

THE BUZZ

UAMS | College of Medicine

Pharmacology & Toxicology

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“New Study Publication”



A new study co-led by Dr. Yuet-Kin Leung and Dr. Shuk-Mei Ho sheds light on the hidden biological costs of firefighting. Published in the *Journal of Occupational & Environmental Medicine*, their research reveals how years of on-the-job chemical exposure can alter firefighters' DNA expression and disrupt critical reproductive hormones over time.

By evaluating blood samples and modeling toxic exposures in the laboratory, Drs. Ho, Leung, and their co-authors demonstrated that routine contact with common combustion byproducts—such as phthalates and benzo [a]pyrene; triggers systemic epigenetic and endocrine shifts. Crucially, the study found that these hormonal disruptions directly correlate with a firefighter's total years of service, suggesting a cumulative impact from repeated occupational exposure.

Ultimately, their work marks a major step forward in occupational health research, bringing needed visibility to first-responder safety and highlighting an urgent need for enhanced protective protocols and equipment on the front lines.



“Message from Chair”

Dear Department Members, This Monday, we had our first faculty meeting since I began serving as Chair of the Department of Pharmacology and Toxicology. I want to thank our faculty for the thoughtful discussion, helpful suggestions, and constructive spirit. Although the meeting was with faculty, many of the topics we discussed are important for the entire department, including faculty, trainees, students, postdocs, research staff, administrative staff, and everyone who contributes to our department's mission. As I shared during the meeting, our department has many strengths. We have strong and diverse research programs, an excellent record of student and trainee success, committed faculty and staff, and many opportunities for future growth.



At the same time, there are many things we can continue to improve together. One important area is graduate education. We are actively working to improve our courses by reducing repetitive or unnecessary load for both students and faculty, increasing students' time and effort for research development. I appreciate Dr. Fouda, all course directors, and the faculty and students who have already shared thoughtful suggestions in this area, and we will continue working together to make meaningful improvements. Another important priority is helping our researchers identify and pursue a broader range of research funding opportunities. Dr. Ricky Leung has been helping me put together a Funding Opportunity Bulletin that will be more specifically tailored to the research strengths and interests of our department. The bulletin will be posted on our updated department webpage under the “Resources” tab, and we also plan to send updated versions together with the department Weekly Buzz every other week.



Other ongoing and planned efforts include keeping the department webpage updated, enhancing research infrastructure and shared resources, reviewing space use thoughtfully and fairly, improving common areas, and creating a more supportive and efficient environment for everyone. Some of these changes are already beginning. As many of you saw this morning, our administrative team has started replacing the tables and chairs in the 3rd-floor breezeway with new, sturdier ones. The older tables and some extra chairs have been moved to the Biomed II 3rd floor break room. This is intended to give department members an additional place to take a break or have lunch, especially while the 2nd floor atrium renovation is ongoing.

We will also continue working on broader improvements to our office areas, common spaces, research space, equipment planning, and department operations. Some changes will be small and immediate, while others will require more discussion, planning, and resources. My goal is to approach these efforts in a way that is fair, transparent, practical, and aligned with department, COM, and UAMS guidelines.

I want to sincerely thank Kayla, Melinda, Fred, and our administrative team for helping move these projects forward. I also appreciate the faculty, students, postdocs, and staff who have already shared suggestions, concerns, and ideas with me. There is a lot of work ahead, but I am very encouraged by the people in this department and by the opportunities in front of us. Step by step, and with everyone's input and cooperation, I believe we can continue building a stronger, more collegial, and more successful department.

Thank you all for your hard work, patience, and support. I look forward to working with all of you as we move forward together.

Best,

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