LAB CRAWL FALL 2014

Fill up your passport with stickers by visiting the labs listed here. Three stickers get you pizza in Science Center A254 or the King Math Lounge, and every sticker you get is one entry in the raffle. Labs in Carnegie and the Conservatory get you a star sticker worth 4 entries in the raffle. You can find dessert in the 3D Print Lab (Wilder 329), Geology Lounge (Carnegie, 3rd floor), and TIMARA lab (Conservatory Bibbins basement). Have fun and good luck! Labs are open from 11:30-1:30 unless otherwise indicated.

Anthropology, located in King and Rice

Amy Margaris, King 322. The Osseous Materials Research & Education Project (OMREP) and archaeology research lab studies how ancient technologies were crafted and used, with emphasis on organic media including bone and antler.

Jason Haugen, Rice 32. The Linguistics Lab is studying Native American languages, including the structures of individual languages (esp. Classical Nahuatl and Hiaki/Yaqui), historical linguistics (esp. Uto-Aztecan), and theoretical linguistics (esp. morphology and its interfaces with phonology and syntax).

Biology, located in Kettering, the west end of the Science Center

Michael Moore, Science Center K112. The Moore lab studies the evolution of plants using comparative analyses of DNA sequence data, morphology, biogeography, and ecological preferences. The primary focus of recent work in the Moore lab is on plants that grow only on unusual soils in the Chihuahuan Desert.

Marta Laskowsi, Science Center K113 & 114. The Laskowski lab is studying the cellular mechanisms that lead to the formation and positioning of lateral roots, particularly in the model plant Arabidopsis thaliana. Lateral roots are entirely new organs that form at variable distances along the main root of a plant. Why do some cells suddenly form entirely new organs whereas their neighboring cells do not?

Yolanda Cruz, Science Center K217. The Cruz lab studies embryonic development and reproduction in marsupials. Ongoing projects include embryo-maternal signaling during pregnancy, expression of transposon sequences and conserved genes in the opossum genome, and biology of embryonic stem cells. Techniques include microscopy (light, confocal, fluorescence), molecular genetic analysis, histology, and cell culture.

Taylor Allen, Science Center K200. With approaches from engineering, genetics, and physiology, the Allen lab is investigating how muscle generates force and how muscular performance is optimally tuned to match the demand.

Maureen Peters, Science Center K212. The Peters lab investigates the molecular and cellular basis of a multi-tissue signaling system controlling the timely elimination of waste products from the body. We use genetic, genomic, molecular, physiological and in vivo imaging approaches for our studies in C. elegans.

Aaron Goldman, Science Center A133. The Goldman lab uses computational approaches to study the early evolution of life and properties of ancient genomes and metabolism.

Angie Roles, Science Center A132. The Roles lab studies the conservation genetics of local crayfishes.

Chemistry and Biochemistry, located between Kettering and Wright

Matthew Elrod, Science Center N285. The Elrod lab is studying atmospheric chemistry processes, particularly those related to air pollution and climate change.

Jason Belitsky, Science Center N386. The Belitsky lab is studying melanins, the pigments in humans, and related synthetic analogs, including melanin-inspired materials as potential sensors for heavy metals.

Jesse Rowsell, Science Center N387. The Rowsell lab studies materials science. Here you’ll find a glove box demonstration and perhaps other bubbling brewhaha in the fumehoods.

Catherine Oertel, Science Center N281. The Oertel lab is a research lab in materials chemistry. Student volunteers will introduce visitors to the research projects in the lab as well as share demonstrations involving materials with cool properties.

Computer Science, located on the second floor of King

Cynthia Taylor, King 233, King balcony. The Taylor lab works on Distributed Systems (allowing computers to work together over a network), Internet measurement, and currently a user study of the Prestissimo project.

Benjamin Kuperman, King 221, King lobby. The Kuperman lab does work in computer and information security with a focus on audit systems and the use of virtualization for “hands-on” computer security exercises, and also supports the development of Prestissimo -- a student designed and maintained search engine for Oberlin classes.
LAB CRAWL FALL 2014

Environmental Studies, table in the Science Center Commons

Science Center Commons. This info table will highlight natural sciences in the ENVS department and other pathways and concentrations that are offered within the department.

Geology, located in Carnegie

Amanda Schmidt, Carnegie 418. The Schmidt lab measures activity of short-lived radionuclides to track the movement of sediment in watersheds. Most work is currently in SW China looking at the effects of land use changes on erosion patterns. The lab also has a project in the Vermilion River watershed, Ohio, to try to better understand how agricultural drainage tiles affect erosion.

Kristin Dorfle, Carnegie 214 & 216. Rock Sample Preparation Lab (Carnegie 214); Scanning Electron Microscope Lab (Carnegie 216)

Karla Hubbard, Carnegie 415. The paleontology lab is working on deep marine ecosystems. We are studying the formation of rock at places on the sea floor where hydrocarbons naturally seep up from below the sediment surface. The hydrocarbon seeps support deep sea ecosystems that thrive on bacteria that consume methane and sulfides.

Dennis Hubbard, Carnegie 416. The Hubbard lab works mostly on carbonate sedimentology. This year, four students are working with data and samples collected in Belize and the US Virgin Islands.

Mathematics, located on the second floor of King

Jack Calcut, King 203. Calcut’s students will discuss knot theory and will demonstrate this work to visitors by drawing pictures.

Neuroscience, located just east of Kettering

Tracie Paine, Science Center A242. The Paine lab is studying the GABAergic and dopaminergic regulation of attention and impulse control in rodents because these neurotransmitter systems and cognitive functions are abnormal in mental disorders such as schizophrenia.

Jan Thornton, Science Center A248. The Thornton lab studies the effects of estrogens on cognition, neurogenesis and GABA neurons in an animal model of schizophrenia. They also study how estrogens and Luteinizing Hormone (LH) affect spatial memory in female rats and in an animal model of Alzheimer's disease, and the role of LH receptors in the prefrontal cortex and hippocampus of the brain.

Gunnar Kwakye, Science Center A245. The Gunnar Kwakye lab utilizes cellular and molecular approaches to investigate the environmental influences on neurodegenerative diseases such as Huntington’s and Parkinson’s.

Leslie Kwakye, Science Center A257. The Leslie Kwakye Lab is interested in how the brain combines information from the different senses and how cognitive factors such as attention modulate this multisensory integration.

Siobhan Robinson, Science Center A256. The Robinson lab uses a rodent model to study how different brain regions contribute to different forms of learning and memory. Included in the lab are methods to measure operant and classical conditioning, methods for sectioning and staining the rodent brain, a surgical set up and a microscope set up for analysis of brain tissue.

Physics & Astronomy, located in Wright, the east end of the Science Center

Jason Stalnaker, Wright 104. The Stalnaker lab uses precision atomic spectroscopy using a optical frequency comb based on a femtosecond mode-locked laser.

Stephen FitzGerald, Wright Basement 016. The FitzGerald lab uses infrared spectroscopy to look at adsorbed hydrogen in interesting materials.

Dan Stinebring, Wright 207. The Stinebring lab studies pulsars and is trying to detect gravitational waves from supermassive black holes by timing a set of about 40 pulsars on a twice-per-month basis. This is an international effort. The Oberlin group specializes in correcting for subtle time delays due to the passage of the radio waves (from the pulsars) through the ionized gas in the Milky Way.
LAB CRAWL FALL 2014

Yumi Ijiri, Wright 017. The Ijiri lab studies properties of magnetic nanoparticles and other unusual magnets, and is working on developing new methods to probe magnetic samples. 12:15-1:30

OC3D, located in Wilder Hall
OC3D, Wilder 329. The 3D print lab will be showcasing several 3D printers, a 3D scanner, the tools and workspace, a 3D modeling workstation, and several other student projects related to makerspaces in general.

TIMARA, located in the Conservatory
TIMARA, Conservatory Basement, Bibbins Hall. The TIMARA lab (Technology in Music and Related Arts) will be demonstrating multi-channel audioscapes, analog synthesis, digital synthesis, and other artistic expressions of electronic and computer based arts. Get a tour of each of our lab spaces with working pieces being illustrated in each room by both faculty and students of TIMARA.

Lab Safety Station, table in the Science Center Commons
Lab Safety Station, Science Center Commons. Hosted by the Science Center Safety Committee.