

# Business, long life go together, at least for flies

One organism seems to thrive by "burning the candle at both ends." A Wayne State University researcher has drawn this and other conclusions about aging from his test animals, fruit flies, and he believes some of these may eventually prove true for humans.

"Flies and people are clearly very different and yet we use the same genes to do similar things," said Wayne State biological science professor Robert Arking.

The Troy resident is studying aging, one fundamental biological trait that is

likely controlled by the same genes in all organisms.

**SCIENTISTS STUDY** flies instead of humans, however, because they can compare new fly generations every few months.

According to Arking's research, the longer-lived fruit flies have higher metabolic rates, or burn energy faster, than their shorter-lived counterparts.

"Holding your calories is not a recipe for longevity," he said.

"We have also determined that the

long-lived strains do not age at a slower rate, but rather that they significantly delay the time of the onset of senescence, or aging," Arking explained.

"When the flies start to age, they age just as fast as the shorter-lived flies. But they put off the start of aging. In human terms, it's as if they hit 35 and hold for 30 years."

HIS CONCLUSIONS about longer-lived specimens having higher metabolic rates dash one implication of the popular theory that every organism has a constant amount of energy available to it during its lifetime.

Thus, the theory states, the higher the metabolic rate, the shorter the lifetime.

"This appears to be true when one compares different species such as an elephant and a shrew," Arking said, "and it was assumed to hold true of the differences in lifespan that we see within any one species."

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"It was such a plausible idea that phrases about that theory have even made it into our language — such as 'burning the candle at both ends.'"

"We have proved that part of the theory wrong," Arking said. "Our long-lived animals are healthier and have a 30 percent higher daily metabolic rate," he said. "They lay more eggs — five times as many — and egg-laying is an energetically very expensive process for them. Yet they live 60 percent longer."

"We are not sure exactly what they are doing, except that their higher metabolism is due to yet unknown genetic changes."

"The exciting thing will be to find out just how these genetic changes have altered the physiology of the animals so that they are able to be so healthy, so active, so long-lived."

ARKING and colleague Leo S. Luckinbill, both associate biology professors at Wayne, began studying aging through fruit flies more than six years ago.

Although many believed it couldn't be done, they succeeded in producing a long-lived strain of fruit flies. In 1984, Arking and Luckinbill diverged to study different aspects of aging, with Arking taking the genetic and molecular approach.

"We constructed these strains so that we could critically test certain popular theories of aging," said Arking. "Because such testing is crucial if we are ever to understand what it is that actually controls the aging process."

Arking and his student assistants are also peering into the process that initiates aging. "We know the process is under the control of our genes," of our heredity. I think the onset of senescence comes when something — likely genes, which are making certain proteins — is turned off."

"In that case, senescence is under positive control — the trick is to delay turning off the switch."

The Wayne State Institute of Gerontology, where Arking serves as faculty associate, is supporting his research. The Institute is 20 years old this year, maintains an extensive program of education, service and research in the field of aging.

## Personal improvement: focus of OU workshops

The Continuum Center of Oakland University is offering a list of management and personal living workshops both on the Rochester Hills campus and throughout the area.

For registration information, call the center at 370-3033. Here are new offerings, starting dates and fees:

- "Excellence in Management," 7-10 p.m. on Feb. 10 and 17, fees \$25 and \$45. They will utilize the Ken Blanchard "One Minute Manager" approach, assessing the need to adopt one's style to the situation.
- "Personal Growth for Singles," 7:30 p.m. Tuesdays from Feb. 11 to March 25, fee \$65, in Holy Spirit Lutheran Church, 4800 Orchard Lake Road, West Bloomfield, led by Barbara Halpern.
- "The Woman Who Works Full Time at Home," 9:30-11:30 a.m. three Tuesday sessions beginning Feb. 11, fee \$35, Jewish Community Center, Maple Road, West Bloomfield, led by Judith Schneider, who promises to help mothers "break out of that isolation, have fun and offer stimulating ideas."
- "Communication for Couples," 7:30-10:30 p.m. Thursday, Feb. 13, Kirk in the Hills, Long Lake Road, Bloomfield Hills, led by Judy and Jim Hopkin, a businessman and counselor, respectively.

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NCI Associates, Ltd. will offer its highly successful Residential Builders License course beginning January 3, (course repeats March 6 & April 24) to the general public or construction trades. This course also covers all maintenance and alteration contractor's license topics. Registration will be taken at the first class session. The class will run for five consecutive weeks and prepare individuals to sit for the state exam in Lansing.


**DATE: Jan. 23 (Thursday) - course will repeat March 6 and April 24**  
**TIME: 6:00 to 9:00 P.M.**  
**COST: \$125 (Including material and state forms)**  
**PLACE: Birney Middle School, 27225 Evergreen Rd., Southfield, (at 11 Mile Road)**  
**Instructor: NCI Associates, Ltd.**

**CALL (313) 772-8390** to register or if more information is needed.

\*Note: First session is FREE to interested persons. Classes also available in:

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Consolidated Report of Condition of **Liberty Bank-Oakland**  
 of **Troy, Michigan**

December 31, 1987. A state banking institution organized and operating under the banking laws of the State of Michigan and a member of the Federal Reserve System. Prepared in accordance with a call made by the State Banking Authority and by the Federal Reserve Bank of this District.

Assets		Liabilities	
Assets	Amount	Liabilities	Amount
1. Cash and balances due from depository institutions	1,234,567	1. Deposits	12,345,678
2. Federal funds sold	123,456	2. Federal funds sold	123,456
3. Securities (Schedule B-C)	1,234,567	3. Federal funds sold	123,456
4. Loans and leases (Schedule D-E)	1,234,567	4. Federal funds sold	123,456
5. Other assets (Schedule F-G)	1,234,567	5. Federal funds sold	123,456
6. Total assets	12,345,678	6. Total liabilities	12,345,678

Memoranda-Deposits of State Money-Michigan

William F. Tabor, President, of the above-named bank, do hereby certify that this Report of Condition was prepared in accordance with the requirements imposed by the Board of Governors of the Federal Reserve System and the State Banking Authority and is true to the best of my knowledge and belief.

Witness my hand and the seal of the bank at Troy, Michigan, this 31st day of December, 1987.

State of Michigan, County of **Oakland**

Subscribed and attested before me this **31st** day of **December**, 1987.

Notary Public for Michigan