Jason Dworkin (NASA), OSIRIS-REx delivered a sample of asteroid Bennu to Earth
Abstract: NASA's New Frontiers mission OSIRIS-REx was selected in May 2011 and launched in September 2016. It arrived at near-Earth asteroid Bennu in December 2018 and spent two years studying the small asteroid before collecting a sample in October 2020. OSIRIS-REx returned the sample to Earth in September 2023 to begin decades of scientific analysis of this organic-rich ancient fragment of the early solar system. The presentation will describe the mission implementation, what it found, what the sample has started to tell us, and what the plans are for the future.
Bio: Jason Dworkin is the project scientist for the OSIRIS-REx mission. His research at GSFC focuses on laboratory studies of extraterrestrial materials and their analogues to investigate the origin and contribution of organic compounds to the origin of life.

Jack Connerney (Adnet at NASA), The Juno Magnetic Field Investigation: Dust from Mars, the Zodiacal Light, and a Comet Discovered in Flight
Abstract: The Juno Magnetic Field Investigation carries dedicated non-magnetic star cameras with the boom-mounted magnetic sensors to provide accurate attitude information at the sensor. One of our star cameras was programmed to look for luminous objects traveling across the field of view that were not among those in the on-board star catalog. This functionality serendipitously allowed the Juno spacecraft traveling from Earth to Jupiter to record the impact of interplanetary dust particles throughout its journey to Jupiter. This provided the first measurement of the dust population responsible for the Zodiacal light and identified a surprising source of these particles. We also recorded a singular burst of interplanetary dust impacts attributed to passage through the extended tail of a comet. That comet has now been identified as the recently discovered Jupiter family comet P/2019 S3 Pan-STARRS (SPKID 1003641), affording a unique opportunity to characterize the dynamical motion of the dust tail. Dust impacting the spacecraft orbits under the influence of radiation pressure forces and gravity (ratio b = ~0.05), escaping the comet nucleus ~2 years prior to impact and ~1 year post comet perihelion. Impacting dust, with an implied radius of ~10 microns, escaped the comet nucleus with a radial velocity of ~120 ms^{-1}, appropriate to a comet with a radius of a few km.
Bio: Since joining NASA, Jack Connerney has participated in magnetic field investigations and studies of every magnetized planet in the solar system, from Mercury and Mars to Jupiter, Saturn, Uranus, and Neptune. He developed techniques for measurement, analysis, and modeling of planetary magnetic fields using both in-situ and remote observations. His >200 scientific publications span several disciplines, including planetary magnetic fields, geophysical inverse theory, ionospheres, aurorae, and the electrodynamic interaction of satellites and ring systems with a planetary magnetic field. He leads the magnetometer group at NASA's Goddard Space Flight Center.

Anna K. Behrensmeyer (SI), What is *Taphonomy*, and why does it matter?
Abstract: Nearly all the organisms that have ever lived were recycled into new life rather than fossilized. How do paleontologists turn limited samples into broad understanding of evolution and ecology over time? Taphonomy was originally defined as the study of the "transition from the biosphere to the lithosphere", with the larger goal of using knowledge of fossil preservation to reconstruct plant and animal communities through geological time. Since its beginnings in the 1940's, the field has generated a wealth of new understanding about taphonomic processes and biases in both modern ecosystems and fossil-bearing strata through 3.5+ billion years of life on our planet and is contributing to the search for life on Mars. In human evolution, taphonomy provides evidence and perspectives on how and where our ancestors lived and died, their changing ecological roles, and our recent emergence as a global-scale ecosystem engineer.
Bio: Research curator in the Department of Paleobiology, 1993-1996. Associate Director for Research and Collections, Evolution of Terrestrial Ecosystems Co-Director, and Deep Time Lead Scientist at the

National Museum of Natural History, Smithsonian Institution, Washington DC. Pioneer in the field of taphonomy and interdisciplinary methods for understanding the fossil record of land organisms and reconstructing past ecosystems, with special focus on human origins in Africa. Over 170 peer-reviewed publications and 7 edited volumes. Recent awards: R.C. Moore Medal (2016-SEPM), Romer-Simpson Medal (2018-Society of Vertebrate Paleontology), Paleontological Society Medal (2018), and the G.K. Warren Prize (2019-National Academy of Sciences). Elected to the National Academy of Sciences in 2020.