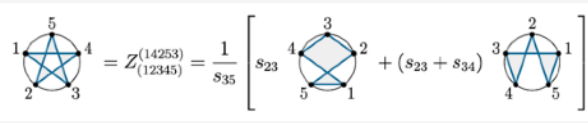


# Physics & Astronomy Faculty: Undergraduate Research Opportunities

- theory/computation
- experiment/observation

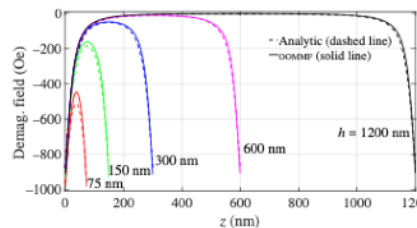
**JJ Carrasco**



● HEP theory, focus on scattering amplitudes

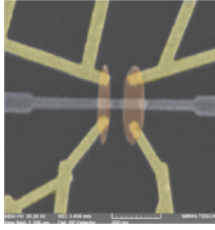
**Anupam Garg**

● condensed matter theory, focus on quantum magnetization effects



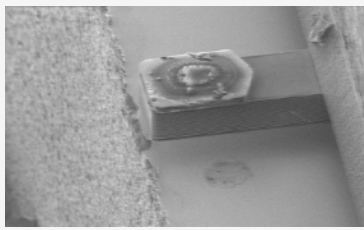
**Venkat Chandrasekhar**

● 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)



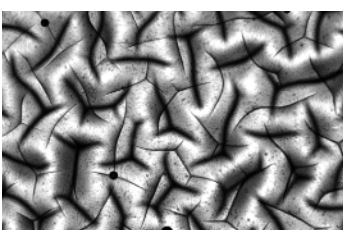
**Bennett Goldberg**

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



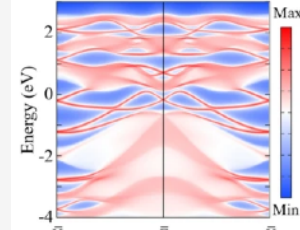
**Michelle Driscoll**

● soft matter: imaging instabilities in complex fluids, active materials



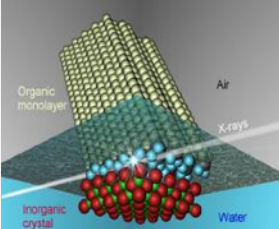
**Pallab Goswami**

● condensed matter theory, focus on quantum phases and topology




**Pulak Dutta**

● structure of soft thin films and liquids at interfaces



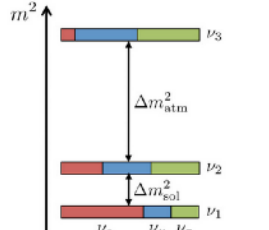
**Kristian Hahn**

● HEP experiment, focus on indirect dark matter searches at LHC



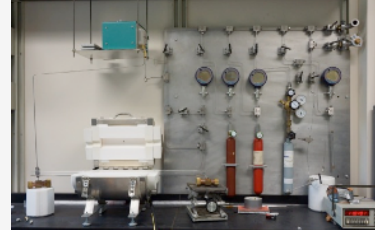
**André de Gouvêa**

● HEP theory, focus on neutrino physics



**Bill Halperin**

● low temp physics & NMR, focus on phases of superfluid <sup>3</sup>He, magnetic materials



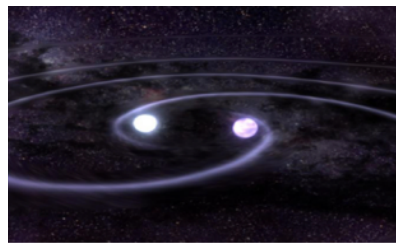
**Claude-André Faucher-Giguère**

● simulation, focus on galaxy formation and evolution



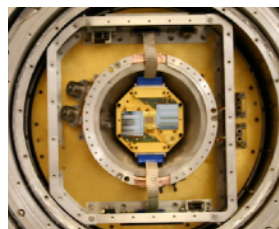
**Vicky Kalogera**

● 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



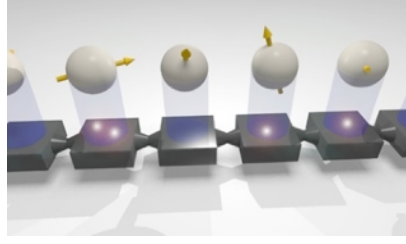
**Wen-fai Fong**

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



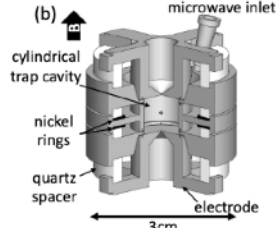
**Jens Koch**

● superconducting qubits, circuit QED



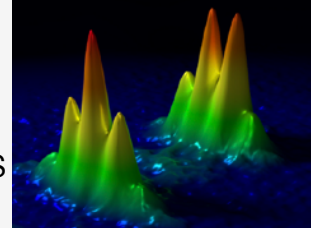
**Gerald Gabrielse**

● 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

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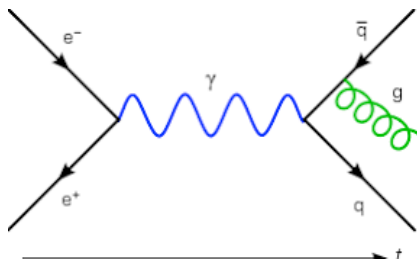
## István Kovács

● complex systems & networks, critical phenomena, biophysics



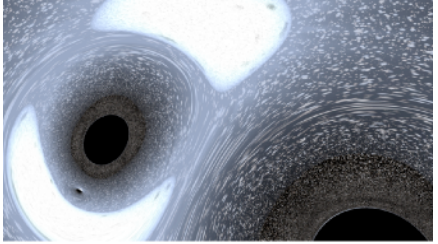
## Frank Petriello

● precision QCD for improving standard model predictions



## Shane Larson

● gravitational wave astrophysics



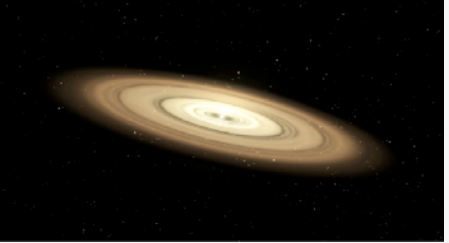
## Frederic Rasio

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



## Yoram Lithwick

● astrophysics, focus on planet formation and planetary dynamics



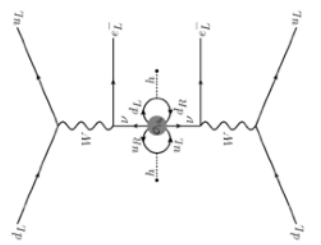
## Michael Schmitt

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



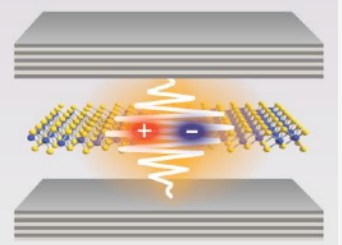
## Ian Low

● HEP theory - focus on quantum entanglement and fundamental interactions



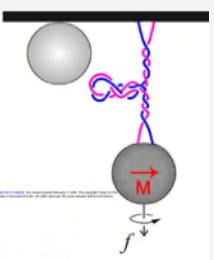
## Nathaniel Stern

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



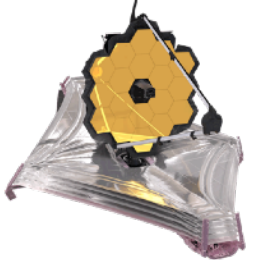
## John Marko

● biophysics, focus on chromatin structure, DNA/protein interactions



## Allison Strom

● observational astrophysics, focus on galaxy formation & evolution



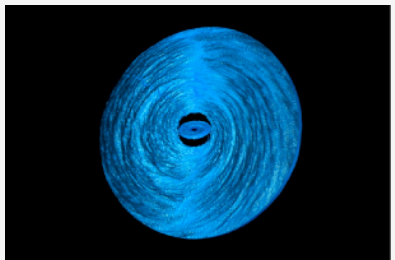
## Adam Miller

● using data science methods to identify and characterize explosive transients



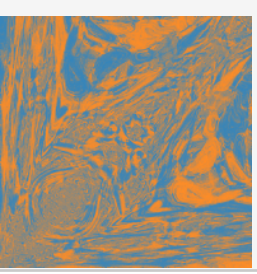
## Sasha Tchekhovskoy

● computational astrophysics: black hole & neutron star interactions



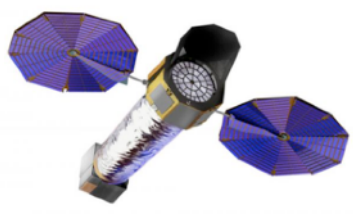
## Adilson Motter

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



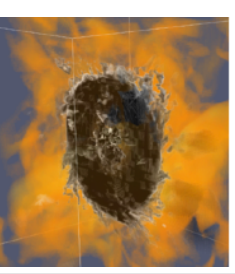
## Mel Ulmer

● gamma ray observation, focus on galaxy clusters, instrumentation



## Lena Murchikova

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



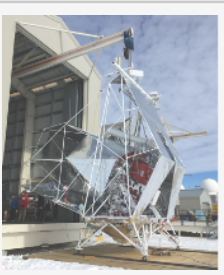
## Mayda Velasco

● HEP experiment, focus on fundamental particles using colliding particle beams



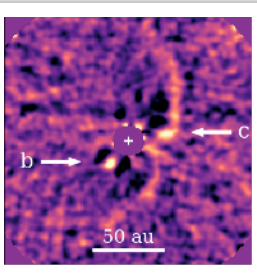
## Giles Novak

● astrophysics & astronomical instrumentation, focus on star formation



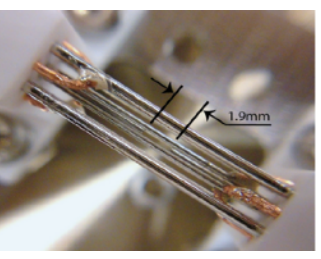
## Jason Wang

● observation, focus on exoplanets & their atmospheres



## Brian Odom

● quantum control of trapped atoms & molecules



## Farhad Zadeh

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

