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| **Author:** | **Time:** | **Institution:** | **Abstract:** |
| Registration Pizza topping selection for noon luncheon. | 8:00 - 8:55 am 8:55 to 9:00am |
| "Welcome Address"Mick Arnett  | 9:00 am | Kirkwood Community College, Cedar Rapids, IA |  |
| Erik Johnson and Kate Pacha | 9:10 am | University of Iowa | **Title:**  "Some Visual Optics Phenomenon."This activity is a presentation that will teach students and adults about the science behind many interesting visual phenomena. We will show through various demonstrations of physics, some subjects that have always captured the interest of the general public.  We will introduce some theories of lasers, optics (lenses and holograms), and spectroscopy (colored light and "glow-in-the-dark") while de-emphasizing the reliance on mathematics.  |
| Prof. Craig Kletzing | 9:35 am | Department of Physics and Astronomy, University of Iowa | **Title:**  "e-Grade - Enhancing Student Learning Through the Web"In the past few years, several systems for web-based physics learning have been developed. The e-Grade system will be demonstrated, showing two of its key features: 1) concept simulations and 2) electronic homework.  |
| John Zwart and Arnold Sikkema | 10:00 am | Dordt College, Sioux Center, IA | **Title:**  "Grading Lab Work - Some things that have worked and some that haven't."In this presentation we will discuss some of the ways of assessing student lab work that have worked well for us and not so well. Included in the discussion are short weekly reports, writing abstracts, lab based quizzes, posters, and formal (publication style) lab reports. Our peer review approach to formal labs, based on the refereeing procedure used by research journals, will be discussed in detail. For those interested in the materials provided to students for the formal lab reports, see the link at <http://homepages.dordt.edu/~zwart/>.  |
| **Break -** | 10:25 am |
| William Cox | 10:40 am | Dowling High School | **Title:**  "Web Assistance for Physics Courses." |
| James Flaten | 11:05 am | Luther College, Decorah, IA | **Title:**  "Some Idea for Demonstrating Traveling Waves (as opposed to standing waves)."It is challenging to demonstrate long-lasting traveling waves because boundary reflections tend to turn them into standing waves automatically.  I will show and discuss computer simulations and several demonstrations using sets of uncoupled pendula, all designed to help visualize traveling waves (both transverse and longitudinal).  I will also comment on how such activities can help students concentrate on the individual-oscillator nature of waves. |
| Sandeep Giri, Steve Feller, Mario Affatigato | 11:30 am | Coe College, Cedar Rapids, IA | **Title:** "A General Study of Packing in Alkali Glass Systems."The packing fraction, defined as the ionic volume divided by the molar volume, appears to hold promise as a general measure of the structure of alkali oxide modified glasses.  For modifying ions having larger volume than oxygen ( K, Rb, and Cs ), the packing is dominated by the modifier and is largely independent of glass former; we define this as ionic packing.  For alkalis smaller then oxygen ( Li and Na ) the packing is controlled by the oxygen covalent network and is heavily dependent on glass former; we call this covalent packing.  In this presentation we compare the packing fractions of alkali borate, silicate, germanate, phosphate, and vanadate glass systems.    |
| Jeff Wilkerson  | 11:55 am | Luther College, Decorah, IA | **Title:**  "Updated Astronomical Observing Facilities at Luther College for Courses, Public Outreach, and Research."Over the past six years we have significantly upgraded the astronomical observing facilities at Luther College.  I will detail these upgrades and describe how the facilities are used for courses, public observing and research.  The observing equipment is used for both introductory astronomy courses and an upper level astrophysics course.  Since November 2001, approximately 1600 people have attended public observing sessions held once each month.  Twelve college students have used the facilities for research projects and two high school students have analyzed data from the observatory.  Our primary research interest has been the development of a Rapid Statistical Photometry technique to search the data we have acquired and initial results.  I will also present possibilities for projects involving college and high school students from across Iowa.    |
| **Lunch** - Pizza delivered?? | 12:20 - 1:15 pm |  |  |
| IAAPT Business meeting | 1:15 - 2:00 pm |  | Possibilities for a joint meeting in each of the next two years.  |