

UCLA Earth, Planetary, and Space Sciences

Understanding and protecting our home in the universe

JUPITER

MERCURY

MERCURY

David Paige provided evidence of water ice deposits near Mercury's poles. Jean-Luc Margot showed that Mercury has a molten core.

MOON

Edward Young showed that the Moon and Earth are made of the same material, suggesting that the Moon was formed by a giant impact.

EARTH'S SURFACE

An Yin explained the evolution of the Himalayan-Tibetan region.

EARTH'S INTERIOR

Abby Kavner studies material properties to improve estimates of heat transfer in Earth's mantle and core. Jon Aurnou uses numerical simulations to understand Earth's geodynamo. Edwin Schauble studies the chemical properties of atoms that make up Earth's core, mantle, and crust.



IMPACT HAZARD

EPSS scientists measure the trajectories and properties of near-Earth asteroids to protect Earth and assets in space.

SEISMIC HAZARD

Lingsen Meng contributes to an earthquake early warning system that mitigates seismic and tsunami hazards. Paul Davis leads seismic investigations based on a dense network of sensors.

LANDSLIDES

Seulgi Moon built a model to predict fracturing in the bedrock, identifying areas that are prone to landslides or earthquakes.

CLIMATE CHANGE

Aradhna Tripathi produced a record of thousands of years of temperature variations, yielding important insights into climate change.

SPACE WEATHER

Vassilis Angelopoulos leads NASA's THEMIS and ARTEMIS missions, and advises the student-run ELFIN project, UCLA's first fully built satellite. He discovered mechanisms responsible for space weather near Earth.

EXOPLANETS

There are billions of habitable worlds in the Milky Way Galaxy. EPSS scientists study how these worlds form and evolve.

HABITABILITY

Craig Manning refined our understanding of Earth's deep carbon cycle, with implications for life, energy, and climate.

LIMITS OF LIFE

Tina Treude explores the limits of microbial life in sediments deep beneath the seafloor.

HISTORY OF LIFE

Mark Harrison showed that life on Earth arose much earlier than previously thought, as early as 4.1 billion years ago. William Schopf uses microscopic fossils to trace the evolution of ancient life.

SETI

Jean-Luc Margot uses the largest telescopes on Earth to search for signs of extraterrestrial intelligence.

EUROPA AND GANYMEDE

Margaret Kivelson discovered a magnetic field at Jupiter's largest moon, Ganymede, and provided evidence of an ocean on its sister moon Europa.

CERES AND VESTA

Christopher Russell is the principal investigator of NASA's Dawn mission to Ceres and Vesta.

KUIPER BELT

David Jewitt discovered the Kuiper Belt, a region of the solar system beyond Neptune.

SOLAR WIND

Kevin McKeegan leads the MegaSims lab, which analyzes samples of captured solar wind from the GENESIS mission to better understand the composition of the Sun. Marco Velli is the observatory scientist of the Solar Probe Plus mission to study the origins of the solar wind.

MARS

David Paige will operate the radar imager on NASA's Mars 2020 rover mission. Christopher Russell will build the magnetometer for the InSight lander.

EARTH

MARS

For more information on supporting UCLA Earth, Planetary, and Space Sciences, please contact the EPSS Chair at 310.825.1475 or chair@epss.ucla.edu.

Credit: Adapted from a UCLA College of Letters and Science illustration published in the Winter 2015 College Report.