

UO Physics & Human Physiology SAIL Camp

August 10-14, 2009. 10AM - 3PM Daily

Willamette Hall, Room 112

Organizers:

- Professor Raghuveer Parthasarathy (Physics) Cell ph: 510 364 6843
- Professor Paul van Donkelaar (Human Physiology)

Physics Department Office phone number: 541-346-4751

SCHEDULE

MONDAY August 10:

10:00 – 10:20 am	Introduction, welcome (both Physics and Human Physiology) -- Profs. Raghu Parthasarathy and Paul van Donkelaar <i>Willamette 112</i> In which we describe our motivation for presenting these two fields together, and connections between the two. Personal histories from Profs. Parthasarathy and van Donkelaar – how did we get interested in these subjects?
10:20 – 12:00 pm	Themes that will occupy us this week: Energy – various forms, contexts. Size, scale, and structure (Prof. Raghu Parthasarathy) <i>Willamette 112</i> Energy and Waves Self-assembly: Oil drops, soap bubbles, & cells – what do they have in common?
12:00 – 1:00 pm	Lunch (provided). UCORE Pod Leader: Eric Senning
1:00 – 1:50 pm	Microscopic motion (Hands-on activities exploring microscopic motion – seeing it, and controlling it – Prof. R. Parthasarathy) <i>Willamette 112 and also Willamette 171</i>
1:50 – 2:00 pm	Break, plus walk to Gerlinger.
2:00 – 3:00 pm	Human Phys.: Shoulder Biomechanics (<i>Gerlinger 304</i>) Andy Karduna. (Candice will take students back to Willamette 112 afterwards.)

TUESDAY August 11:

10:00 – 11:00 am	Human Phys.: Anatomy Labs / Cadavers (near Science Library [75-B Klamath]; meet in Willamette first). Paul van Donkelaar will be at Willamette to accompany students to the Anatomy Lab. GTF: Tynan Weed
11:00 – 12:00 pm	Human Phys.: Respiratory Lab (Rm 200, Center for Medical Education and Research) Andy Lovering. Tynan Weed will take them from the Anatomy Lab over to Dr. Lovering's Lab.
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.
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WEDNESDAY August 12:

10:00 – 12:00 pm	Physics and Rock Climbing: Climbing the Rock Wall at the UO Gym (Rock climbing, plus the physics involved – Dr. Greg Gemmen, GTF Mick Davis, Tyler Campbell. Take students to Carson dining hall (not Willamette 112) afterwards.
12:00 – 1:00 pm	Lunch (provided). UCORE Pod Leader: Daniele Mckay
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. <i>Willamette 112</i>
2:00 – 3:00 pm	Human Phys: Balance/posture control. (<i>Gerlinger</i> 346) Paul van Donkelaar will take the students from their 1pm meeting over to the Woollacott Lab GTFs: Sandy Saavedra, Sujitra Boonyong, Francine Porter

THURSDAY AUGUST 13:

10:00 – 12:00 pm	Energy and the environment. In which we explore some environmental issues connected to modern energy usage, and the science behind them.
12:00 – 1:00 pm	Lunch (provided). UCORE Pod Leader: Kathy Hadley
1:00 – 2:00 pm	Human Phys: Gait analysis. Li-Shan Chou's lab (B-52 <i>Gerlinger</i> Annex) Paul van Donkelaar will take the students from their previous meeting to Dr. 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. (112 Willamette) Paul van Donkelaar.
12:00 – 1:00 pm	Lunch (provided). UCORE Pod Leader: Nate Kuwada.
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) <i>Volleyball courts, near the dorms (north of the Living Learning Center)</i>