

AN EVENING WITH NASA SCIENTISTS AND ENGINEERS: A SENIOR LIVING COMMUNITY OUTREACH PROGRAM. S. L. Tiedeken^{1,2}, F. W. Tan³, A. J. Jones¹. ¹NASA's Goddard Space Flight Center (8800 Greenbelt Rd., Greenbelt, MD 20771, staci.l.tiedeken@nasa.gov), ²ADNET Systems, Inc. (6720B Rockledge Drive, Suite #504, Bethesda, MD 20817), ³NASA Headquarters (300 E St SW, Washington, D.C. 20546).

Introduction: An Evening with NASA Scientists and Engineers is an outreach program for senior living communities, where participants learn from and interact with a scientist or engineer in a virtual setting. Participants learn about NASA science and engineering through a behind-the-scenes look from the people who work at NASA. The program focuses on both the stories behind the discoveries *and* the stories behind the people.

The audience tunes in to the events via the NASA Zoom Webinar platform, where they have the opportunity to ask questions throughout the approximately 30-minute program. By bringing the audience into the conversation, we build rapport and thus improve their connection with NASA.

Overview: An Evening with NASA Scientists and Engineers began in September 2020 when we identified a need for outreach to this particular demographic, as senior living communities had been hit especially hard by the COVID-19 pandemic. The program covers a wide range of topics, including heliophysics, astrophysics, planetary science, Earth science, planetary defense, and more, depending on what is topically appropriate at the time, and occurs on a roughly monthly basis.

Each interactive presentation is between 20-25 minutes with 5-10 minutes of dedicated Q&A. Future dates and topics may change depending on new developments to NASA missions and stories.

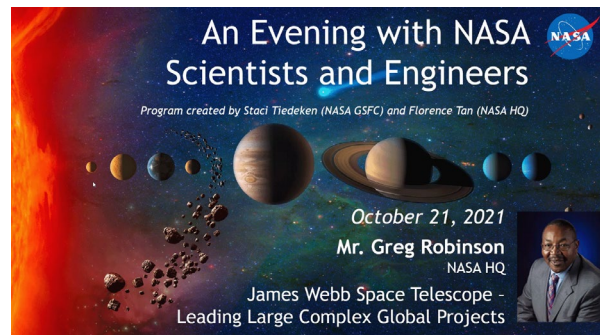


Figure 1: The introductory slide template that is displayed before each senior outreach event begins.

Audience: As of December 2021, we have four regularly attending senior living communities, spanning the East Coast from New Hampshire to Florida, with each joining the overall program at various stages of its development. The ability to reach

many different senior living communities is crucial so that a diversity of people may benefit from this program.

The audience consists of seniors with varying experience and comprehension levels – some are very familiar with the sciences while others are simply curious to learn more. Residents tune in to each event from their individual rooms or from their larger community rooms.

RiverWoods Exeter. The RiverWoods Exeter community was our initial audience who acted as our “guinea pig” to see how this program might be implemented and to work out any major issues. They are located in Exeter, NH but also have two additional campuses in Durham, NH and Manchester, NH, that joined us a few months into the program.

Culpepper Garden. Our second community to join the program was Culpepper Garden, a senior living community in Arlington, VA that provides both independent and assisted living housing to low-income seniors.



Figure 2: Residents of Culpepper Garden listening to NASA GSFC planetary scientist Yasmina Martos, our August 2021 speaker. Credit: Culpepper Garden

Edinburgh Square. Our third community, Edinburgh Square, connected with us after hearing about the program through Culpepper Garden. Edinburgh Square is an HUD-subsidized retirement community in Roanoke, VA that houses both seniors and those living with disabilities.

Moonstruck Astronomy Club. The Moonstruck Astronomy Club consists of residents from the On Top of the World retirement community in Ocala, FL and was the latest senior living community to join us.

NASA Zoom Webinar: An Evening with NASA Scientists and Engineers reaches numerous senior living communities through live presentations that we host using the NASA Zoom Webinar virtual platform. Participants are typically already familiar with the Zoom platform which enables a lower barrier to entry.

A recording of each talk is added to a designated video playlist on the NASA STEM YouTube channel so that audiences worldwide may view them [1]. These recordings began with our April 1, 2021 presentation, as this was when NASA Zoom Webinar was implemented, thus enabling us to record each talk.



Figure 3: A screenshot of one of our speakers, NASA MSFC technologist Les Johnson (top left), and program coordinators Staci Tiedeken (top right) and Florence Tan (bottom) during our July 2021 event.

Metrics: We record attendance numbers from the senior living communities for each event as well as those from YouTube views after the presentation recording is posted online. Depending on which communities tune in, typical attendance numbers are between 60-100 people. RiverWoods Exeter has the most regularly attending residents, with an average of 55 attendees per event.

As of December 2021, we have hosted fourteen events, nine of which were recorded and posted to our designated NASA STEM YouTube Channel playlist. The nine recordings combined have roughly 4,000 YouTube views thus far, with specific videos seeing higher view counts around launch dates (e.g. NASA’s DART mission) and trending topics (e.g. JWST). A list of speakers, topics, and links to presentation recordings is shown in Table 1.

Future Program Expansion: Thus far, we have been adding communities on an individual basis. To make this process more streamlined, we are looking into working with senior living community networks and organizations such as LeadingAge [2]. In this manner, we will be able to reach more communities while also making it easier to send and receive relevant information.

Date	Speaker/Affiliation	Topic
9/10/20	Florence Tan, NASA HQ	NASA Missions and the Future of Space Access
10/14/20	Jason Dworkin, NASA GSFC	OSIRIS-REx
12/3/20	Sarah Valencia, NASA GSFC	Lunar Samples
1/21/21	Trena Ferrell, NASA GSFC	Earth Science Overview
2/11/21	Michael Meyer, NASA HQ	Mars & Perseverance Rover
4/1/21	Prabal Saxena, NASA GSFC	Roadside Galactica – Planetary Pit Stops
5/5/21	Marty Gilmore, Wesleyan University	Venus – One Fate of a Habitable World
5/19/21	Katie Stack Morgan, JPL	Mars 2020 Update
7/15/21	Les Johnson, NASA MSFC	Sailing on Sunlight
8/5/21	Yasmina Martos, NASA GSFC	Juno Mission (10 years at Jupiter)
9/9/21	Phil Dabney, NASA GSFC	Landsat 9 (9/23 launch)
10/7/21	Keith Noll, NASA GSFC	Lucy Mission (pre-launch)
10/21/21	Greg Robinson, NASA HQ	JWST (12/18 launch)
11/18/21	Tom Statler, NASA HQ	DART (11/24 launch)

Table 1: A full list of our speakers, topics, and presentation recordings since program inception. Colors indicate the following themes: purple = planetary science, green = Earth science, blue = astrophysics, yellow = heliophysics, orange = planetary defense.

References: [1] NASA STEM YouTube Channel (2021), <https://youtube.com/playlist?list=PLTUZypZ67cdt-5O2qeuyh7ImQkK7QLqwL>. [2] LeadingAge (2021), <https://leadingage.org/>.