

UO Physics SAIL Camp

August 10-14, 10AM - 3PM Daily

Willamette Hall, Room 112

SCHEDULE

last modified: July 31, 2009

MONDAY August 10:

- 10:00 – 10:30 am **Introduction, welcome (both Physics and Human Physiology) -- Prof. Raghu Parthasarathy and Paul van Donkelaar)**
- In which we describe our motivation for presenting these two subjects (physics and physiology) together, and connections between the two. Personal histories from Profs. Parthasarathy and van Donkelaar – how did we get interested in these fields?
- Willamette 112*
- 10:30 – 12:00 pm **Themes that will occupy us this week: Energy – various forms, contexts. Size, scale, and structure (Prof. Raghu Parthasarathy)**
- Self-assembly (part 1): Oil drops, soap bubbles, and cells – what do they have in common?**
- Willamette 112*
- 12:00 – 1:00 pm Lunch (provided). UCORE Pod Leader:
- 1:00 – 2:00 pm **Microscopic motion (Hands-on activities exploring microscopic motion – seeing it, and controlling it – Prof. R. Parthasarathy)**
- Willamette 112 and also Willamette 171*
- 2:00 – 3:00 pm **Human Phys.: Shoulder Biomechanics (*Gerlinger?*)** Andy Karduna

TUESDAY August 11:

- 10:00 – 11:00 am **Anatomy Labs / Cadavers** (near Science Library; meet in Willamette first)
- GTF: Tynan Weed
- 11:00 – 12:00 pm **Human Phys.: Respiratory Lab** (Sacred Heart or portable model in Willamette)
- Andy Lovering
- 12:00 – 1:15 pm Lunch (provided) and outdoor concert – EMU Amphitheater
- 1:15 – 3:00 pm **Energy in the Modern World – a brief look (Prof. R. Parthasarathy)**
- What is energy? How do we harness it? How much do we use? Discussions plus

activities involving solar cells and electrical generators.

WEDNESDAY August 12:

- 10:00 – 12:00 pm **Physics and Rock Climbing: Climbing the Rock Wall at the UO Gym** (Rock climbing, plus some of the physics involved – Dr. Greg Gemmen, GTF Mick Davis)
- 12:00 – 1:00 pm Lunch (provided)
- 1:00 – 2:00 pm **Student research at UO.** In which SAIL students explore research going on at UO with undergraduates and graduate students, and deliver short presentations.
- 2:00 – 3:00 pm **Human Phys: Balance/posture control.** (*Gerlinger?*)
Marjorie Woollacott's lab

THURSDAY AUGUST 13:

- 10:00 – 12:00 pm **Energy and the environment.** In which we explore some of the environmental issues connected to modern energy usage, and the science behind them.
- 12:00 – 1:00 pm Lunch (provided). UCORE Pod Leader:
- 1:00 – 2:00 pm **Human Phys: Gait analysis.** (*Gerlinger?*)
Li-Shan Chou's lab
- 2:00 – 3:00 pm **Financial Aid for College** (A presentation – Steve Mardane, UO Office of Student Financial Aid & Scholarships)

FRIDAY AUGUST 14:

- 10:00am– 12:00 pm **Human Phys: The brain.** Electromagnetic brain stimulation. Videos of brain disorders; discussion of brain function. (Willamette) Paul van Donkelaar.
- 12:00 – 1:00 pm Lunch (provided). UCORE Pod Leader:
- 1:00 – 2:00 pm **Biomechanics / biomaterials.** What are we made of? How is it put together? (Prof. R. Parthasarathy)
- 2:00 – 3:00 pm **Graduation / Conclusion / Group activity** (with the other SAIL camps)
Volleyball courts, near the dorms (north of the Living Learning Center)