

**T H E D A L T O N N E W S**

**July 2008**

**Drs. Steven S. Segal and Michael J. Davis receive  
Margaret Proctor Mulligan Endowed Professorships**



Steven S.  
Segal, PhD

Steven S. Segal and Michael J. Davis, Professors of Medical Pharmacology and Physiology and Dalton Investigators were bestowed the Margaret Proctor Mulligan Endowed Professorship in April.



Michael J.  
Davis, PhD

Dr. Michael J. Davis' research is on the mechanisms of mechano-transduction by blood vessels.

Dr. Segal's research is focused on understanding how oxygen delivery increases in response to metabolic demand.

They join Gerald A. Meininger, PhD, Director Dalton Cardiovascular Research Center and George E. Davis, PhD; Department of Medical Pharmacology and Physiology who received the honor in March of this year.

**Dr. Virginia Huxley  
accepts invitation to serve**

In a letter from Toni Scarpa, M.D., PhD., Director Center for Scientific Review he states that Dr. Virginia Huxley has accepted the invitation to serve as member of the Hypertension and Microcirculation Study Section, Center for Scientific Review for the term beginning July 1, 2008 and ending June 30, 2012.



Members are selected on the basis of their demonstrated competence and achievement in their scientific discipline as evidenced by the quality or research accomplishments, publications in scientific journals, and other significant scientific activities, achievement and honors.

**Killer Stairs?**



Frank Booth,  
PhD

For years, scientists have been proclaiming the benefits of exercise. Studies showing that regular exercise benefits human health have exploded in number, examining many health problems ranging from cancer and diabetes to arthritis and pre-mature death.

[Read more of the MU News Bureau article by Christian Basi about Frank Booth's](#)

**Cardiovascular Section Articles in  
The Journal of Physiology by Dalton  
Researcher and Investigators.**

The Journal of Physiology's March 15, 2008 issue recently printed four publications in the Cardiovascular Section.

Three of the four publications were by Dalton researchers and Investigators:

Jessica C. Taylor, Zeyi L, H.T. Yang, M. Harold Laughlin, and Ronald L. Terjung.

Hema Raina, Shrikanth R. Ella and Michael A. Hill

Xin Wu, Yan Yang, Peichun Gui, Yoshiro Sohma, Gerald A. Meininger, George E. Davis, Andrew P. Braun and Michael J. Davis

**2008 Respiration Section New Investigator Award for David Kline, PhD**



David D. Kline, Assistant Professor, Biomedical Sciences and Dalton Investigator was awarded the New Investigator Award with the Respiratory Section of the American Physiology Society. Dr. Kline's research focuses on neural control of cardio respiratory function.

Investigators who are not above the rank of Assistant Professor and who have made meritorious contributions to the scientific areas represented by the APS NCAR Section are reviewed for this award after being nominated by two regular members of APS.

Candidates were judged on their publications, how these publications relate to the APS section to which they applied, and evidence for independence and promise.

Dr. Kline attended the April Experimental Biology meeting in San Diego, CA where he was recognized at the NCAR Reception and Business Meeting.

**Paul Fadel, PhD is Neural Control and Autonomic Regulation Section Award recipient**



The Neural Control and Autonomic Regulation Section New Investigator Award from the American Physiological Society went to Paul Fadel, Assistant Professor, Medical Pharmacology and Physiology and Dalton Investigator.

To be reviewed for this award, candidates should be investigators who have made meritorious contributions to the scientific areas represented by the APS NCAR Section and not above the rank of Assistant Professor or a comparable position in a research track at an academic institution or in industry.

Two nominations from regular members of APS were required for consideration. Candidates were judged on their publications, how they relate to the APS section to which they applied, and evidence for independence and promise.

Dr. Fadel was recognized at the NCAR Reception and Business Meeting during the Experimental Biology meeting in April.

**James Austgen recipient of the 2008 Caroline tum Suden/Francis Hellebrandt Professional Opportunity Award**

The annual Caroline tum Suden/Frances A. Hellebrandt Professional Opportunity Award provides \$500 and complimentary registration for the meeting. To be considered, James had to be the first author of an abstract submitted to APS and a member of APS at the time of application. James also was required to submit a copy of his abstract and a one page letter stating his career goals, research goals, role in the research described in the abstract, and reason why he is deserving of the award.

James Austgen is a graduate student in the Department of Medical Pharmacology and Physiology with his home laboratory at Dalton.

## Dalton Investigator Links Hormone Replacement Therapy to Breast Cancer



*Story by Christian Basi, University News Bureau*

*Study finds that use of synthetic hormone could proliferate human tumor cells*

Dr. Salman Hyder COLUMBIA, Mo. — Millions of post-menopausal women use hormone replacement therapy (HRT) as a method to reduce symptoms associated with menopause. In a recent University of Missouri study, researchers found that one of the hormones used in HRT, a synthetic progestin, could be a major factor in promoting breast cancer. At the same time, the researchers have compelling evidence that using an antibody that prevents new blood vessel formation in tumors, or a small molecular drug, known as PRIMA, with similar properties as the antibody may be effective in treating or preventing the negative effects of progestin.

In a study published in the journal, *Cancer Research*, MU scientist Salman Hyder and his research team found that exposing tumor cells to progestin caused an increase in a growth factor that is involved in the formation of new blood vessels in tumors. Increasing the blood supply allows the tumors to expand as the availability of nourishment increases. However, when they used an antibody that inhibits the growth factor, the tumor shrank. Hyder's team found similar results using PRIMA, which re-activated a protein known as p53. When p53 was activated within tumor cells, the number of breast cancer cells reduced significantly..

Link to Story:<http://munews.missouri.edu/news-releases/2008/040108-hyder-hormone-cancer.php>

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To remove your name from our mailing list, please contact us at the above email address.

## Approval for Software release

Xiaoqin Zou and her postdoc Sheng-You Huang have recently released a software tool for rational drug design. The name of the software is MDock. It is based on the idea of molecular docking, a scientific term that describes the procedure of finding the best fit for the functional site of a target protein like solving jigsaw puzzles. Drug molecules usually act by tight binding to target proteins (such as crucial enzymes in bacterial or cancer cells) to inhibit their functions so as to kill the bacterial and cancer cells.



There are two unique features about the MDock software package. First, it uses a novel method to evaluate the tightness of binding. The method has been extensively tested and compared with more than ten other well-known methods, and has shown excellent performance. Second, MDock is able to quickly find the best fit from a series of protein structures. This feature can be used to consider protein flexibility upon ligand binding. It can also be used to quickly identify drug candidates that target a specific protein in a family of similar proteins to avoid toxic side-effects.

The MDock software is distributed to pharmaceutical companies and academic researchers.

## Ralph E. Powe Junior Faculty Enhancement Awards

Dr. Shinghua Ding recipient of one of thirty Ralph E. Powe Junior Faculty Enhancement Awards through the Oak Ridge Associated Universities.



The Ralph E. Powe Junior Faculty Enhancement Awards provide seed money for research by junior faculty at Oak Ridge Associated Universities (ORAU) member institutions. These awards are intended to enrich the research and professional growth of young faculty and result in new funding opportunities. In 2007, ORAU received 93 applications and awarded 30 grants.