**KEYNOTE SCRIPT (text in red refers to Keynote slides)**

**1. SPACE FOR ALL (Total Eclipse)**

**Jan Millsapps, Ph.D. Writer, Filmmaker, Educator**

During the recent total eclipse, we all had equal access and full participation. Nothing between the observer and the event except dark glasses (the only tool needed) – which schools, libraries, museums, were giving out for free.

**2. TOOLS & TECH (man and telescope, man in cockpit, men with computer printouts)**

Tools and tech make progress (enabling us to get a better look, get ourselves a little closer, process the info we discover) possible, but also create barriers for those with no access.

Women were not allowed to look through big telescopes until 1960s. The first female astronomers studied the stars by examining photographs made by men. Early female coders were not allowed in the same room as the computers; they had to program them using drawings of the machines.

By the time we finally propelled ourselves into space in the mid-20th century, it looked a lot like this:

**3. Film clip (men in space)**

(If we believe what we see - this original space age was overwhelmingly male.)

**4. INVISIBLE WOMEN (Women in early space age)**

But that was not the entire story. There were women present, many working in professional roles and many more in the larger space community (we know this now because of books like “Rise of the Rocket Girls,” “The Mercury 13,” and movies like “Hidden Figures”), but these women were invisible. Why?

**5. MEDIA (TV screen – live moon landing)**

“Photographic images…provide most of the knowledge people have about the look of the past and the reach of the present.”

The first space age was delivered to our living rooms – live TV from surface of moon.

Media provides conduits, dissemination of the space experience – the ultimate share among those who cannot participate in person.

The space age, as the media presented it to us, was a selective, curated experience.

It valued and celebrated the astronaut hero, as well as heroic efforts in mission control, on the launch pad, and in the oval office.

**6. MEDIA (Walter Cronkite reporting, television camera, astronaut holding camera)**

The audience was passive, the cameras were off-limit to most, and the newscasters were authoritative – there was no arguing with Walter Cronkite.

**7. WHOSE MEDIA? (girl in glasses with Apollo on TV)**

Did girls like this see or hear anyone on TV that resembled her, that gave her any notion that she could be a part of the experience she saw? Did she have access to the cameras, recorders or transmission tools that would enable her to report on her own experiences?

**8. WHOSE STORIES (women in space alien outfits)**

Media content was curated as well.

Did these two women have anything to do with the script, the words coming out of their mouths, their wardrobe, how they looked or acted on the screen?

Who was (and continues to be) in charge of the stories being presented? Whose voices tell these stories, how (and to whom – because a story always presumes an audience) are these stories presented? Are the women’s voices authentic or scripted by someone else (in both fiction, nonfiction)?

**9. BLAST OFF! (1973)**

**I’ll go into space…and come back and I’ll be famous**

Just as there were actual women working in space arena (but invisibly), there were fictional stories but not widely known. Written by Linda C. Cain and Susan Rosenbaum – now out of print.

This remarkable example was written a decade before Sally Ride’s mission and nearly2 decades before Mae Jemison became the first African American woman in space.

In it, a young black girl yearns to explore space – and then makes it happen by building a rocket out of recycled materials.

**10. SOJOURNER ROVER (1997)**

A non-fiction example: Most don’t know that the first female on Mars landed in 1997, the rover Sojourner Truth, that the rover was designed by a woman (one of the first female engineers at JPL), named by a 12-year-old girl for a famous female heroine.

Women in space exploration have no history, no context beyond Valentina Tereshkova and Sally Ride. There is hardly any knowledge of women in science/tech who stayed on Earth but helped make space travel possible. There are few narratives to show or speak for any of these women, and therefore, no role models, no known and visible path to space.

Invisibility begats invisibility; we need to address this situation as we move into our next space age.

What’s the cure?

**11. MADAME MARS**

**What Madame Mars is trying to do:** to forefront the female experience in history and future of space exploration

**TO ARGUE, MOTIVATE/INSPIRE, FOREGROUND, ENGAGE, REDEFINE**

* argue for future space exploration as more inclusive
* motivate and inspire the next generation of space explorers, scientists and technicians – in particular, girls and young women
* foreground stories of women’s challenges, efforts and accomplishments in the aerospace arena
* effectively engage with a broad global audience
* present Mars not only as our next deep space destination, but as the mission that can serve to redefine gender roles in space exploration, especially the village (on Earth) it will take to make things happen in space

It’s not just what I can do, or what Madame Mars can do; anybody, anywhere in the world, can use media to create a more equitable space.

**12-13. MAKING OURSELVES VISIBLE (Woman on Mars waves at camera)**

“Until recently, we, others, were grateful just to be represented in your stories, grateful to be seen, to be of interest. But now, the time has come for us, women and people of color, to speak for ourselves.”

Media is so much more than it used to be. Now media is global, interconnected, with many conduits.

Media is increasingly personal, sent and received on small mobile screens.

Media is ubitquitous; the ability to “broadcast” is in your phone anytime, anywhere, from almost any place.

The value of media is expanding. “Edutainment” (games, apps) delivered one-to-one can outdo anything presented in a classroom, can lead to knowledge and action.

The types of media are expanding: multimedia, transmedia, participatory media, immersive media now part of media landscape.

**14. FINDING OUR VOICES, TELLING OUR OWN STORIES (Astronaut Yvonne Cagle and Girl)**

We not only need to see more women, we need to hear their voices.

We need to find the girls, not just those affluent enough to go to space camp, but the ones without the wherewithal to even dream about futures in space.

We need to encourage girls and women to tell their own stories. What we imagine, dream, etc., the stories we tell are actually predictions, forecasts of who the storyteller wants to become.

Telling the stories from our past creates mentors, role models for current and future generations, so we not only need to value those we have, but also to recover those we’ve lost or forgotten.

**15. SEEING OURSELVES ON THE SCREENS (women in India mission control, women on ISS)**

**Pictures tell stories.** We Can’t depend on others to put us on the screens; we have to do it ourselves.

**16.** **CLAIMING AND USING MEDIA (Tellagami screenshot)**

**Tellegami** provides a pro-active example – you can put yourself in your own media, record your voice and send it to anyone in the world.

**17. CLAIMING AND USING TOOLS/TECH (Girl on virtual mission)**

Re-tool STEM to encourage and support more female participation. Address the issue of “lack of engagement” possibly by changing course titles, room décor, etc. or incorporating arts with sciences. This includes virtual tools/tech

**18**. **IMMERSING OURSELVES IN** **NEW REALITIES (VR spacecraft cockpit on Mars, woman with rover on Mars)**

New tools like Virtual and Augmented Realities often transcend gender issues altogether.

**19. CONNECTING TO GLOBAL ONLINE RESOURCES (Anyone can become an astronaut)**

Example: **Space Nation,** astronaut training delivered to your cell phone, launches in 2018.

**20. Film clip (landing on Mars)**

**WHY MARS MATTERS**

**Mars, most likely our next big leap into deep space, represents not only a journey but also a destination. Once we arrive, there will be many more jobs both there and on Earth, plus a whole new civilization to build. How will Mars represent earth and Earthlings – all of us?**

**21. “Space is for everybody…”**

“It’s not just for a few people in science or math, or for a select group of astronauts.

That’s our new frontier out there, and it’s everybody’s business to know about space.”

Human missions to Mars often framed as a “do-over” opportunity, a chance to set things right or do things differently than how we’ve done them on Earth, but the real do-over involves more than creating a new planet for human race; we also need to re-define the village here on Earth it will take to get us there.