

OSIRIS-REx Video Nabs Top Honor

In April 2019, Dan Gallagher (130/USRA) along with Rob Andreoli and John Caldwell were named NASA's "Videographers of the Year" with their first-place video "Arriving at Asteroid Bennu". This was announced at the National Association of Broadcasters (NAB) Conference in Las Vegas, NV, where Wade Sisler (130/GSFC) accepted the award on their behalf. The video is available at <https://svs.gsfc.nasa.gov/12166>. Credits for this video include the following: Producer and Editor: Dan Gallagher; Videographers: Rob Andreoli and John Caldwell; Animators: Walt Feimer, Michael Lentz and Kel Elkins.

Dan Gallagher and Kel Elkins work with the Scientific Visualization Studio, and Michael Lentz contributed much animation work on the part of the Conceptual Image Lab. The Bennu video was up against competition where the subjects included Mars landings and International Space Station events.

OSIRIS-REx, which stands for Origins, Spectral Interpretation, Resource Identification, and Security – Regolith Explorer, launched in 2016 and arrived at Bennu in December 2018. In the time since this award was presented, in June 2019, "NASA's OSIRIS-REx spacecraft entered its second orbital phase around asteroid Bennu, called Orbital B, and broke its own world record for the closest orbit of a planetary body. The spacecraft moved into a circular orbit 0.4 miles (680 meters) above Bennu's surface. The previous record was set by OSIRIS-REx on Dec. 31, 2018, when the spacecraft flew 0.8 miles (1.33 km) above the asteroid's surface during Orbital A phase. ... In mid-August, OSIRIS-REx will transition to Orbital C for additional particle observations. During Orbital C, the spacecraft will be approximately 1.3 kilometers (0.8 miles) above the asteroid's surface." (Credit: Erin Morton, asteroidmission.org).

To learn more about the Scientific Visualization Studio and CI Lab, visit <https://svs.gsfc.nasa.gov/> and <https://svs.gsfc.nasa.gov/cilab/index.html>. To follow the OSIRIS-REx mission and discoveries, follow <https://www.asteroidmission.org/>.

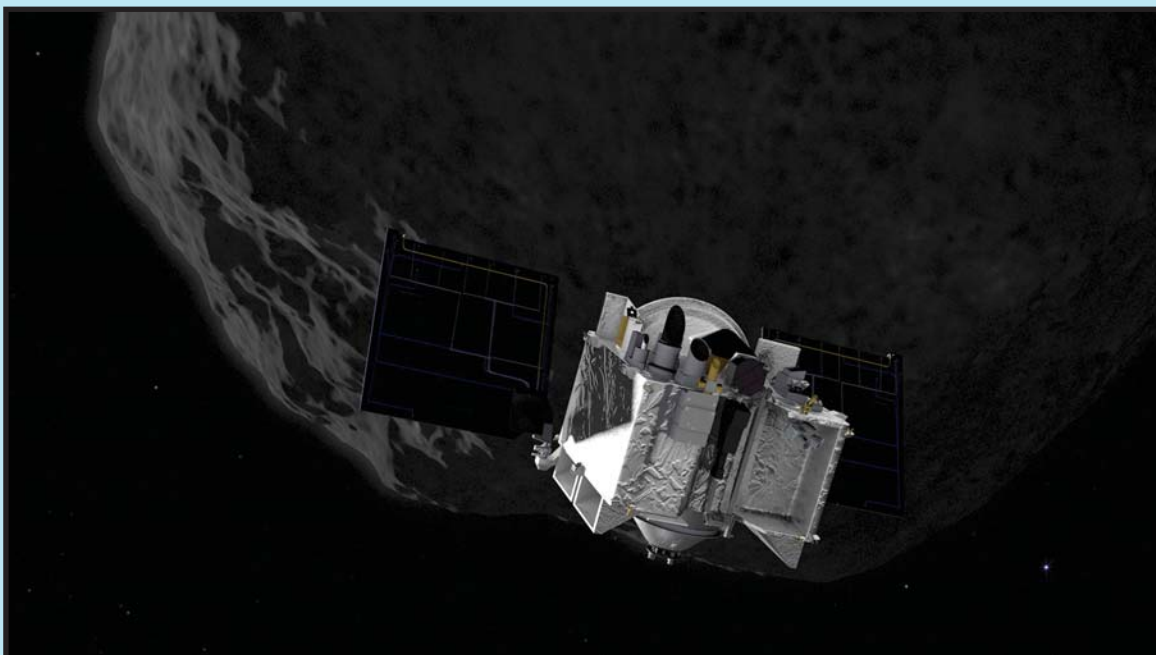


Image of OSIRIS-REx arriving at asteroid Bennu. (Credit: NASA Goddard Space Flight Center)

Awards

The OMI International Team won the 2018 Pecora Group Award. People involved in OMI calibration, product development, and validation are part of this award, and one of them is **Lok Lamsal** (614/USRA). They were recognized “For fifteen+ years of sustained team innovation and international collaboration to produce daily global satellite data that revolutionized air quality, stratospheric chemistry, and climate research.” Read more at <https://www.usgs.gov/news/pecora-award-honors-excellence-earth-observation>.

Two USRA members were recognized with 2018 Robert H. Goddard Honor Awards. For the Earth Science Division, **Adriana Manrique** and **Ryan Fitzgibbons** (both USRA/130) were recognized as part of the ICESat-2 Outreach Team, led by Valerie Casasanto.

In March, the GMAO (610.1) held its annual Peer Awards Ceremony. **Min-Jeong Kim** (USRA) was recognized for Scientific Achievement: “For her essential contributions to GMAO’s assimilation of the GPM Microwave Imager (GMI) observations into GMAO’s Forward Processing (FP) system.” **Brad Weir** (USRA) also was recognized for Scientific Achievement: “For successfully implementing Microwave Limb Sounder constituent data assimilation in the GEOS-DAS with a full stratospheric chemistry model, coding the assimilation capability for stratospheric water vapor, HCl, HNO₃ and N₂O, and conducting highly effective testing and tuning.”

In May, **Andy Sayer** (616/USRA) was named one of AGU’s Outstanding Reviewers of 2018 (for JGR Atmospheres): <https://eos.org/agu-news/in-appreciation-of-agus-outstanding-reviewers-of-2018>.

In June, two USRA members received 2019 NASA Honor Awards. **Fei Liu** (614/USRA) received an Exceptional Scientific Achievement Medal, and **Virginie Buchard** (610.1/USRA) was one of the members of the MERRA-2 Science Team, who won a 2019 Agency Honor Award for Group Achievement.

maniac talks

GESTAR thanks the following scientists who recently participated in this series:

Mark Clampin (Director, Sciences and Exploration Directorate, NASA GSFC) – March 2019
Nick White (Senior V.P. for Science, Universities Space Research Association (USRA)) – April 2019
Edward W. Rogers (Chief Knowledge Officer, NASA GSFC) – April 2019
H. Jay Zwally (Senior Research Scientist, University of MD, College Park) – May 2019
Jennifer Wiseman (Senior Project Scientist for the Hubble Space Telescope, NASA GSFC) – May 2019
Stephen Jurczyk (NASA Associate Administrator, NASA HQ) – June 2019

Previous talks are available online: <http://atmospheres.gsfc.nasa.gov/ext/maniacs/>. For more information about the Maniac Talk series, contact **Charles Gatebe** (613/USRA).

New Hires

GESTAR welcomes the following members:
Alexandra Brosius, Visiting Research Assistant, Science
Verity Flower, Scientist, Earth Sciences
Katherine Jepson, Visiting Multimedia Specialist, Producer
Paul Morris, Multimedia Specialist, Producer
Alka Singh, Visiting Postdoctoral Researcher, Science
Inia Soto Ramos, Scientist, Earth Sciences

Moving On

Genna Duberstein
Katrina Jackson
Dagmar Morgan (off to a new endeavor in Arizona)
Yingxi Shi (JCET/UMBC)

USRA turns 50

On March 12, across all institutes and programs, USRA employees celebrated the 50th anniversary of Universities Space Research Association's founding: March 12, 1969. From USRA Headquarters in Columbia, MD, Dr. Jeff Isaacson, CEO, hosted the celebration virtually with a synchronized cake cutting. GESTAR-USRA celebrated in Building 33, Room H114, and attendees received a commemorative 50th anniversary memento. Furthermore, USRA Senior Advisor and Historian Dr. David Cummings wrote "Developments in Space Research: Highlights of USRA's Achievements", a spectacular book that is available to all USRA employees.



A central part of any festivity: the cake! (Credit: A. Espiritu)

Science Highlights

2018 & 2019 – Atmospheric Sciences

March - "How much extra smoke can be retrieved from MODIS during the 2015 Indonesia fire event?" by **Y. Shi**, R. Levy, S. Mattoo, T. Eck, B. Fisher, I. Slutsker, L. Remer, and J. Zhang.

April - "The subgrid variability of precipitation in different cloud systems" by **J. Tan** and L. Oreopoulos.

May - "Nonparametric Methodology to Estimate Precipitating Ice from Multiple-Frequency Radar Reflectivity Observations" by **M. Grecu**, L. Tian, G. Heymsfield, A. Tokay, W. Olson, A. J. Heymsfield, and A. Bansemer.

June - "Modified Dual-Wavelength Technique for Ku- and Ka-band Radar Improves Rain Retrievals" by **L. Liao** and R. Meneghini.

June - "Cloud Observations from DSCOVER EPIC" by **Y. Yang**, K. Meyer, G. Wind, **Y. Zhou**, A. Marshak, and S. Platnick.



We'll call this one "Ask me about USRA." Brad Weir of GMAO sips from his commemorative mug while perusing Dr. Cummings' book, and sporting a USRA cap from a previous event. (Credit: C. Rousseaux)



2018 & 2019 – Hydrosphere, Biosphere, & Geophysics

March - "Modeling results show future snow field campaigns should focus on tundra/taiga regions and Pacific coastal mountains" by C. Vuyovich, S. Kumar, **R. S. Kim**, et al.

June - "Using Citizen Science to Expand the Global Map of Landslides" by C. Juang, T. Stanley, and D. Kirschbaum.

Note, there were none for April-May for GESTAR members.

In The Press

In March, the Earth Observatory worked with Ralph Kahn and **Verity Flower** (613/USRA) on "How the Smoke Rises", which details the use of MISR cameras in tracking changes in smoke plumes from the Camp Fire in Northern California in November 2018: <https://go.nasa.gov/2FjnWdr>. (Prior to joining GESTAR, **Dr. Flower** was profiled in the Jan-Feb issue of Goddard View: <https://www.nasa.gov/sites/default/files/atoms/files/goddardviewv15i-1online.pdf>.)

NASA's Earthdata profiled **Ludovic Brucker** (615/USRA) and the dataset he produced along with his membership in the NSIDC User Working Group, the NASA data center for cryospheric observations. Find this April 2019 feature at <https://earthdata.nasa.gov/user-resources/who-uses-nasa-earth-science-data-user-profiles/user-profile-dr-ludovic-brucker>.

The *Nature* article titled "Global Disease Outbreaks Associated with the 2015-2016 El Nino Event" by **Assaf Anyamba** and **Radina Soebiyanto** (both 618/USRA) has continued to receive press coverage. In April, it was an NIH/National Institute of Environmental Health Sciences' Research Spotlight (https://www.niehs.nih.gov/research/programs/geh/geh_newsletter/2019/4/spotlight/global_disease_outbreaks_enhanced_by_el_nio.cfm) and was featured in the Smithsonian magazine (<https://www.smithsonianmag.com/science-nature/how-scientists-use-climate-models-predict-mosquito-borne-disease-outbreaks-180972150/>). In May, their article was a weekly highlight by climate.gov: <https://www.climate.gov/news-features/blogs/enso/enso-and-your-health-how-2015-16-el-ni%C3%B1o-led-early-warnings-global-disease>.

Andrew Swanson (614/USRA) was part of a Goddard feature on Rapid Ozone Experiment (ROZE): <https://www.nasa.gov/feature/goddard/2019/nasa-instrument-to-more-accurately-measure-ozone-discovered-by-accident>.

Saulo Freitas (610.1/USRA) was a co-author of a GMAO Science Snapshot on "Convection in the GEOS Model": https://gmao.gsfc.nasa.gov/research/science_snapshots/2019/scale-aware_convection.php. See photo at right.

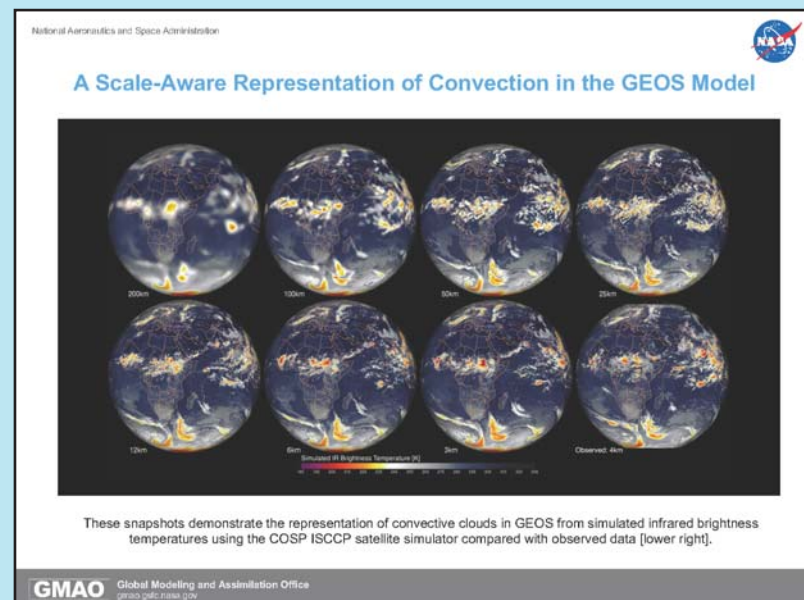
Susan Strahan (614/USRA) was quoted in a May post in Yale Environment 360: <https://strangebehaviors.wordpress.com/2019/05/26/hello-china-youre-wrecking-the-ozone-layer-all-over-again/>.

In May, **Rick Lawford** (617/MSU) led a discussion paper on the W-E-F Nexus titled "A Design for a Data and Information Service to Address the Knowledge Needs of the Water-Energy-Food (W-E-F) Nexus and Strategies to Facilitate Its Implementation" that was published by Frontiers: <https://doi.org/10.3389/fenvs.2019.00056>.

Jin Liao (614/USRA) was featured in a Goddard Profile in June titled "Atmospheric Scientist Helping Combat Pollution in China". See <https://www.nasa.gov/feature/goddard/2019/jin-liao-atmospheric-scientist-helping-combat-pollution-in-china>.

Also in June, **Dalia Kirschbaum** (617/GSFC) and **Thomas Stanley** (617/USRA) were informed their article "Satellite-Based Assessment of Rainfall-Triggered Landslide Hazard for Situational Awareness" was one of Earth's Future's top downloaded recent papers. See <https://doi.org/10.1002/2017EF000715>.

Ivona Cetinic (616/USRA) was featured in a June 7th EOS article. Check it out at <https://eos.org/features/women-in-oceanography-still-navigate-rough-seas>.



Recent Publications

Abad, G., A. Souri, J. Bak, K. Chance, L. Flynn, N. Krotkov, L. Lamsal, C. Li, X. Liu, C. Miller, C. Nowlan, R. Suleiman, and H. Wang (2019), Five decades observing Earth's atmospheric trace gases using ultraviolet and visible backscatter solar radiation from space, *Journal of Quantitative Spectroscopy & Radiative Transfer (JQRST)*, <https://doi.org/10.1016/j.jqsrt.2019.04.030>.

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roducing the Cooperative Open Online Landslide Repository (COOLR), *PLOS ONE*.

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Tan, I., L. Oreopoulos, and **N. Cho** (2019), The role of thermodynamic phase shifts in cloud optical depth variations with temperature, *Geophys. Res. Lett.*, in press, <https://doi.org/10.1029/2018GL081590>.

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(Publications, cont'd)

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Yang, Y., K. Meyer, G. Wind, Y. Zhou, A. Marshak, S. Platnick, Q. Min, A. B. Davis, J. Joiner, A. Vasilkov, D. Duda, and W. Su (2019), Cloud Products from Earth Polychromatic Imaging Camera (EPIC) observations: Algorithm and Initial Evaluation, *Atmos. Meas. Tech.*, <https://doi.org/10.5194/amt-2018-316>.

Ziemke, J., L. Oman, S. Strode, et al. (2019), Trends in global tropospheric ozone inferred from a composite record of TOMS/OMI/MLS/OMPS satellite measurements and the MERRA-2 GMI simulation, *Atmos. Chem. Phys.*, Vol. 19, [doi:10.5194/acp-19-3257-2019](https://doi.org/10.5194/acp-19-3257-2019).

GESTAR Celebration

As of May 11, 2019, GESTAR began its ninth year!

We will be celebrating our 8th anniversary belatedly in the fall. Mark your calendars for **October 2, 2019!**

Be sure to check out all of GESTAR's research, visualizations, communications, awards, engagement, etc., in the GESTAR Annual Report for 2018 – 2019: <https://gestar.usra.edu/about-gestar/annual-reports/>.

Here's to another fantastic year ahead!

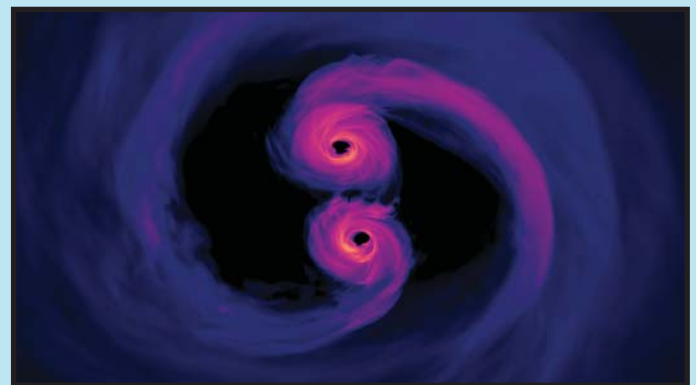


Image from "New Simulation Sheds Light on Spiraling Supermassive Black Holes," lead producer Scott Wiessinger. (Credit: NASA Scientific Visualization Studio.)

The GESTAR Team:

Universities Space Research Association (USRA), Morgan State University (MSU), I.M. Systems Group (IMSG), Global Science & Technology, Inc.(GST), and Science and Technology Corporation (STC).

Visit us at <https://gestar.usra.edu/>.

The GESTAR Newsletter is published by GESTAR/USRA. Any comments/suggestions/ideas can be forwarded to Amy Houghton, Editor at ahoughton@usra.edu.

