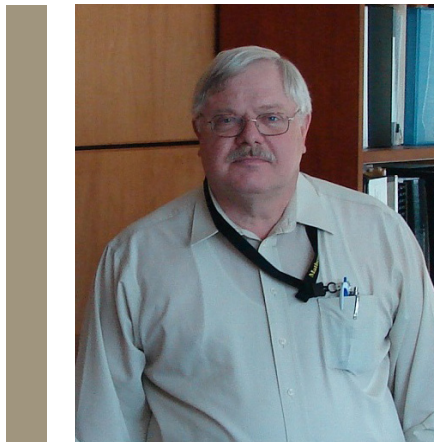




# THE ARL ENTERPRISE FOR MULTI-SCALE RESEARCH OF MATERIALS



Friday, April 21, 2017 | 11:00am  
2164 Martin Hall, DeWALT Seminar Room

*Guest Speaker*

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## ABSTRACT

The US Army Research Laboratory (ARL) is developing the capability to design, optimize, and fabricate i) lightweight protection material systems and ii) electronic/electromagnetic devices and iii) disruptive energetic materials that exhibit revolutionary performance. It seeks to establish a validated materials by design concept, grounded in robust and rigorous science, for these critical Army technologies. A corporate-level Enterprise has been created that embraces two Collaborative Research Alliances (CRA's) that align with and integrate into a robust suite of internal laboratory mission programs. This latter point is the cornerstone of the Enterprise that makes the ARL effort unique. Namely, collaboration is a requirement and the public-private partnership model enables special synergies to emerge. The ARL leads the Enterprise and the two extramural Collaborative Research Alliances. The Enterprise conducts research into foundational problems in the two key areas that are recognized as fundamental to the Army's mission. The CRA on Materials in Extreme Dynamic Environments investigates physical phenomena at multiple scales that govern the high-stress and high strain-rate material performance that are critical to the optimal design of lightweight protection materials. The CRA on MultiScale/Multidisciplinary Modeling of Electronic Materials establishes the scientific foundations that enable predictive design of electronic materials from the smallest to the largest relevant scales.

