



American Association of **Physics Teachers**
Enhancing the understanding and appreciation of physics through teaching

http://faraday.physics.uiowa.edu/IAAPT_index.htm

Iowa Section
Fall 2012 Meeting
Saturday, November 3, 2012
8:30 AM – 4:00 PM



Iowa Lakes Community College

ESTHERVILLE CAMPUS
300 South 18th Street
Estherville, IA 51334

Local contact: Eric T. Olson, Associate Professor, Physics
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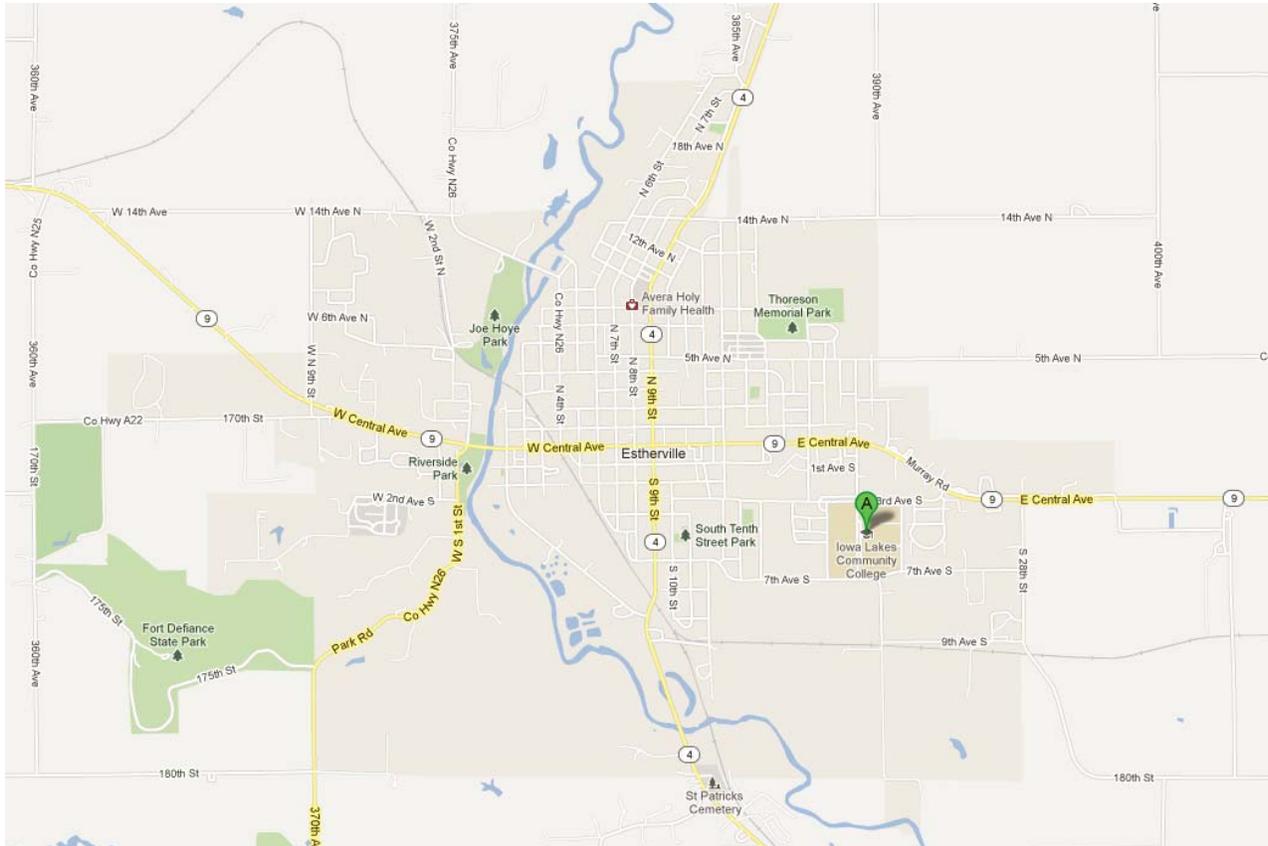
On-Campus directions (see maps on the following pages)

Parking Use the South 18th Street lot (see map, E side of street only) to be closest to the main entrance and meeting site. There should be plenty of space in the lot on Saturday. Do not use the Regional Wellness Center lot across the street.

Entrance, Rooms, Food Use the main entrance at 300 South 18th Street. Inside, in the atrium, we will have a table and you'll be directed to refreshments (Room 74) and to the Auditorium, where we will hold the meeting. **Lunch at The Max, cost is \$6.00.**

Wind Energy Building The afternoon tour and demonstration (1:45–3:00PM) will be at the Wind Building, at the SE corner of campus along 7th Avenue South.

IAAPT Fall 2012 Meeting, Nov. 3, Estherville – Campus location and motel choices



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motels near Estherville, IA

Check in: Check out:

A Super 8 Estherville \$56 Book

1919 East Central Avenue, Estherville, IA
 (712) 362-2400 · super8.com
 Category: Motel
 1 review 1 offer »
 high speed internet access · continental breakfast · refrigerators
 "there was an accident with burning of a cig. hole in the threadbare ..." - hotels.com

B Sleep Inn \$89 Book

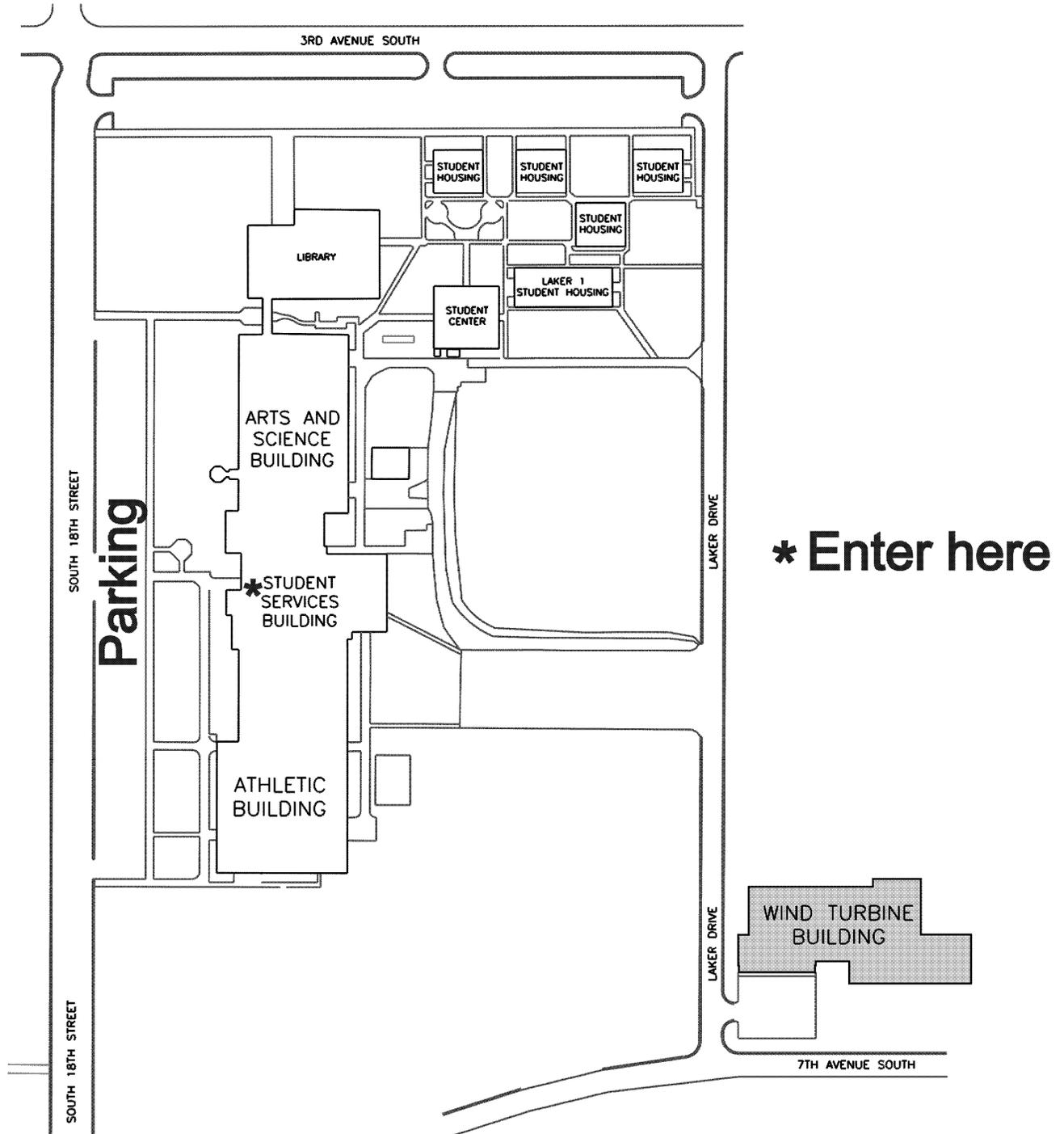
2008 East Central Avenue, Estherville, IA
 (712) 362-5522 · sleepinn.com
 Category: Motel
 1 review
 lake okoboji · exercise room · uptown theater · continental breakfast · breakfast area
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IAAPT Fall 2012 Meeting, Nov. 3, Estherville – Campus layout

Main door and Atrium marked by asterisk. Talks will be held in the Arts and Science wing of the main building, follow corridor north to Auditorium.

Afternoon tour and demonstration will be at the Wind Building.



Iowa Section Fall 2012 Meeting

Saturday, November 3, 2012

8:30 AM – 4:00 PM

Meeting Program

Time	Program/Title	Speaker
8:30AM – 9:00AM	<i>Refreshments (Room 74)</i>	
9:00AM – 9:10AM	<i>Welcome (AUDITORIUM)</i>	Eric T. Olson Scott Stokes , Estherville Campus Dean
9:10AM – 9:40AM	<i>Keynote presentation “The Forces, Motions and Momentum of the Governor’s STEM Initiative”</i>	Kari Webb , NW Regional STEM Hub Programmer, Iowa Lakes Community College
9:40AM – 11:30AM Contributed talks	“Undergraduate Research Projects in Community College Physics”	Wade Sick , Southwestern Community College
	“Digital Help Sessions to Enhance Science Courses”	Robert Klepper , Professor of Chemistry, Iowa Lakes Community College
	“Lessons from a Summer at CERN”	Sara Karbeling , Central Academy
	“Video Analysis With LoggerPro”	John Zwart , Dordt College
	“A Physicist at Home”	Cliff Chauncey , UNI
11:30AM – 12:45PM	<i>Lunch: Soup and sandwich at The Max on the Estherville campus. Cost is \$6.00.</i>	
12:45PM – 1:30PM Contributed talks	“Lego Mindstorms for middle graders”	Jay Cutler
	“Faraday Rotation as a Lecture Demonstration”	Dale Stille , University of Iowa
	“Math & Physics—From Counting to QM”	Bill Cox
1:30 pm	<i>At this time we briefly will adjourn and walk over to the Wind Energy facility.</i>	
1:45PM – 3:00PM	“How to make terminal velocity not terminal” A tour of the Iowa Lakes Wind Energy facilities & hands-on safety training demo w/Iowa Lakes students and attendee-volunteers (?)	Craig Evert , Iowa Lakes Community College, Assistant Professor, Wind Energy and Turbine Technology Program
3:00PM – 4:00PM	Business meeting, Room 74	

Morning Session: Contributed Talks

Wade Sick , Southwestern Community College	“Undergraduate Research Projects in Community College Physics” (9:40–9:50, 10 minutes)
Inspired by STEM initiatives, we have begun requiring students in College Physics and Classical Physics to complete a research project in an area of their choice. A list of those projects, and progress on the projects will be presented.	

Robert Klepper , Professor of Chemistry, Iowa Lakes Community College	“Digital Help Sessions to Enhance Science Courses” (9:50–10:20, 30 minutes)
Mathematically oriented classes are always a challenge for instructors. In addition at a community college level it is difficult for the instructor to run help sessions at a time when all can attend as they are many times a single instructor in the Dept. Many years ago a project was started to try to give students more access to worked problems. Digital help sessions have grown out of this need and evolved over many years into what is currently being offered. This session will discuss the need for the help sessions, how the digital help sessions evolved, how they are done and the ultimate impact on the student.	

Sara Karbeling , Central Academy	“Lessons from a Summer at CERN” (10:20–10:35, 15 minutes)
During the Summer of 2012, I had the opportunity to spend three weeks at CERN along with 41 other high school physics teachers from 25 countries around the world. The High School Teacher’s Program (HST) celebrated its 15th year this summer and the program proved to be a fantastic learning experience not only presenting physics content and an international experience, but also to witness, on site, a wonderful announcement – that of the discovery of a new particle – the Higgs?!	
During this presentation, I will share some of the most interesting elements of the experience as well as some of the curriculum tools developed by our cohort as well as our predecessors..	

Morning Session: Contributed Talks (continued)

John Zwart , Dordt College	“Video Analysis With LoggerPro” (10:35–11:00, 25 minutes)
<p>Vernier’s LoggerPro allows one to easily import a video clip, digitize the position of an object as a function of time, and fit equations. This can help students make concepts more concrete. This presentation will include a start to finish walk through the process for a simple free fall situation and will give examples of more complex motion.</p>	

Cliff Chauncey , UNI	“A Physicist at Home” (11:00–11:30, 30 minutes)
<p>Physics is both exciting and important—we all know this. However, the cutting edge of research, such as seen on TV or in magazines, can seem far removed from everyday life. Yet, physics is all around us in our everyday lives. This talk will review situations that occurred in the presenter’s home—examples where physics helped explain what was going on: instant weight losses; mysterious moving carpets; and a failing TV remote, to name just a few. Audience participation and help in explaining these everyday physics puzzles will be encouraged.</p>	

Afternoon Session: Contributed Talks

Jay Cutler	“Lego Mindstorms for middle graders” (12:45–1:00, 15 minutes)
Demonstration of simple robot on Lego Playing Field and NXT 2.1 programming language. Challenges and successes with middle school students.	

Dale Stille , University of Iowa	“Faraday Rotation as a Lecture Demonstration” (1:00–1:10, 10 minutes)
Faraday rotation experiments, plane-polarized light through a sample being rotated by some angle when a magnetic field is applied, have long been a staple of most advanced physics laboratory curriculums but have been plagued by high costs, size, fragility, or operating difficulties of the components used. Technological advances in the areas of diode laser pointers, high strength permanent magnets, and readily available metal doped glass samples, combined with dramatic price decreases for these components now make this experiment easy and suitable for not only any advanced laboratory but also as a lecture demonstration.	

Bill Cox	“Math & Physics—From Counting to QM” (1:10–1:30, 20 minutes)

Break – Walk to Wind Energy Building for tour and demo.