

# Physics Colloquium

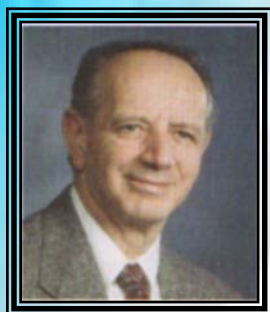
Michigan Technological University

Thursday, September 24, 2009

4:00 pm

Room 139 Fisher Hall

## Perspectives on Writing Textbooks



**Raymond A. Serway**

Emeritus Professor  
James Madison University

**Abstract:** Dr. Serway will first give brief opening remarks on his research background in the field of electron spin resonance (ESR) and in particular his long collaboration with the late Dr. Sam Marshall who retired from Michigan Tech in 1995. The highlights of that research include the first observation of an isotopic shift using ESR and the study of a number of radiation induced molecular ions in calcite,  $\text{CaCO}_3$ . Some of Dr. Serway's most memorable experiences working with Sam and his influence on later work in science education will also be described.

The major part of the presentation deals with experiences and procedures he has used writing introductory level Physics textbooks over the last 35 years including the preparation of an outline, a table of contents, preliminary drafts of sample chapters, and finding a reputable publisher. How authoring tools have evolved over the last 35 years, and how the latest technologies have greatly improved the accuracy, appearance, and features of the textbook, will also be discussed. The author's responsibilities in the development of various ancillaries that support the textbook will also be discussed, including the Instructor's Manual, Student Solutions Manual/Study Guide, and various online support materials such as Online Homework (WebAssign). The talk will conclude by describing the importance of certain textbook features for both students and instructors, and how these features, when properly used, can greatly enhance the quality of introductory physics courses.

**Biography:** Raymond A. Serway received his doctorate from the Illinois Institute of Technology in condensed matter physics. Dr. Serway began his academic career at Clarkson University where he taught and did research from 1967 to 1980. He is now Professor Emeritus from James Madison University where he taught for 17 years. Dr. Serway also was a visiting scientist at Argonne National Laboratory where he collaborated with his mentor the late Sam Marshall. In addition to over 40 research publications, Dr. Serway is the author or co-author of several introductory physics texts.