

Robotics Open House April 11, 2018

Ronald Tutor Hall (RTH) 9 am – 5 pm Check-in & Bus Drop-off

RTH Lobby: "buddies"-- off-the-shelf robots for in-home or classroom use; educational platforms recommended by researchers; sign-ups for research participation **Interaction Lab** robotics.usc.edu/interaction

RTH Courtyard: "rollers"-- interactive robot programming; maze-running; remote-control painting **Interaction Lab**

By prior registration only:

RTH 109: Prof. Heather Culbertson 11 AM – 1 PM by reservation only

RTH 115: Robogals Lego Mindstorms Coding Workshop 11:30 – 12:20; 12:30 – 1:20

USC Food: bit.ly/ROHLunch

Order in advance:

<http://www.tapingo.com/>

order/campus/usc/pickup/



RTH 4th Floor – East Stairs & East Hallway

RTH 417: "learners"

note this lab's limited hours: 9 – 11 AM, 2 – 4:30 PM

Computational Learning and Motor Control

Sarcos Master & Slave arm; Phantom Omni Arm; neuroscience; machine learning; non-linear control

www-clmc.usc.edu

RTH 421: "modellers"

note this lab's limited hours: 2 – 5 PM

Brain-Body Dynamics Lab

Haptic robotics, neuromorphic computing; non-linear dynamics; modeling disease progression

<http://bbdl.usc.edu/Valero-Cuevas-Lab.php>

RTH 4th Floor – Enter by Elevators (west) or West Stairs (as directed at check-in)

9 AM – 5 PM [closed noon – 1 p.m.] Lab demos start every half hour

(access via **west** elevator or staircase or **west** staircase, as directed at check-in)

RTH 406: "pointers"-- **Interaction Lab**

gesturing humanoid robots; interact with robots 1-on-1 robotics.usc.edu/interaction

RTH 426: "aquatic explorers" -- **Robotic Embedded Systems Lab** - *closes at 4 pm*

marine robots; environmental monitoring; multi-robot systems; sensor data processing (perception); robot and world state estimation robotics.usc.edu/resl

RTH 424: "PR2 helper" -- **Robot Work Space** - robotics.usc.edu/resl - *closes at 4 pm*

The PR2 robot focuses on interactive perception and manipulation planning; learns from environmental interaction

RTH 423: "interactors" -- **Interaction Lab**

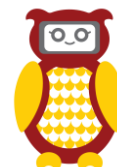
human-robot interaction for socially assistive robotics; embodied communication & interaction; influencing social dynamics; activity & user modeling and understanding; Spritebot squash-&-stretch robot, Ohmni Labs telepresence robot, and the iPal humanoid robot robotics.usc.edu/interaction

RTH 422: "humanoid" -- **Human Centered Robotics Lab**

Sarcos Humanoid; legged locomotion, non-linear control; machine learning; perception www-clmc.usc.edu

Haptic robotics, neuromorphic computing; non-linear dynamics; modeling disease progression

<http://bbdl.usc.edu/Valero-Cuevas-Lab.php>



#nationalroboticsweek

Find our NGSS Lesson Plans & links about the labs you visit:

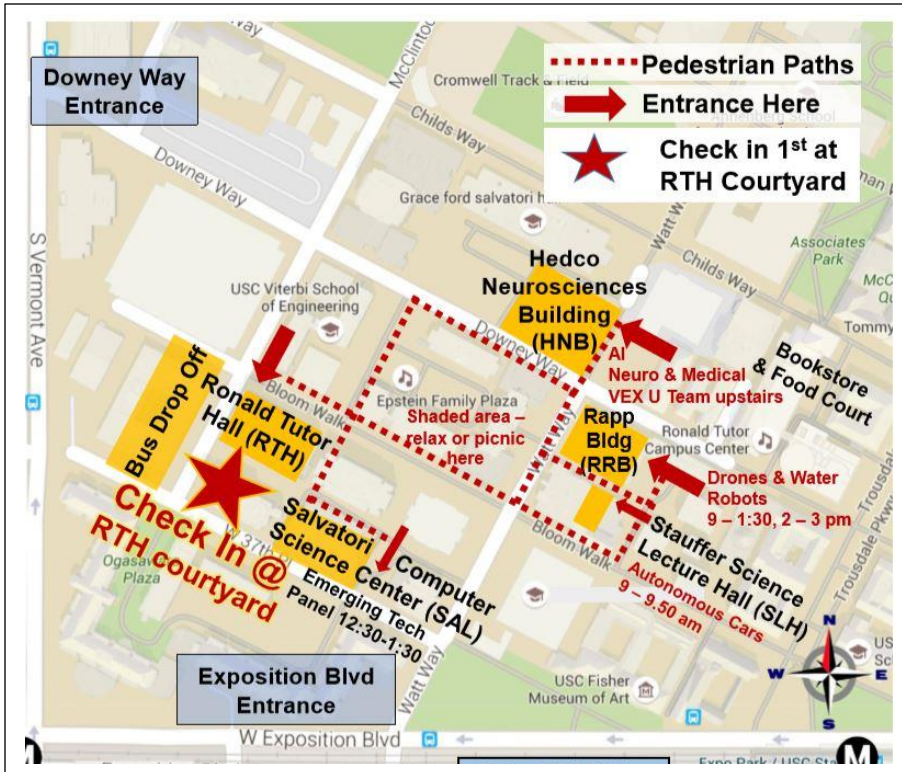
<https://viterbipk12.usc.edu/research/robotics-openhouse/>



Robotics Open House, April 11, 2018 USC Viterbi

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School of Engineering
*VAST: Adopt-a-School,
Adopt-a-Teacher*



RRB (Rapp Engineering Bldg.)
Each demo is 20 minutes, line possible

9 AM – 1 PM

Automatic Coordination of Teams Lab
Designing interaction among robots to do group tasks. Crazyflie; Turtlebot
act.usc.edu

More: <https://www.youtube.com/watch?v=MIFtHuXPbv4>

9:30 AM – 1:30 PM only

Fluid-Structure Interactions Lab
Studying fluid dynamics with Sphero robots & a crawler
<http://ruk.usc.edu/bio/luhar/index.html>

SAL Emerging Tech Panel 12:30 – 1:20 pm

Jon Burton – video game designer *Lego Star Wars*, *Lego Harry Potter*, *Lego Batman*; producer, *The Lego Movie* & other Lego films

Natascha French – VNTANA: Augmented Reality, 3D holograms

Ellisen Turner, J.D. – Attorney for computer science businesses, IP

Kathy Kemper – Founder, Institute for Education & CS@SC camps

Moderator: Jasson Crockett – LA Mayor's Economic Development

SLH (Stauffer Science Learning Hall)

9 – 9:50 AM

Autonomous Vehicles

Professors discuss role of Electrical Engineering in driverless cars
(Profs. Krishnamachari, Hossein, Ioannou, Jovanovic)

HNB (Hedco Neurosciences Bldg)

HNB Basement Labs 9 AM – 1 PM, 2 PM - 5 PM

Enter northeast door off Watt Way

iLab ilab.usc.edu researching the brain's visual processing via computer models

HNB 30: "flyers" -- helicopter & flying robots; drone; air delivery robot; submarine & ocean exploration; ship maintenance & marine life survey

HNB 10: "3D printers" + "smart camera" -- visual attention; gaze control; object recognition; brain processing; artificial intelligence,

HNB 11: "builders" -- robot design & parts, machining

HNB 05: "sensors" -- robot monitoring using motion sensors

HNB 15: "submarine robots" -- demos of their competition submarine by the Autonomous Underwater Vehicle Student Club

HNB 1st Floor

Enter from Downey Way or easy entrance upon exiting from HNB basement labs

NOTE: Demos start every half hour
9:30 AM – 2:00 PM only

USC VEX U Championship Team demonstrates its prize-winning robot and talks technique

11 AM – 1:00 PM only

Pre-registration required: Monish Aron, M.D., expert in robotic and laparoscopic surgery for prostate, kidney, bladder, adrenal gland, and ureter, talks about robotics in surgical medicine.

<http://profiles.sc-ctsi.org/monish.aron>

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