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| **Time:** | **Author** | **Location** | **Institution** | **Title/Abstract** |
| 8:00-9:00 |  | McAllister Foyer |  | Registration |
| 9:00-9:30 | Andrew Hudson | McAllister Hall Rm. 104G | Monticello High School | **TITLE:**High School Teacher (HST) Program at CERNI will present  a brief talk on the High School Teachers program operated by staff at CERN.  The majority of the participants are from European member states, but citizens of the United States are permitted to attend.  They are sponsored by the University of Michigan and are funded by the National Science Foundation.  The HST program consists of lectures, site tours, and educational activities designed to familiarize the participants with the topic of high energy physics and the experiments to be pursued at CERN.  A research component is also available for those individuals who are sponsored by the University of Michigan.  This permits the participant to work with university staff to conduct physics research.  I elected to join this program, and spent three weeks analyzing cosmic ray muon test data for the ATLAS muon spectrometer.  |
| 9:30-10:00 | Ron Green | McAllister Hall Rm. 104G | SENSR Co. | **TITLE:**Demonstration of a New Acceleration RecorderSENSR, located in Elkader, IA has developed a General Purpose Acceleration Recorder for use in Science, Technology, and Engineering. Our products have been readily accepted into a number of industry and research applications worldwide. The product has been used by NASA, Lockheed Martin, Ford Motor Company, Hendrick Motorsports, and Fermilabs. Our presentation will exhibit and demonstrate our recorders and their applications in the field of engineering, research, and science education. Our relationship with Fermilabs and CERN will also be discussed. |
| 10:00-10:15 |  |  |  | Break |
| 10:15-11:15 | Dr. Cliff Chancey | McAllister Hall Rm. 104G | The Unviersity of Northern Iowa | **TITLE:**Introducing the Nano-WorldNanotechnology has been a hot news item for more than a decade. But what exactly is "nanotechnology"? Some have predicted that the nanotech revolution will have as great an effect on everyday life as the computer revolution. Is this hype? Nanoscience is real and the technologies are exciting. This talk will introduce the nanoworld--a landscape that spans parts of biology, chemistry, and physics. We will look at some current nanotech-products--and guess at some near-future nanotechnologies. Physics instructors also will learn how to incorporate some nanoscience topics and activities into their classes. |
| 11:15-1:00 |  |  |  | Lunch and Executive Meeting,    "What is This App."  |
| 1:00-1:30 | John Zwart | McAllister Hall Rm. 104G | Dordt College | **TITLE:**Adventures in Designing an Experiment -- A Cautionary Tale for StudentsTypical intro level labs can give students a false sense of what physics experimentation is all about.  As one way of addressing this concern, I'll look at my false turns, dead ends, and misleading ideas on the path from concept to final version for a lab exercise in relating power to temperature for a black body radiator.  |
| 1:30-2:15 | Ugur Akgun | McAllister Hall Rm. 104G | University of Iowa | **TITLE:**LHC at CERNLarge Hadron Collider (LHC) is the largest and most expensive machine that mankind ever created. It is being created by European Organization for Nuclear Research (CERN), in a circular tunnel with 27 km in circumference, at the Swiss and French border, outside of Geneva. The LHC is designed to collide two counter rotating beams of protons and heavy ions, inside the four main LHC experiments: CMS, ATLAS, ALICE, LHCb. The unprecedented center of mass energy of LHC collisions will open doors to unknown territory of particle physics. CMS and ATLAS experiments are general purpose experiments. Their primary focus is to discover the elusive Higgs boson, the only unobserved particle among those predicted by the Standard Model. Other than Higgs boson the CMS and ATLAS experiments will be looking for answers to fundamental questions like:1.) Are the four fundamental forces in nature just different versions of a single unified force? 2.)Why gravity is so many orders of magnitude weaker than the others? 3.)Is Supersymmetry real? Can we explain the dark matter in universe with large family of supersymmetric particles? 4.) String theory predicts that there are extra dimensions. Can LHC prove their existence?Here, we are going to summarize the design properties and the highlights of the physics aims of this amazing scientific project. |
| 2:15-2:30 |  |  |  | Break |
| 2:30-3:30 | Thomas Stierman | McAllister Hall Rm. 104G | Wahlert High School | **TITLE:**Low-temperature demonstrationsMany Students have misconceptions about what is meant by "solid" and associate "boiling" with "hot". One of the more interesting demonstrations that can be done in the high school physics class involves liquid nitrogen. Devices for short-term storage of liquid nitrogen and some inexpensive demonstrations of the physical properties of matter at low temperatures will be presented. A few of the "don't try this at home" always whet student interest, but caution is necessary in deciding when to do these. |
| 3:30-4:15 | Tom Greenslade, Jr. Thomas Greenslade received an A.B. in physics from Amherst in 1959 and a Ph.D. in experimental low temperature physic from Rutgers in 1965.  From 1964 to 2002 he was a physics faculty member at Kenyon College, and has taught part-time since then.  His research deals with early physics teaching apparatus, and in support of that he has a large web site, a private museum wing to his house, and a series of about 160 illustrations of early apparatus in the American Journal of Physics.  He has about 225 publications in The Physics Teacher, American Journal of Physics, and Rittenhouse and Physics in Perspective.  Currently he is serving as the chair of the Committee on the History and Philosophy of Physics of the American Association of Physics Teachers, which awarded him a Distinguished Service Citation in 1987 and in 2002 listed him as one of the 75 most influential physics teachers and physicists in the United States.   | McAllister Hall Rm. 104G | University of Iowa | **TITLE:**The Adventure of the Reluctant CollectorThe apparatus collection of a physics department can be modeled by a long, smooth shelf, completely filled withy apparatus.  When a new piece is added, the entire collection is shoved down the shelf, and the oldest piece falls into ....?  Very often it is the dumpster, but for nearly 500 items the Greenslade Old Apparatus Removals Company has been there to rescue it.  I will talk about the museum wing that we added onto our 1850s house several years ago, and about some of the delightful pieces of apparatus from the 1850 - 1950 era that now live there.   |