



NATIONAL  
ENDOWMENT  
FOR THE  
HUMANITIES

## **Narrative Section of a Successful Application**

The attached document contains the grant narrative and selected portions of a previously-funded grant application. It is not intended to serve as a model, but to give you a sense of how a successful application may be crafted. Every successful application is different, and each applicant is urged to prepare a proposal that reflects its unique project and aspirations. Prospective applicants should consult the current Landmarks guidelines, which reflect the most recent information and instructions, at <https://www.neh.gov/grants/education/landmarks-american-history-and-culture-workshops-school-teachers>

Applicants are also strongly encouraged to consult with the NEH Division of Education Programs staff well before a grant deadline.

Note: The attachment only contains the grant narrative and selected portions, not the entire funded application. In addition, certain portions may have been redacted to protect the privacy interests of an individual and/or to protect confidential commercial and financial information and/or to protect copyrighted materials.

Project Title: *The Space Age on the Space Coast*

Institution: National Council for History Education, Inc.

Project Director(s): Matt Missias

Grant Program: Landmarks of American History and Culture

## *The Space Age on the Space Coast*

### **Narrative**

**Nature of the Request:** The National Council for History Education (NCHE) proposes partnering with the Astronauts Memorial Foundation (AMF) at Kennedy Space Center on a National Endowment for the Humanities Landmarks of History and Culture Grant project, entitled *The Space Age on the Space Coast*. The two workshops funded by this grant, which will take place from July 11<sup>th</sup> - 15<sup>th</sup> 2022 and July 25<sup>th</sup> - 29<sup>th</sup> 2022, will focus on the unique history and culture of Florida's Space Coast. This project will allow K-12 educators of multiple disciplines from around the country to explore the ways in which politics, science, and culture collided in a unique geographical location in the 1950s, 1960s, and 1970s, and where they continue to intersect today. Educators will collaborate to create a resource website about the Space Coast, complete with lessons, oral histories, and primary and secondary sources. Two different workshop groups, each with 36 educators, will gather at AMF, where they will interact with historians, education specialists, astronauts, and engineers, while exploring some of the places that changed the course of United States history.

### **Intellectual Content and Significance**

The history of Florida's Space Coast as an iconic landmark dates back to the 1950s, when the United States launched its first satellite, *Explorer 1*, in January 1959. The launch of this satellite marked America's entry into the Space Race with the Soviet Union, which ended in July 1969 with the landing of *Apollo 11* on the surface of the Moon. Since then, the Space Coast has facilitated the exploration of the Solar System with the *Voyager* program and the surface of Mars with the *Curiosity* and *Opportunity* rovers; the thirty-year long scientific mission of the Space Shuttle program; the launch of the Hubble Space Telescope to record images of the larger Milky Way Galaxy, the construction of the International Space Station; and most recently, the return to

American space flight through NASA's partnership with SpaceX. The Space Coast is—first and foremost—the starting point for America's exploration of the universe.

From an historical standpoint, the major space activities launched from the Space Coast are part of the national narrative related to the Cold War, framed as a technological competition between the United States and the Soviet Union. The launches themselves were physical manifestations of that rhetoric, but the scientific and technological requirements also infused the national conversation with the country's political standing in the world—particularly as it related to education. Much of the emphasis on Science, Technology, Engineering and Mathematics (STEM) education is a direct descendent of the National Defense Education Act that was passed in 1958 in response to the launch of *Sputnik 1*. The narrative of the Space Race feeds into several larger themes: politics of the Cold War and why NASA was created in the first place; the history of education in the United States, with an emphasis on STEM in the 20<sup>th</sup> century (consider the role science fairs play in the history of American education); and the role of presidential leadership in the space program (and big science/technology generally). These themes will be explored through the project's workshops.

These workshops will also explore the relationship between both race and gender and the space program. In July 1969 when the *Apollo 11* crew was about to launch its mission toward the Moon, civil rights leader Ralph Abernathy and some of his followers protested NASA's use of funds to explore space when Black Americans were facing ever-growing poverty and the challenges of disenfranchisement. This theme is particularly relevant today and ties into the Space Coast's own storied history related to the Civil Rights Movement. In 1951, civil rights advocate Harry T. Moore and his wife Harriette (a teacher) were killed in a bombing of their house in Mims, Florida (just north of Titusville, Brevard County). Moore had been a local chapter president of the NAACP and had been working to register fellow African Americans to

vote. His death was one of the first prominent assassinations during the Civil Rights Movement. We propose to take participants on a tour of the site of the Moore home, now the Harry T. and Harriette V. Moore Cultural Complex. Dr. Robert Cassanello, a historian from the University of Central Florida whose team produced a documentary on the Moores, will speak to participants on the topic of race in Florida and the legacy of the Moores.

With regard to gender and space, the United States experienced another “loss” in a string of losses during the Space Race when the Soviets launched Valentina Tereshkova aboard *Vostok 6* in June 1963. The United States did not launch its first female astronaut for another twenty years, when Sally Ride flew aboard *STS-7* in June 1983. That begs the question, “Why did it take the United States so long to launch its first female astronaut?” Dr. Amy Foster, who teaches Space History at the University of Central Florida and can provide much of the historical context for the history of the Space Coast, has researched this very question. Dr. Foster will explore with participants the historical, cultural, and technological reasons why it wasn’t until the Shuttle program that women joined the ranks of NASA’s astronaut corps.

The Apollo program provided us with our first image of Earth, thus leading to a new appreciation of the Earth as a living system. This led to the first Earth Day in 1970 and the resulting environmental movement. It is fitting then that the Space Coast shares its location with local and migratory wildlife. NASA’s Kennedy Space Center is located on Merritt Island. Much of the island was set aside as the Merritt Island National Wildlife Refuge as part of the agreement between NASA and the National Park Service when the new spaceport was built in the 1960s. Because the land is shared by two seemingly dichotomous entities—one representing high technology and the other untouched nature—the partnership speaks loudly to the possibility of harmony between nature and technology, when constructed on the foundation of mutual

respect. The refuge is a hidden treasure of the Space Coast and will be a site of interest to participants.

The Space Coast as a landmark provides an opportunity to talk about historical themes such as politics and political leadership, race and gender, technology and environmental history. The history of the space program and its importance to the Space Coast community continues to be relevant *because* these themes are ongoing in American society, and make up a significant part of American history, past and current. Educators grapple with these themes in classrooms every day, and rarely get to address them in a way that brings together science and the humanities. The Space Coast will give educators a unique laboratory in which to consider historical themes through place-based learning. It will also give them a chance to consider broader humanities questions about the relationships between, place, technology, culture, and justice.

### **Relevance and Applicability for the K-12 Curriculum**

The proposed themes are relevant throughout curricula in schools in the United States. While education in the United States tends to be siloed, the Space Coast provides opportunities for educators from a range of disciplines to work together. Science teachers will gain much to share in their physics and biology classes, especially as they get the opportunity to question astronauts and engineers who worked on the Space program, and to explore Merritt Island National Wildlife Refuge. Language Arts teachers will gain important cultural context for teaching the literature of the 1950s and 1960s, science fiction, and space-related presidential speeches. Social Studies teachers will find rich resources to teach history and geography through a lens of place and time. Elementary teachers, who must cover a wide variety of topics in one classroom, will find that the Space Coast offers them a lens through which to teach math, science, language arts, and social studies in one unit.

While the program will be open to all educators and will encourage cross-disciplinary work, NCHE is grounded in the discipline of history. With NCHE's large network of educators across the country, it can be expected that many attendees will be history and social studies teachers. The Space Coast supplies a unique opportunity for these teachers to enhance their knowledge of engineering, astronomy, and ecology while still meeting curricular objectives. In terms of content, most school districts address the history of the 1950's and 1960s in high school United States History Classes. High school United States History teachers can expect to teach the Cold War, the Civil Rights Movement, and the Women's Rights movement. They must teach about Dwight D. Eisenhower, John F. Kennedy, and Richard Nixon. The Space Coast provides a unique environment where all of these threads come together. The Space Coast is also an incredible learning lab for civics and government teachers seeking to understand the intersection between government, politics, technology, and culture. Civics is taught throughout elementary school and often in 8<sup>th</sup> and 10<sup>th</sup> grades.

Though content objectives are important, experiential learning provides educators with the opportunity to build their pedagogical practices, as well. Experiential learning covers a group of approaches, including project-based and inquiry learning, that put learners directly in contact with what is being studied. The Space Coast presents a wealth of historical themes such as politics, race and gender, and technology, to name a few. This, combined with the College, Career, & Civic Life Framework, hereafter C3 Framework—which emphasizes historical thinking as central to the promotion of reading and writing in school—will challenge teachers to reexamine their instructional practices. The C3 Framework's objectives are to:

- 1) enhance the rigor of the social studies disciplines;
- 2) build critical thinking, problem solving, and participatory skills to become engaged citizens; and;

3) align academic programs to the Common Core State Standards for English Language Arts and Literacy in History/Social Studies.

These objectives are guiding principles for the project, and applying the C3 Framework to experiential learning on the Space Coast will not only expand participants' understanding of American history but also enhance their appreciation of how to effectively incorporate these strategies within and beyond the normal classroom setting.

The C3 Framework is comprised of “four dimensions” that center on the use of questions to spark curiosity, guide instruction, deepen investigations, acquire rigorous content, and apply knowledge and ideas in real world settings to become active and engaged citizens in the 21st century. In the first dimension, students learn to ask questions and frame inquiry. Presented with a wealth of resources and experts, educators at this workshop will develop questions that they want to explore, particularly questions that they wish to ask the astronauts and engineers who will be speakers. Educators will also frame an essential question that will drive the inquiry lesson that they develop at the start of the workshop. They will be supported in developing inquiries by Project Director Dr. Matt Missias, the Education Coordinator at NCHE, who is also a professor of K-12 social studies.

The second dimension of the C3 Framework focuses on applying disciplinary skills and concepts. Dr. Foster will walk participants through the work that historians do in order to analyze interviews, documents, objects, places, and secondary sources. Participants will build their historical knowledge through lectures by Dr. Foster and historians like Dr. Ben Brotemarkle of the Florida History Society, presentations by NASA veterans and historians, and field trips to the Harry T. and Harriette V. Moore Cultural Complex, Canaveral Air Force Base, and the Apollo/Saturn V Rocket Center. Teachers will record oral histories, gather primary sources, read assigned monographs, and will then do the work of making these materials accessible to

students. While teachers may not be able to take students to the Space Coast, they will bring home the skills they need to help students do the work of historians in their own towns.

The third dimension of the C3 Framework stipulates that students will evaluate sources and use evidence to develop claims. Participating educators will learn to analyze documents using the Library of Congress document analysis tools. They will also investigate the ways in which historians like Dr. Foster make claims in their research, and also how the aforementioned cultural institutions use evidence to craft narratives and claims in their exhibitions.

Finally, the fourth and last dimension of the C3 Framework calls for students to be able to communicate their conclusions and take informed action. Educators participating in this workshop will see how historical actors did exactly that as they built airfields, designed space crafts, fought for justice, and preserved habitat. By creating a website about Space Coast history, featuring oral histories of NASA veterans like engineer and former Kennedy Space Center director Jay Honeycutt, and astronaut Frederick Drew Gregory, participants will share the results of their work during the workshop as well as reflect on their individual and collective capacities to enact these strategies in their own classrooms.

**Program of Study:** *The Space Age on the Space Coast* workshops will take place from July 11<sup>th</sup>-15<sup>th</sup>, and July 25<sup>th</sup> -29<sup>th</sup>, 2022. Each day of the program will focus on a relevant theme. Teachers will work with historians, education specialists, and space experts to learn the history of the Space Coast, and will take experiential field trips related to the project's theme. Through the workshop, they will develop inquiry lessons to post on the project website and to take back to their classroom. They will also capture oral histories and take pictures of objects that can be added to the website as resources for other teachers.

*Prereading: Butler, Orville, and Lipartito, Kenneth, A History of the Kennedy Space Center (University Press of Florida, 2007)*

## **Day One: International Politics on the Space Coast**

**Thematic Questions:** How did the international politics of the Space Race shape the Space Coast? How did the geography of the Space Coast contribute to the Space Race?

**Reading:** Middleton, Sallie. "Space Rush: Local Impact of Federal Aerospace Programs on Brevard and Surrounding Counties." *Florida Historical Quarterly* Vol. 87, No. 2 (Fall 2008): 258-289.

Educators will arrive at the Astronaut Memorial Foundation (AMF) facility, located on the grounds of Kennedy Space Center at Cape Canaveral. They will be introduced to Project Director and NCHE education coordinator Dr. Matt Missias and Lead Scholar space historian Dr. Amy Foster. Dr. Foster will begin the day with an introduction to the geography and history of the Space Coast, and with an exploration of the Cold War and the Space Race, with particular attention to why Kennedy Space Center came to be built on Cape Canaveral. Dr. Missias will discuss the process of developing compelling questions and explain how teachers will create the inquiry lesson. Teachers will work in groups to develop appropriate questions for their interviews of key players in space exploration during live webinars on Wednesday and Thursday nights.

After lunch at Kennedy Space Center's Visitor Complex, where free admission and access will be provided to participants all week courtesy of the AWF, teachers will take a bus to tour the Apollo/ Saturn V Rocket Center. Upon returning to AMF, they will end the day with a presentation by former Kennedy Space Center Director, Jay Honeycutt.

## **Day Two: The Space Coast in Education and Culture**

**Thematic Questions:** How does geography impact technology? How does technology impact culture? How do international relations impact education and culture?

**Reading:** Weitekamp, Margaret A. "Selling Education in the Shape of a Shuttle." *Florida Historical Quarterly* Vol. 87, No. 2 (Fall 2008): 210-234.

On Day Two, Dr. Foster will begin with a discussion of the interplay between presidential leadership during the Space Race, education, and culture. She will focus on Presidents Eisenhower, Kennedy, and Nixon, and reference the growth of STEM education as a result of the Space Race. She will also describe the effect that technology had on the Space Coast, including literature and design. Dr. Missias will instruct teachers on how to find primary sources to use in their classrooms, including documents from *Chronicling America*, the Library of Congress, the National Archives, and NASA digital resources. Dr. Missias will discuss how to build a strong document set when crafting an Inquiry lesson. Teachers will also generate questions to ask the space engineer or astronaut who will join them for a live webinar on Wednesday night.

Following lunch on the grounds of Kennedy Space Center, teachers will board a bus to travel to the Canaveral Space Force Base, formerly the Canaveral Air Station, where early astronauts like John Glenn and Buzz Aldrin trained. Dr. Ben Brotemarkel, Executive Director of the Florida Historical Society, will guide the trip. As they visit sites of earlier settlements and explore places such as the 150-year-old Cape Canaveral Lighthouse, now owned by the U.S. Space Force and still actively used for navigation by the U.S. Coast Guard, participants will gain a sense of why the geography of the Space Coast made it ideal for space launches. Finally, they will discuss the role astronauts and their families played in popular culture as they visit the beach house where astronaut families stayed during launch events.

### **Day Three: The Space Coast and the Civil Rights Movement**

**Thematic Questions:** How can experiencing place impact our understanding of justice movements? How was the Civil Rights Movement experienced on the Space Coast?

**Readings:** *Green, Ben. Before His Time: The Untold Story of Harry T. Moore, America's First Civil Rights Martyr. New York: The Free Press, 1999*

*Odom, Brian C. and Stephan P. Waring, eds. NASA and the Long Civil Rights Movement. Gainesville: University Press of Florida, 2019.*

Day Three will begin with an introduction to the Civil Rights Movement in Florida, and the Space Coast, by Dr. Robert Cassanello. He will focus on the life and death of Harry and Harriette Moore, civil rights activists from Titusville who were murdered in a bombing in 1951. There were eleven bombings targeting Florida civil rights' workers in 1951. Dr. Foster will use this place-specific discussion of the Civil Rights Movement to highlight NASA and racial justice, from Ralph Abernathy's protests of the moon launch to the pioneering work of black astronauts like Colonel Frederick Drew Gregory and Dr. Mae Jamison. Col. Gregory, the first African American Astronaut, works with AMF frequently, and hopes to speak with teachers on this day. Dr. Missias will lead teachers in a discussion of how to analyze primary documents related to NASA and the Civil Rights Movement. He will use sourcing techniques, and introduce teachers to tools from the Library of Congress and Stanford History Education Group. After lunch on the grounds of Kennedy Space Center, teachers will board a bus to visit the Harry and Harriette Moore Cultural Complex where they will learn more about civil rights work on the Space Coast and contemporary efforts toward racial justice.

In the evening, teachers will broadcast a Zoom webinar in which they interview an astronaut scientist who was pivotal to the early history of NASA, like Dr. Charles Camarda. AMF has committed to arranging this interview based on whose story still needs to be digitized at the time of this workshop. The webinar will be free to the public, and will remain as a resource on the Space Age on the Space Coast website.

#### **Day Four: Women and the Space Program**

**Thematic Question:** How do logistics and economics affect struggles for equity? How does geography drive economics in a region?

**Reading:** Foster, Amy E. "The Gendered Anniversary: The Story of America's Women Astronauts." *Florida Historical Quarterly* Vol. 87, No. 2 (Fall 2008): 150-173.

Dr. Foster specializes in the history of women in the space program. She will describe the early Soviet successes in putting women into space, and why it took NASA so long to catch up. She will explore how NASA used Lieutenant Uhura from Star Trek to promote the notion that women were welcome at the space agency. Dr. Foster will also discuss the difficulties and opportunities that came along with preparing the first women for space and the role of women in the space program today. Teachers will visit and explore an exhibit at AMF on women in the space program, and will discuss how the exhibit uses primary documents to make claims. Dr. Missias will discuss the importance of teaching students how to make claims based on primary sources. After lunch on the grounds of Kennedy Space Center, teachers will board a bus for a tour of the SpaceX facility. They will learn why the modern commercial space industry continues to choose the Space Coast as a base, and how that industry relates to the NASA programs teachers have been learning about.

In the evening, teachers will broadcast a webinar from AMF in which they interview an astronaut scientist who was pivotal to the early history of NASA, like Astronaut Tom Jones. AMF has committed to arranging this interview based on whose story still needs to be digitized at the time of this workshop. The webinar will be free to the public, and will remain as a resource on the Space Age on the Space Coast website.

### **Day Five: Nature and Technology on the Space Coast**

**Thematic Question:** How can technology advance while preserving/protecting environments?

**Reading:** "Whole Earth Without Borders: Earth Photographs, Space Data, and the Importance of Visual Culture Within Environmental History," in *A Field on Fire: Essays on the Future of*

*Environmental History*, Mark Hersey and Theodore Steinberg, eds., University of Alabama Press, 2019: 189-208.

Introducing the theme of technology within the context of the environmental movement, Dr. Foster will discuss how Kennedy Space Center navigated the building of a technologically advanced facility while preserving the surrounding environment. Teachers will board a bus to tour the Merritt Island National Wildlife Refuge, where they will observe protected habitat for alligators, manatees, and a host of bird species. They will further explore the geography of the Space Coast that makes it so hospitable for both wildlife and space exploration, while also discussing current challenges to the protection of the natural environment.

In the afternoon, Dr. Missias will lead teachers in presenting their inquiries based on primary documents related to the Space Coast. Teachers will provide peer feedback and discuss resources that will be added to the Space Age on the Space Coast website associated with the event.

### **Project Team and Participation**

**Director:** Dr. Matt Missias, Education Coordinator at NCHE, will direct the program. His role will include planning, recruiting participants, directing the creation of the project website, and managing both Landmark workshops. He will also serve as the K-12 specialist for this grant. Dr. Missias has taught middle and high school, and is a professor of social studies education. Dr. Missias will lead teachers through discussions of finding and analyzing primary sources, creating inquiries, gathering oral histories with students, and using experiential learning. Dr. Missias will also produce the webinars associated with the workshops.

**Project Scholar:** Dr. Amy Foster, an Associate Professor of History at the University of Central Florida in Orlando, will be the Project Scholar. Her book, *Integrating Women into the Astronaut Corps: Politics and Logistics at NASA, 1972-2003* was published by Johns Hopkins

University Press in 2011. Dr. Foster will begin each day with lectures and discussions surrounding themes of politics and political leadership, race and gender, technology and environmental history. She has experience working with K-12 teachers, having served as a scholar for an NCHE three-day colloquium on “NASA and the Space Race” at the Astronauts Memorial Foundation in 2019.

**K-12 Specialist, Administrator, Replacement Director:** Laura Wakefield will assist Dr. Matt Missias as a K-12 specialist, and will serve as replacement director. Ms. Wakefield is a Program Director at NCHE, and a former classroom teacher, and has led many workshops and colloquia. She oversaw the 2019 NCHE three-day colloquium on “NASA and the Space Race” and has experience coordinating teacher professional development programs.

**Lecturer:** Dr. Robert Cassanello is an Associate Professor of History at the University of Central Florida. He is a social historian interested in digital public history. His book *To Render Invisible: Jim Crow and Public Life in New South Jacksonville* won the 2014 Harry Moore Award by the Florida Historical Society. Dr. Cassanello will discuss the Civil Rights Movement on the Space Coast.

**Lecturer:** Dr. Ben Brotemarkel is the Executive Director of the Florida Historical Society. He is an expert on Florida History, and will provide teachers with insight on the unique geography of the Space Coast, and why that geography has been pivotal in United States History.

**NASA Astronaut Lecturers:** Thomas D. Jones, PhD, is a scientist, author, pilot, and veteran NASA astronaut. In more than eleven years with NASA, he flew on four space shuttle missions to Earth orbit. Dr. Charles Camarda is an engineer and a NASA astronaut who flew his first mission into space on board the Space Shuttle mission STS-114.

**Audience:** NCHE expects that half of the teachers attending the workshops will be middle and high school Social Studies teachers, and the rest will be elementary school teachers, science

teachers, and English Language Arts teachers. This combination will facilitate cross-disciplinary dialogue. Depending on the cohort, teachers will be able to collaborate in groups with other teachers by subject area or by grade level across disciplines. At least five spots in each session will be reserved for new teachers.

**Project Impact and Dissemination:** The National Council for History Education (NCHE) has an existing website with strong viewership and national reach. The Space Age on the Space Coast website for this program will be housed within the NCHE website. The Space on the Space Coast site will feature inquiries developed by the teachers during their workshops. It will also host videos of the live webinars that the teachers will produce. NCHE produces webinars at least once a month, so staff will be comfortable leading teachers in interviewing astronauts and engineers during the live event. These webinars will be advertised and broadcast nationwide, and the videos will provide lasting resources. Teachers will also add photographs and primary source teaching materials to the site. After the workshops have concluded, NCHE will continue to highlight participants' lesson plans and resources created through our monthly *History Matters!* newsletter for further dissemination.

NCHE serves educators all over the country, so we are confident in being able to recruit a strong pool of applicants. Our emails reach at least 20,000 people, and we know that our announcements are shared widely in school districts. Our social media presence is strong, as well. We are members of many professional organizations that can share the information, including the Library of Congress Teaching with Primary Sources Consortium. We have a Virtual Learning Center platform that will serve as a hub for teachers once they join the program. There they will find hotel information, readings, discussion boards, and more; this will also be communicated via email to participants. Workshop participants will continue to have access to

the Virtual Learning Center after the project concludes, and the associated website they will create will become a part of NCHE resources available to all educators.

**Institutional Context:** These workshops will be hosted and managed by NCHE, in partnership with the Astronauts Memorial Foundation (AMF) at Kennedy Space Center. NCHE brings connections with educators nationwide, including both classroom teachers and historians like Dr. Foster. NCHE has been hosting colloquia and professional development events for thirty years, and brings extensive experience in events for educators. NCHE developed and led three 3-day colloquia for 35 K-12 teachers at the Astronauts Memorial Foundation on Technology's Impact in American History between 2017 and 2019. These colloquia were very popular with educators and we consistently had a waiting list of educators wanting to attend.

AMF is situated on the grounds of Kennedy Space Center's Visitor Complex. It is home to artifacts and exhibits related to space travel, and showcases astronauts and scientists who built the space program. AMF will provide a large conference room to meet in and busses for field trips. Teachers will also have access to the full resources of the Kennedy Space Center Visitor Complex mere steps away. In the Complex, participants will have multiple opportunities for experiential learning. For example, they can examine spacecraft in the Rocket Garden, visit the Apollo/Saturn V Rocket Center, gaze up at the Space Shuttle Atlantis, or try on a space suit. Kennedy Space Center's Visitor Complex provides plentiful restaurant options for participants. Space Coast also offers unique places like the Cape Canaveral Space Force Base, Merritt Island National Wildlife Refuge, and the Harry and Harriette Moore Cultural Complex. Hotel rooms are available for teachers in Port Canaveral, a short drive away at the Radisson Resort at the Port, for \$120 a night, and NCHE will arrange room blocks for participants.

## *The Space Age on the Space Coast*

### **Work Plan**

- October, 2021
  - Announce Project
  - Matt Missias will build the initial website located within the NCHE site, populating it with resources related to the Space Coast
  - Matt Missias will meet with Astronauts Memorial Foundation (AMF), Dr. Amy Foster
  - Contact guest lecturers
  
- November - December, 2021
  - Finalize program
  - Book room blocks
  - Work with AMF to book buses
  - Publicize workshops to 20,000 email recipients, through social media, and institutional partners.
  
- January, 2022
  - Continue to add content to website
  - Continue to advertise workshops to teachers
  - NCHE staff will be in Florida for another event, and conduct a site visit
  - Book staff
  
- February, 2022
  - Continue to add content to website
  - Continue to advertise workshops to teachers
  
- March, 2022
  - Review participant applications with a committee of board members from NCHE and AMF, based on a standard rubric.
  
- April, 2022
  - Finalize list of participants
  - Contact and announce participants
  
- May, 2022
  - Connect participants with each other through the virtual learning center
  - Share travel details and schedule
  
- June, 2022
  - Finalize all logistical preparations
  - Continue to communicate with participants

- NCHE, AMF, Amy Foster will meet
  - Touch base with guest lecturers/webinar participants
  - Finalize participant evaluation questions
- July 2022
  - Conduct workshops
    - July 11th-15th
    - July 25th-29th
  - Conduct live Zoom webinars with speakers
  - Conduct participant evaluations
- August 2022
  - Post teacher resources on the webpage
- Fall, 2022
  - Prepare white paper based on the workshops
  - Publicize the Space Coast webpage, webinars, and teacher-created resources
- March, 2023
  - Feature teacher participants presenting about the experience at the NCHE Conference in Salt Lake City

## *The Space Age on the Space Coast*

### **Program of Study**

*The Space Age on the Space Coast* workshops will take place from July 11<sup>th</sup> - 15<sup>th</sup>, and July 25<sup>th</sup> - 29<sup>th</sup>, 2022. Each day of the program will focus on a relevant theme. Participants will work with historians, education specialists, and space experts to learn the history of the Space Coast, and will take experiential field trips related to the project's themes. Through the workshop, participants will develop inquiry lessons to post on the project website, and to take back to their classroom. They will also capture oral histories and take pictures of objects that can be added to the website as resources for other teachers.

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### **Day One: International Politics on the Space Coast**

**Thematic Questions:** How did the international politics of the Space Race shape the Space Coast? How did the geography of the Space Coast contribute to the Space Race?

**Reading:** Middleton, Sallie. "Space Rush: Local Impact of Federal Aerospace Programs on Brevard and Surrounding Counties." *Florida Historical Quarterly* Vol. 87, No. 2 (Fall 2008): 258-289.

Educators will arrive at the **Astronaut Memorial Foundation (AMF) facility, located on the grounds of Kennedy Space Center at Cape Canaveral.** They will be introduced to Project Director and NCHE education coordinator Dr. Matt Missias and Lead Scholar and space historian Dr. Amy Foster. Dr. Foster will begin the day with an introduction to the geography and history of the Space Coast, and with an exploration of the Cold War and the Space Race, with particular attention to why Kennedy Space Center came to be built on Cape Canaveral. Dr. Missias will discuss the process of developing

compelling questions and explain how teachers will create the inquiry lesson. Teachers will work in groups to develop appropriate questions for their interviews of key players in space exploration during live webinars on Wednesday and Thursday nights.

After lunch at Kennedy Space Center's Visitor Complex, where free admission and access will be provided to participants all week courtesy of AMF, teachers will take a bus to tour the **Apollo/ Saturn V Rocket Center**. This Center pays homage to the people and machines that made the Apollo Moon landing possible. Teachers can relive the wonder and excitement of the Apollo era, a time that unified the nation and shifted our culture. Upon returning to AMF, they will end the day with a presentation by former Kennedy Space Center Director, Jay Honeycutt.

## **Day Two: The Space Coast in Education and Culture**

**Thematic Questions:** How does geography impact technology? How does technology impact culture? How do international relations impact education and culture?

**Reading:** *Weitekamp, Margaret A. "Selling Education in the Shape of a Shuttle." Florida Historical Quarterly Vol. 87, No. 2 (Fall 2008): 210-234.*

On Day Two, Dr. Foster will begin with a discussion of the interplay between presidential leadership during the Space Race, education, and culture. She will focus on Presidents Eisenhower, Kennedy, and Nixon, and reference the growth of STEM education as a result of the Space Race. She will also describe the effect that technology had on the Space Coast, including literature and design. Dr. Missias will instruct teachers on how to find primary sources to use in their classrooms, including documents from Chronicling America, the Library of Congress, the National Archives, and NASA digital resources. Dr. Missias will discuss how to build a strong document set when crafting an

Inquiry lesson. Teachers will also generate questions to ask the space engineer or astronaut who will join them for a live webinar on Wednesday night.

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### **Day Three: The Space Coast and the Civil Rights Movement**

**Thematic Questions:** How can experiencing place impact our understanding of justice movements? How was the Civil Rights Movement experienced on the Space Coast?

***Readings:***

*Green, Ben. Before His Time: The Untold Story of Harry T. Moore, America's First Civil Rights Martyr. New York: The Free Press, 1999*

*Odom, Brian C. and Stephan P. Waring, eds. NASA and the Long Civil Rights Movement. Gainesville: University Press of Florida, 2019.*

Day Three will begin with an introduction to the Civil Rights Movement in Florida, and the Space Coast, by Dr. Robert Cassanello. He will focus on the life and death of Harry and Harriette Moore, civil rights activists from Titusville who were murdered in a bombing in 1951. There were eleven bombings targeting Florida civil

rights' workers in 1951. Dr. Foster will use this place-specific discussion of the Civil Rights Movement to highlight NASA and racial justice, from Ralph Abernathy's protests of the moon launch to the work of Colonel Frederick Drew Gregory and Dr. Mae Jamison. Col. Gregory, the first African American Astronaut, works with AMF frequently, and hopes to speak with teachers on this day. Dr. Missias will lead teachers in a discussion of how to analyze primary documents related to NASA and the Civil Rights Movement. He will use sourcing techniques, and introduce teachers to tools from the Library of Congress and Stanford History Education Group. After lunch on the grounds of Kennedy Space Center, teachers will board a bus to visit the **Harry and Harriette Moore Cultural Complex**, where they will learn more about civil rights work on the Space Coast, and contemporary efforts toward racial justice.

In the evening, teachers will broadcast a Zoom webinar in which they interview an astronaut scientist who was pivotal to the early history of NASA, like Dr. Charles Camarda. AMF has committed to arranging this interview based on whose story still needs to be digitized at the time of this workshop. The webinar will be free to the public, and will remain as a resource on the Space Age on the Space Coast website.

#### **Day Four: Women and the Space Program**

**Thematic Question:** How do logistics and economics affect struggles for equity? How does geography drive economics in a region?

**Reading:** Foster, Amy E. "The Gendered Anniversary: The Story of America's Women Astronauts." *Florida Historical Quarterly* Vol. 87, No. 2 (Fall 2008): 150-173.

Dr. Foster specializes in the history of women in the space program. She will describe the early Soviet successes in putting women into space, and why it took NASA so long to catch up. She will explore how NASA used Lieutenant Uhura from Star Trek

to promote the notion that women were welcome at the space agency. Dr. Foster will also discuss the difficulties and opportunities that came along with preparing the first women for space and the role of women in the space program today. Teachers will **visit and explore an exhibit at AMF on women in the space program**, and will discuss how the exhibit uses primary documents to make claims. Dr. Missias will discuss the importance of teaching students how to make claims based on primary sources. After lunch on the grounds of Kennedy Space Center, teachers will board a bus for a tour of the **SpaceX facility**. They will learn why the modern commercial space industry continues to choose the Space Coast as a base, and how that industry relates to the NASA programs teachers have been learning about. Teachers will discuss equity in the modern space industry.

In the evening, teachers will broadcast a webinar from AMF in which they interview an astronaut scientist who was pivotal to the early history of NASA, like Astronaut Tom Jones. AMF has committed to arranging this interview based on whose story still needs to be digitized at the time of this workshop. The webinar will be free to the public, and will remain as a resource on the Space Age on the Space Coast website.

### **Day Five: Nature and Technology on the Space Coast**

**Thematic Question:** How can technology advance while preserving environments?

**Reading:** *“Whole Earth Without Borders: Earth Photographs, Space Data, and the Importance of Visual Culture Within Environmental History,” in A Field on Fire: Essays on the Future of Environmental History, Mark Hersey and Theodore Steinberg, eds., University of Alabama Press, 2019: 189-208.*

Introducing the context of the environmental movement, Dr. Foster will discuss how Kennedy Space Center navigated the building of a technologically advanced facility while preserving the surrounding environment. Teachers will board a bus to tour the

**Merritt Island National Wildlife Refuge**, where they will observe protected habitat for alligators, manatees, and a host of bird species. They will further explore the geography of the Space Coast that makes it so hospitable for both wildlife and space exploration, while also discussing current challenges to the protection of the natural environment.

In the afternoon, Dr. Missias will lead teachers in presenting their inquiry lessons based on primary documents related to the Space Coast. Teachers will provide peer feedback and discuss resources that will be added to the *Space Age on the Space Coast* website associated with the event.