging and exercise immunology. Flynn's research has been focused on the immune responses to resistive exercise training in older women with a recent emphasis on inflammation. Specifically, Flynn's group has shown that chronic exercise has anti-inflammatory effects and we have been working to determine a mechanism for this phenomenon. The toll-like receptors, signaling receptors for inflammation and innate immunity found on white blood cells, have been the target of their efforts to determine a potential mechanism. To date, Flynn's group has published two papers showing that toll-like receptor expression is down-regulated by exercise training. Future endeavors will be focused on links between exercise, inflammation and mechanisms of chronic disease. He is currently seeking to develop relationships with other researchers who study rheumatoid arthritis or the influence of cholesterol lowering drugs.

He has published his aging work in *Journals of Gerontology*, *Journal of Applied Physiology* and *Medicine and Science in Sports and Exercise*. In addition, Flynn is completing a chapter on Exercise and Aging to be published in Ferraro and Wilmoth's *Gerontology: Issues and Perspectives*.

## Paula Y. Goodwin, PhD

Dr. Paula Goodwin received her B.S. in psychology, with a sociology minor, from Wake Forest University in 1992. She received both her master's and doctoral degrees in Human Development and Family Studies at the University of North Carolina at Greensboro, in 1998 and 2001, respectively. She completed postdoctoral fellowships with the Family Research Consortium at the University of California, Los Angeles and with the Institute on Aging at the University of North Carolina at Chapel Hill. Currently, Dr. Goodwin is an assistant professor in the Department of Child Development and Family Studies at Purdue University.

Dr. Goodwin's major research interest is how the family roles of women (e.g., caregiving) affect their health outcomes and how their health affects their ability to perform these family roles. She is particularly interested in the lives of middle-aged women who oftentimes simultaneously fulfill the roles of spouse, employee, mother/grandmother, and/or caregiver to dependent elders. Dr. Goodwin is interested in examining these relationships in the context of race and culture, particularly among African American women. She has publications in the *Journals of Gerontology* and in *Aging and Mental Health*, as well as book chapters.

## David J. Waters, DVM, PhD, Diplomate ACVS

Dr. Waters joined the faculty of the Department of Veterinary Clinical Sciences at Purdue University in 1991. In 2000, he was appointed Executive Director of the Gerald P. Murphy Cancer Foundation, a non-profit organization which supports and conducts basic, comparative, and clinical research. In 2001, he was promoted to Professor of Surgery and Comparative Oncology at Purdue University. Dr. Waters currently serves as the Co-director of the Purdue Comparative Oncology Program and Associate Director of the Purdue Center on Aging and the Life Course. Dr. Waters' research has focused on the comparative aspects of prostate cancer and skeletal neoplasms. His current research is in the evaluation of strategies for cancer prevention, novel anticancer therapies, and biomarkers of mammalian aging and cancer risk.

Dr. Waters was the first Purdue faculty member and the first veterinarian to become a Brookdale Fellow. He currently serves as a member of the Scientific Grant Review Committee of the American Foundation for Aging Research (AFAR) and is an international speaker in biogerontology and aging.

Dr. Waters teaches two gerontology courses, the Biology of Aging and Lifestyle, and Age-related Diseases in the News.

# Recent Grants and Fellowships

**Carol Baird**, Nursing, and M. Murawski, from Clifford Kinley Trust, "Guided Imagery and Relaxation to Reduce Analgesic Use and Improve Quality of Life in Older Adults with Osteoarthritis," \$19,663

**Sharon DeVaney**, Consumer Sciences and Retailing, from Kentucky State University, November 1, 2003 through September 30, 2004, "Risk Management Education for Older, Minority, Women and Family Farmers," \$30,000

**Stephen Elliott**, Industrial Technology, from American National Standards Institute, March 10, 2004 through December 31, 2004, "American National Standards Institute," \$6,500

**Stephen Elliott**, Industrial Technology, from Authentify Inc., May 1, 2004 through December 31, 2004, "Authentify Voice Recognition Test," \$9,960

**James Fleet**, Foods and Nutrition, and J. Wu, from Showalter Trust, July 1, 2004 through June 30, 2005, "Defining the Molecular Regulators Controlling the Development of a Functionally Mature Intestine," \$75,000

**James Fleet**, Foods and Nutrition, from PHS-NIH National Institute of Diabetes and Digestive and Kidney Disorders, September 30, 2004 through June 30, 2005, "Intestinal Calcium Absorption: Molecular Mechanism," \$268,800

**James Fleet**, Foods and Nutrition, and B.A. Craig, from PHS-NIH National Cancer Institute, July 13, 2004 through May 31, 2005, "Vitamin D and Prostate Cancer Proposal," \$270,117

**Lawrence Glickman**, **Roland Thorpe**, and **Regina Kreisle**, Veterinary Pathobiology, from PHS-NIH National Institute on Aging, August 1, 2002 through July 31, 2005, "Minority Predoctoral Fellowship Program," \$33,487

**Lawrence Glickman** and **Alan Beck**, Veterinary Pathobiology, from Kenneth Scott Charitable Trust, June 1, 1997 through September 1, 2004, "Training Veterinarians to be Leaders in Companion Animal Welfare, Applied Ethics, and Public Policy," \$481

**Jessica Huber**, Audiology and Speech Sciences, from American Speech Language Hearing Association, August 1, 2004 through July 31, 2005, "Advancing Academic-Research Careers (AARC) Award," \$5,000

R.D. Mattes, **George McCabe**, Statistics, J.R. Daniel, and **Wayne Campbell**, Foods and Nutrition, from PHS-NIH National Institute of Diabetes and Digestive and Kidney Disorders, August 15, 2004 through July 31, 2005, "Food Rheology and Feeding in Lean and Obese Humans," \$244,120

**James McGlothlin**, Health Sciences, from Pfizer Inc., May 16, 2004 through August 15, 2004, "Seven Step Ergonomics Intervention Program for Pfizer," \$29,880

**Dorothy Morr e**, Foods and Nutrition, from Marshall-Edwards/Novogen, January 1, 2004 through December 31, 2004, "Apoptotic Response of LNCAP Cells to Phenoxodiol in Co-Culture with Osteoblasts Compared to Monoculture," \$10,000

**Dorothy Morr e**, Foods and Nutrition, from Nu Skin International Inc., June 1, 2004 through May 31, 2005, "Testing of Potential Cosmetic Botanical Preparations Against Aging-Related Nox Activity of Buffy Coats," \$10,000

**Michael Murray**, Pharmacy Practice, from Indiana University, September 30, 2003 through August 31, 2004, "Collaborative Clinical Research on Hepatotoxicity," \$10,705

**Kevin Roy**, Child Development and Family Studies, from Public Health Service-National Institutes of Health, National Institute of Child Health, Human Development, June 1, 2004 through May 31, 2005, "Patterns of Father Involvement in Low Income Families," \$75,000

## International Travel Grants

**Alan Beck**, Veterinary Pathobiology, "People and Animals: A Timeless Relationship," Glasgow, Scotland

**Nancy Edwards**, Nursing, "Sigma Theta Tau International Meeting," Dublin, Ireland

**Regina Kreisle**, Veterinary Pathobiology, "XXV International Academy of Pathology Congress," Brisbane, Australia

**Aimee Surprenant**, Psychology, "2<sup>nd</sup> International Conference on Working Memory," Kyoto, Japan

**Thomas Templin**, Health and Kinesiology, "2004 Pre-Olympic Congress: Sport Science Through the Ages," Thessaloniki, Greece

# Recent Grants and Fellowships, cont.

**Laura Sands**, Nursing, K. Jennings, and **George McCabe**, Statistics, from PHS-NIH National Institute on Aging, May 1, 2004 through April 30, 2005, "Progressive Functional Loss in Elders with Dependencies," \$127,057

**Laura Sands**, Nursing, from Institute on Aging, October 1, 2002 through August 31, 2004, "Evaluating Outcomes of Adult Day Services," \$6,000

**Laura Sands**, Nursing, from University of California-San Francisco, March 1, 2004 through February 28, 2005, "Evaluation of a Trial of General Anesthesia with or without Nitrous Oxide," \$20,866

C.L. Sipe and **Roseann Lyle**, Health and Kinesiology, from Indiana State Department of Health, May 1, 2004 through September 30, 2004, "Increasing Physical Activity Participation in Women Using an Existing Social Support Structure," \$30,643

M.E. Spurlock, D.C. Moody, G.W. Stevenson, and **Harm HogenEsch**, Veterinary Pathobiology, from Showalter Trust, July 1, 2004 through June 30, 2005, "A Porcine Model of the Metabolic Syndrome," \$75,000

**Aimee Surprenant** and **Ian Neath**, Psychological Sciences, from PHS-NIH National Institute on Aging, September 1, 2004 through August 31, 2005, "Modeling the Effects of Aging on Memory," \$222,625

**Connie Weaver**, Foods and Nutrition, B.A. Craig, D. Teegarden, **Roseann Lyle**, Health and Kinesiology, and **Wayne Campbell**, Foods and Nutrition, from Dairy Management, Inc., July 1, 2004 through June 30, 2007, "Calcium, Dairy, and Body Fat in Adolescents," \$226,630

T.J. Webster, **Alan Friedman**, Biological Sciences, **Connie Weaver**, Foods and Nutrition, **James Fleet**, Foods and Nutrition, and R.V. Weatherman, from Showalter Trust, "Development of Intelligent, Nanotechnology-Based Materials for the Prevention and Treatment of Osteoporotic Bone," \$66,666

## Discovery Park e-Enterprise Center Award

**James McGlothlin**, Health Sciences, from Federal Aviation Administration, July 1, 2004 through August 15, 2004, "Air Transportation Center of Excellence for Aircraft Noise and Aviation Emissions Mitigation-Task 10 Wireless Network to Monitor Health Effects," \$40,000

## Purdue Research Foundation Awards (\$14,715 each)

**Kenneth Ferraro**, Sociology and Anthropology, "Residential Segregation and Health: Differential Effects Among Minority Groups"

**Michael Flynn**, Health and Kinesiology, "Mechanisms for the Anti-inflammatory Effects of Exercise Training"

**Alan Friedman**, Biological Sciences, "Transition State Analog Structure and Engineering of a Cancer Mutation Detecting Enzyme"

**Xinran Lehto**, Hospitality and Tourism Management, "Exploring the Benefit of Leisure Travel: An Assessment of Baby Boomers vs. the Silent Generation"

## Faculty Support to Write an Extramural Grant Application on Aging Purdue University Center on Aging and the Life Course *Applications due December 10, 2004*

This award competition provides support for writing an external grant application related to aging and the life course. The intent is to provide support to faculty who have completed preliminary research and are prepared to write an external grant application during 2005. These funds can be expended on a summer stipend, % FTE, paying consultants to review the pre-proposal, or research-related expenses.

Preference will be given to interdisciplinary projects proposed by Center on Aging and the Life Course Faculty Associates that address one of the signature areas of (a) health trajectories, (b) perception and production, and (c) family relations.

For more information, check [www.purdue.edu/aging](http://www.purdue.edu/aging).

# Aging Exchange

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## Spring 2005 Gerontology Courses

### *Primary Content*

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AUS 519B	Aging and Communication	2 cr	TTh 3:30-5:20 (1/10-3/6)	Ringel
CSR 630	Social Policy and the Economics of Aging	3 cr	MWF 11:30	DeVaney
F&N 580	Geriatric Nutrition	2 cr	MW 12:30	Campbell/Morre
VCS 650	Biology of Aging	1-3 cr	arrange hours & cr.	Waters

### *Related Content*

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AUS 531	Language Disorders in Adults	3 cr	MWF 1:30	Weber-Fox
AUS 538	Motor Disorders of Speech	2 cr	MW 3:30-5:20 (1/10-3/6)	Huber
BIOL 562	Neural Systems	3 cr	MWF 12:30	Powley/Sahley
(Cross-listed as PSY 512)				
CDFS 502	Survey of Human Development	3 cr	M 6:00-8:50	Calahan
CDFS 605	Seminar in Family and the Life Course	3 cr	W 8:30-11:20	MacDermid
HK 5571	Health Counseling	3 cr	W 6:00-9:00	Hyner
SOC 574	Social Organization of Healthcare	3 cr	TTh 1:30-2:45	Anderson