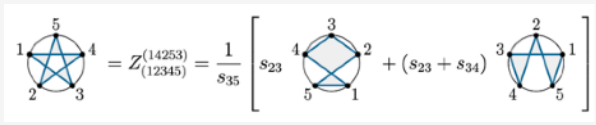
Physics & Astronomy Faculty: Undergraduate Research Opportunities

theory/computation

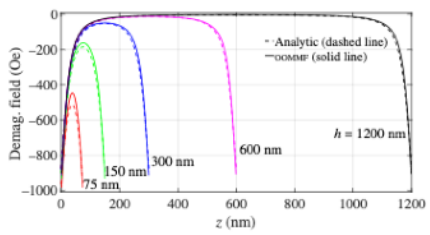
experiment/observation

JJ Carrasco



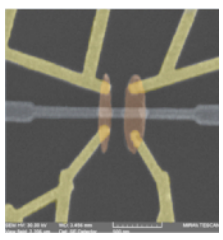
HEP theory, focus on scattering amplitudes

Anupam Garg



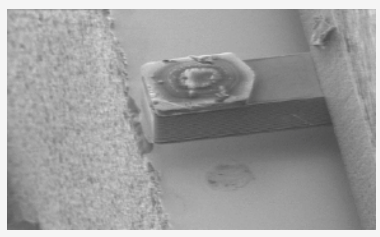
condensed matter theory, focus on quantum magnetization effects

Venkat Chandrasekhar



novel devices for studying superconductivity, quantum computing, 2D materials

Andrew Geraci



tabletop expts for precision tests of gravity, beyond standard model physics

Eric Dahl

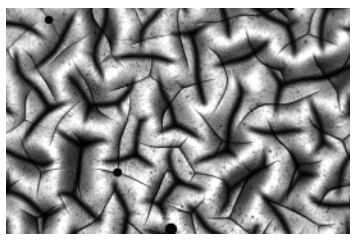
direct detection of dark matter (liquid detectors)

Bennett Goldberg

Inclusive Graduate Programs
An AGEP Pilot in Physics

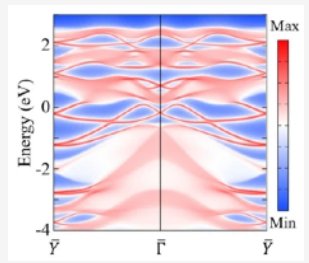
equity & inclusion, focus on climate & culture in physics departments

Michelle Driscoll



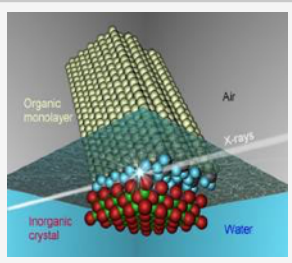
soft matter: imaging instabilities in complex fluids, active materials

Pallab Goswami



condensed matter theory, focus on quantum phases and topology

Pulak Dutta

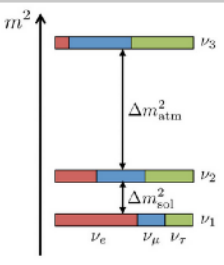


structure of soft thin films and liquids at interfaces

Kristian Hahn

HEP experiment, focus on indirect dark matter searches at LHC

André de Gouvêa



HEP theory, focus on neutrino physics

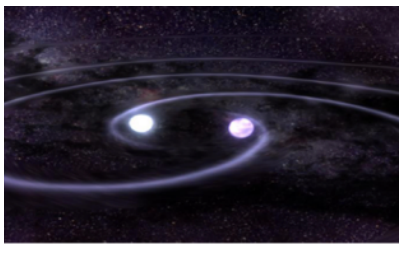
Bill Halperin

low temp physics & NMR, focus on phases of superfluid ^{3}He, magnetic materials

Claude-André Faucher-Giguère

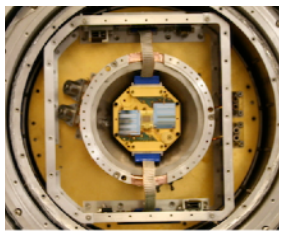
simulation, focus on galaxy formation and evolution

Vicky Kalogera



compact astrophysical objects, observation via x-ray, radio, & gravitational waves

Tali Figueroa-Feliciano



direct & indirect detection of dark matter

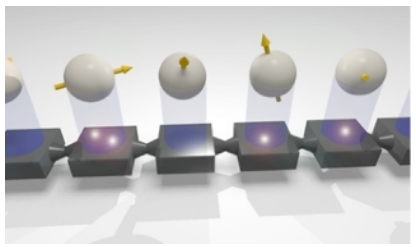
John Ketterson

magnetic & superconducting properties of materials

Wen-fai Fong

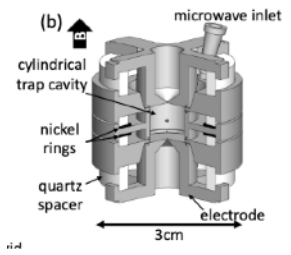
gamma-ray & fast radio bursts, EM detection of gravitational wave sources

Jens Koch



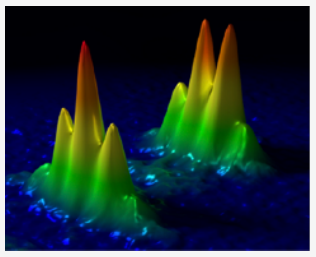
superconducting qubits, circuit QED

Gerald Gabrielse



tabletop experiments for precision tests of the standard model

Tim Kovachy



atom Interferometry, precision msmt of gravitational, inertial forces

Physics & Astronomy Faculty: Undergraduate Research Opportunities

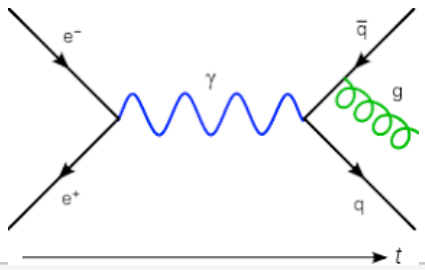
theory/computation
experiment/observation

István Kovács

theory/computation

complex systems & networks, critical phenomena, biophysics

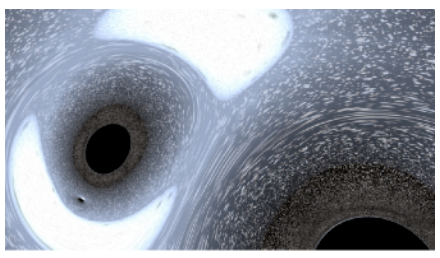
Frank Petriello



theory/computation

precision QCD for improving standard model predictions

Shane Larson



experiment/observation

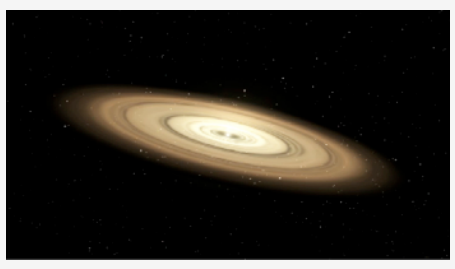
gravitational wave astrophysics

Frederic Rasio

theory/computation

theoretical astrophysics, focus on exoplanets, stellar dynamics, black hole formation

Yoram Lithwick



theory/computation

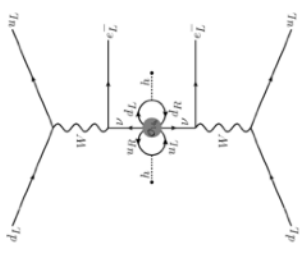
astrophysics, focus on planet formation and planetary dynamics

Michael Schmitt

experiment/observation

HEP experiment, focus on electroweak physics, advanced data analysis techniques

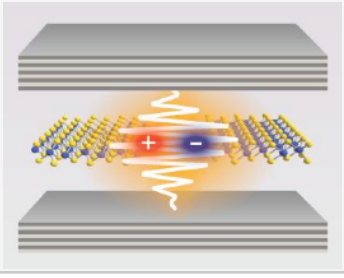
Ian Low



theory/computation

HEP theory - focus on quantum entanglement and fundamental interactions

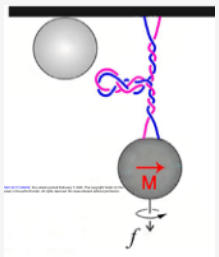
Nathaniel Stern



experiment/observation

light + matter: quantum interactions in nano-scale photonic & spin systems

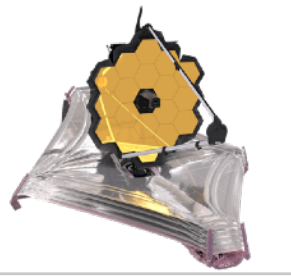
John Marko



theory/computation + experiment/observation

biophysics, focus on chromatin structure, DNA/protein interactions

Allison Strom



experiment/observation

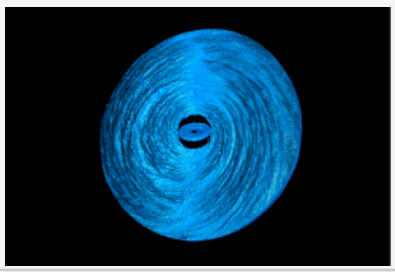
observational astrophysics, focus on galaxy formation & evolution

Adam Miller

theory/computation

using data science methods to identify and characterize explosive transients

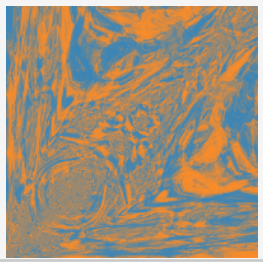
Sasha Tchekhovskoy



theory/computation

computational astrophysics: black hole & neutron star interactions

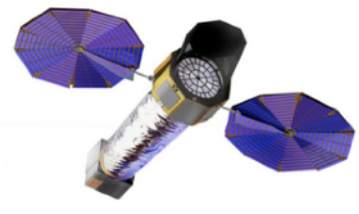
Adilson Motter



theory/computation

complex systems & networks: quantum networks, machine learning for networks

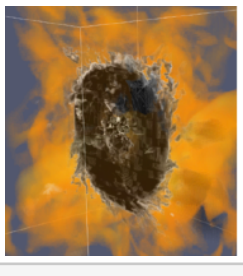
Mel Ulmer



experiment/observation

gamma ray observation, focus on galaxy clusters, instrumentation

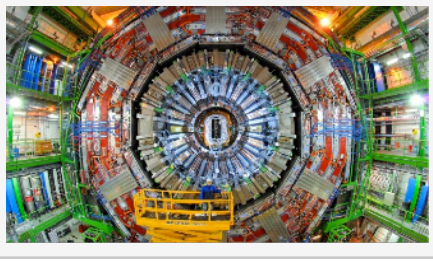
Lena Murchikova



theory/computation

black hole astrophysics, exoplanets, star formation, and neutron stars

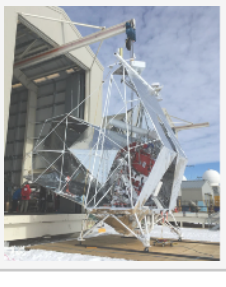
Mayda Velasco



experiment/observation

HEP experiment, focus on fundamental particles using colliding particle beams

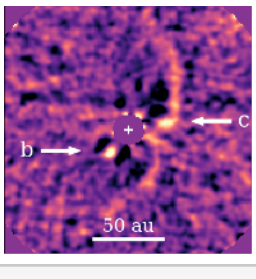
Giles Novak



experiment/observation

astrophysics & astronomical instrumentation, focus on star formation

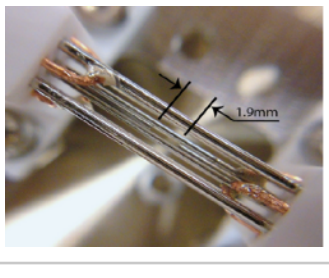
Jason Wang



experiment/observation

observation, focus on exoplanets & their atmospheres

Brian Odom



experiment/observation

quantum control of trapped atoms & molecules

Farhad Zadeh

experiment/observation

observation, focus on radio, physical processes in the galactic nucleus