Symposium Examines the Biology of Aging

About 100 people gathered at Purdue University on Saturday, April 14, to probe the Mechanisms and Consequences of Aging. The symposium provided a broad perspective on contemporary issues in biogerontology. It featured 5 speakers and 18 posters presenting research findings on basic mechanisms of the aging process.

One of the highlights was a presentation by Leonard Hayflick, Ph.D., Professor of Medicine at the University of California at San Francisco, and one of the most influential scholars in the biology of aging. Hayflick is widely credited with first showing that "aging" is not the cause of cell death, but that the number of passages cells undergo is the key (Experimental Cell Research, 1961). With experiments on normal diploid human cells, he observed that regardless of the age of the donor, such cells could only proliferate in culture for a finite number of times—they have a limited capacity to divide and function. He discovered a limit on the number of cell doublings in vitro implying that there is a "clock" within cells governing longevity.

It should not be surprising, therefore, that Hayflick denounced recent claims that humans are capable of living well past 100 years. According to Hayflick, "superlongevity is simply not possible." He asserted that even if the most common causes of death—cancer, heart disease, and stroke—were eliminated, life expectancy would probably not increase more than 15 years.

The real cause of death, Hayflick argued, is a decline on a molecular level that makes people increasingly vulnerable to disease.

Other speakers discussed other mechanisms, but basically agreed with Hayflick. Arlan Richardson, Ph.D., Professor and Director of the Aging, Research, and Education Center at the University of Texas San Antonio Health Sciences Center, focused on the molecular and cellular biology of aging and offered the same conclusion: "I think people are going to realize that just curing one disease after another isn't getting at the fundamental problem."

The search for the molecular decline and disorganization that accompanies aging is being carried out on a wide variety of animal species. David Waters, D.V.M., Ph.D., Associate Professor, Veterinary Clinical Sciences and Associate Director of the Gerontology at Purdue University, highlighted some of the work in his laboratory that examines these processes with pet dogs. While research is being conducted on species ranging from the small soil nematode Caenorhabditis elegans to humans, Waters argues that pet dogs represent a splendid model of mammalian aging, especially because they share living environments with their owners.

Two other speakers addressed those gathered. Robert Floyd, Ph.D., Head of the Free Radical Biology and Aging Research Program at the Oklahoma Medical Research Foundation, discussed the chemistry of aging. Floyd specifically discussed the neurotoxic action of nitric oxide in Alzheimer's disease and the mechanistic basis of reactive oxygen in carcinogenesis.

Frank Bellino, Ph.D., Deputy Director, Biology of Aging Program, National Institute on Aging, described opportunities and challenges facing the gerontology research community as well as specific funding mechanisms to pursue research at NIA. Although regular research awards (R01s) are the core of NIA funding, he encouraged investigators to consider other mechanisms ranging from pre-doctoral fellowships (T32, F31) to career development (K01, K02) and career leadership awards (K07).

The program committee for the symposium consisted of Waters, Dorothy Morré, Professor of Foods and Nutrition, and Harry Morrison, Dean of the School of Science and Professor of Chemistry. The symposium was designed primarily to stimulate interest in biogerontology among Purdue University faculty, but also drew participants from universities in surrounding states.
Promotions and Tenure
Promotions of five gerontology faculty associates were approved by the Board of Trustees on April 6. Faculty associates promoted to Professor are:
- Shelley M. MacDermid, Child Development and Family Studies
- David J. Waters, Veterinary Clinical Sciences
Faculty associates promoted to Associate Professor are:
- Kevin M. Hannon, Basic Medical Sciences
- Kevin M. Sowinski, Pharmacy Practice
- Janet M. Wilmoth, Sociology and Anthropology
James D. McGlothlin, Associate Professor in Health Sciences, was granted tenure without promotion.
Congratulations!

Awards
Three gerontology faculty associates were honored for their excellence in teaching at the Purdue University Honors Convocation on April 8. They are:
- Nicholas G. Popovich, Pharmacy Practice, Professor Henry W. Heine Award for Excellence in Teaching;
- Janet M. Wilmoth, Sociology and Anthropology, School of Liberal Arts Educational Excellence Award; and
- Ruth N. Wukasch, Nursing, Excellence in Teaching Award in the School of Nursing
Dawn Cooley, Veterinary Clinical Sciences graduate student, received an award for the Best Resident Abstract in Clinical Sciences at the Veterinary Cancer Society Meeting. Her presentation was "Influence of Gender and Gonadal Exposure on Risk for Appendicular Bone Sarcoma in Rottweilers."
Sharon Devaney, Consumer Sciences and Retailing, was named the Mary Ellen Edmondson Educator of the Year by the Association of Financial Counseling and Planning Education.

Transitions
Peg Krach, Associate Professor of Nursing, is retiring. Congratulations, Peg, on a job well done. Long life and happiness!
Amy Neel, Assistant Professor of Audiology and Speech Sciences, is leaving Purdue to become Assistant Professor, Speech and Hearing Sciences at the University of New Mexico.
Joseph O'Leary, Professor of Forest Recreation, will be Professor and Head of the Department of Recreation, Park and Tourism Sciences at Texas A&M University on July 1.

Recent Grants
James Fleet, Meals and Nutrition, from National Institutes of Health, September 30, 2000 through August 31, 2001, "Calcium Absorption in Caco-2 Cells: Molecular Mechanism."
James Fleet, Meals and Nutrition, from VA Boston Health Care System, September 1, 2000 through August 31, 2001, "Genetics and Bone Density in Men."
Michael Murray, Pharmacy Practice, from Brigham and Women's Hospital, September 29, 2000 through August 31, 2001, "Improving Safety by Computerizing Outpatient Prescribing."
Michael Murray and Kevin Sowinski, Pharmacy Practice, from Public Health Service, September 30,
THE PURDUE ADULT HEALTH & DEVELOPMENT PROGRAM (PAHDP)

HPER 490 S
Fall 2001, 2 credits
(2 credits)
Roseann M. Lyle, PhD (494-3158), Roger Seehafer, PhD (494-3159)

Text: D. Leviton, J. Kennedy, R. Woodruff & Kathy Like. The AHDP Manual for Staffers

The purposes of the course are to:
A. Train the student (staffer) to apply gerontological health and well-being theory and data by working with an older institutionalized or non-institutionalized adult (member) to positively affect the member’s health and well-being.
B. Allow students to learn about aging, history and different cultures in a particular environment.
C. Serve as a catalyst bringing together older institutionalized and non-institutionalized adults, staffers, university community, and private and public sectors of the community to work towards common purposes (A and B above).
D. Contribute to social harmony and well-being by bringing people together of diverse backgrounds, ethnic/racial roots, health and well-being and socio-economic status, to enjoy one another while reducing the probability of violence.
E. Positively affect the health, sense of well-being, physical fitness, and health knowledge of the older adult "member" enabling him to gain greater control over his health and well-being.

The format of the AHDP

General:
Staffers will participate in a modified version of the University of Maryland program which will be called the Purdue AHDP. Staffers will learn about the AHDP philosophy, theory and methods and will work on an individual basis with an older adult for 8 consecutive weeks (not including the week of Thanksgiving).

Specific:
During the first half of the semester, staffers will meet two hours a week in class to discuss readings and be trained to work with their member (including paper work). Staffers will work at least one hour outside of class on project development, assigned reading, and other miscellaneous organizational details when warranted.

During the second half of the semester, staffers continue to meet one hour a week for debriefing with Group Leaders and to turn in IHF. Staffers will also meet one hour a week in a one-on-one situation with their member either at the Ismail Center, at a scheduled project activity, or in another activity of the member’s choosing.
## Graduate Courses in Gerontology at Purdue, Fall, 2001

### Primary Content

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Instructor</th>
<th>Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDFS 565</td>
<td>Multidisciplinary Perspectives on Aging (2-3 cr.)</td>
<td>Prof. Wilmoth</td>
<td>TTh 3:00-4:15</td>
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<td></td>
<td>(also listed as HPER 590M, SOC 591A)</td>
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<tr>
<td>PSY 660</td>
<td>Cognitive Functioning in Older Adults (3 cr.)</td>
<td>Prof. Cicirelli</td>
<td>Arrange</td>
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</table>

### Related but not primary content

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<th>Instructor</th>
<th>Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUS 540</td>
<td>Augment. &amp; Alter. Com. (3 cr.)</td>
<td>Prof. Lloyd</td>
<td>TTh 4:30-5:45</td>
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<td>(also listed as EDPS 562)</td>
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<tr>
<td>BIOL 503</td>
<td>Introduction to Neurobiology (3 cr.)</td>
<td>Prof. Rane</td>
<td>MWF 12:30</td>
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<tr>
<td>BIOL 559</td>
<td>Endocrinology (3 cr.)</td>
<td>Prof. Anderson</td>
<td>TTh 1:30-2:45</td>
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<tr>
<td>CDFS 605</td>
<td>Seminar in Family and the Life Course (3 cr.)</td>
<td>Prof. Usita</td>
<td>W 3:30-6:20</td>
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<tr>
<td>CSR 631</td>
<td>Consumer Behavior Theories (3 cr.)</td>
<td>Prof. Christiansen</td>
<td>MWF 1:30</td>
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<td>(also listed as PSY 585)</td>
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<tr>
<td>HPER 490S</td>
<td>Adult Health and Development Program (2 cr.)</td>
<td>Profs. Lyle &amp; Seehafer</td>
<td>TTh 8:30-9:20</td>
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<tr>
<td>SOC 681</td>
<td>Selected Prob. of Social Res.: Longitudinal Data Anal. (3 cr.)</td>
<td>Prof. Ferraro</td>
<td>TTh 12:00-1:15</td>
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The *Aging Exchange* is developed by Ken Ferraro and Marilyn McCammack of the Gerontology Program. We welcome your suggestions for enhancing the *Aging Exchange* to better serve you. Please submit news items to Marilyn McCammack, Gerontology Program, Stone Hall [E-mail: gero@cfs.purdue.edu]. Visit Purdue’s gerontology home page [http://omni.cc.purdue.edu/~geron/]

*Volume 10, issue 2*

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*A thankful heart is not only the greatest virtue, but the parent of all the other virtues.*

Cicero