Universe of Learning Science Briefing: February 2017

The resources in this list pertain to the science briefing given on February 2, 2017, titled, "Women in STEM: Hidden Figures, Modern Figures".

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NASA's Universe of Learning is a program which will integrate NASA's Astrophysics Science Mission Directorate programs, and will advance STEM learning and literacy by creating and delivering a unified suite of education products, programs, and professional development that spans the full spectrum of NASA Astrophysics.

NASA's Universe of Learning is partnering with the Museum Alliance to provide professional development briefings for the informal science education community. These briefings provide current NASA Astrophysics themes, content, and resources to the informal community. These curated lists present the resources described during the briefings. To find the briefings, you can go here:

http://universe-of-learning.org/science_briefing

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**VIDEO: VanguardSTEM: Hidden Figures, Major Milestones with Margot Lee Shetterly (S3_E4 - December 6, 2016) - YouTube**

**Notes:** We end season 3 of VanguardSTEM with an incredibly insightful, informative and inspiring finale with Margot Lee Shetterly, the author of the book-turned-movie, Hidden Figures.

**External Resource URL:** https://youtu.be/eDqqx-sdmo

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**Women’s History Month – STAR_Net**

**Notes:** Help your community explore the wonders of NASA science, and celebrate the contribution of women to STEM! Libraries will have the opportunity to host events related to NASA’s scientific explorations of the universe beginning in March for Women’s History Month.

**External Resource URL:** http://www.starnetlibraries.org/womens-history-month/

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**Webinars – STAR_Net - Girls STEAM Ahead with NASA**

**Notes:** Date: Wednesday, February 15th. NASA’s Universe of Learning astronomy education program is celebrating National Women’s History Month with the Girls STEAM Ahead with NASA project, which partners libraries with NASA scientists and educators to empower girls and their families in STEM! During the webinar, we will introduce Girls STEAM Ahead with NASA, discuss how to build girl-engagement into your programming, and demonstrate hands-on coding activity that uses real astronomical observations in the ways real astronomers do. We’ll also connect you to

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These external resources were not reviewed for the NASA Wavelength collection.
Coloring the Universe (with Pencil Code)

Notes: Students participate in a series of activities to discover how astronomers use computers to create images and understand data. No programming experience is required; students will use pencilcode.net to complete such activities as creating a color, exploring filters and color-shifting, and creating individual images of star-forming regions. These activities demonstrate a real world application of science, technology and art.

AAAS Benchmarks: 3A/M2, 4A/H3

More info: http://nasawavelength.org/resource/nw-000-000-004-129

Resource URL: http://event.pencilcode.net/home/hoc2014/

Observing with NASA

Notes: NASA's space science researchers control some of the world's most sophisticated space probes and orbiting telescopes to get amazing images of objects in space. Now YOU can join them by operating your OWN ground-based "MicroObservatories" - real robotic telescopes that you command through this website!

AAAS Benchmarks: 4A/E2, 4A/H3, 10A/M2

More info: http://nasawavelength.org/resource/nw-000-000-003-111

Resource URL: http://mo-www.harvard.edu/OWN/

Women in Science

Notes: The history of women's contributions to the fields of science, technology, engineering, and math (STEM) is long and varied. But it has also often been overlooked or underrepresented. This series highlights only a very few of the women who have made important discoveries and have had a crucial impact on STEM fields. This, however, is not just a look into the past. Today, women are in every STEM discipline, in every type of job, and represent the widest range of background and experiences.

External Resource URL: http://chandra.si.edu/women/index.html#resources
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#VanguardSTEM - Conversations with Women of Color in STEM

**Notes:** Vanguard: Conversations with Women of Color in STEM (VanguardSTEM) is an online platform designed to cultivate an empowered community of women of color who are positioned to advocate for ourselves and our scientific, technological, engineering and mathematical identities and interests. We do this by providing a space for women of color in STEM to create and curate original works and by hosting a monthly, live online show to discuss issues of importance to this community.

**External Resource URL:** [http://vanguardstem.com/](http://vanguardstem.com/)

Women@NASA

**Notes:** This website includes a stunning collection of 64 videos and essays from women across the agency who contribute to NASA’s mission in many different ways. We hope to give you a glimpse of the talent we have at the agency today. Their stories illuminate the vibrant community of dedicated women employees who play a vital role at the agency.

**External Resource URL:** [https://women.nasa.gov/](https://women.nasa.gov/)

Women in the High Energy Universe | ChandraBlog | Fresh Chandra News

**Notes:** The goal of this blog series is to highlight and promote the many important ways that women contribute to the pursuit of understanding the Universe through high-energy astrophysics. We've asked various women to tell us -- in their own words - about their experiences and perspectives of their careers. We invite you to submit your own additional questions to these women, and we will attempt to get them answered.

**External Resource URL:** [http://chandra.harvard.edu/blog/women](http://chandra.harvard.edu/blog/women)

Women's History Month 2016

**Notes:** The Library of Congress, National Archives and Records Administration, National Endowment for the Humanities, National Gallery of Art, National Park Service, Smithsonian Institution and United States Holocaust Memorial Museum join in paying tribute to the generations of women whose commitment to nature and the planet have proved invaluable to society.

**External Resource URL:** [http://womenshistorymonth.gov/](http://womenshistorymonth.gov/)
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<thead>
<tr>
<th>Exhibit</th>
<th>Notes</th>
<th>External Resource URL</th>
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<tbody>
<tr>
<td>Here, There, and Everywhere</td>
<td>Exhibits - Here, There, and Everywhere (HTE) is a NASA-funded program that consists of a series of exhibitions, posters, and supporting hands-on activities that utilize analogies in the teaching of science, engineering, and technology (STEM) to provide multi-generational and family-friendly content in both English and Spanish to small community centers, libraries, under-resourced small science centers.</td>
<td><a href="http://hea-www.cfa.harvard.edu/~ascpub/hte/dev/venues.html">http://hea-www.cfa.harvard.edu/~ascpub/hte/dev/venues.html</a></td>
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<td>AstrOlympics</td>
<td>Exhibits - AstrOlympics provides brief explanations of the physical concepts and then compares examples from common everyday experiences, Olympic events, and discoveries from space made with Chandra and other telescopes. For example, the speed section compares the world’s fastest sprinter to a typical speed limit on a highway to how fast the debris of an exploded star moves. The AstrOlympics project consists of a series of posters, videos, and a website.</td>
<td><a href="http://hea-www.cfa.harvard.edu/~ascpub/ao/">http://hea-www.cfa.harvard.edu/~ascpub/ao/</a></td>
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<tr>
<td>Chandra &amp; LIGHT: Beyond the Bulb</td>
<td>Exhibits - &quot;LIGHT: Beyond the Bulb&quot; is an open-source international exhibition program that showcases the incredible variety of light-based science being researched today across the electromagnetic spectrum, across scientific disciplines, and across technological platforms. The exhibit materials and striking images were crowd-sourced and expert curated for science content, high-quality printability, stunning beauty and ability to engage wide audiences.</td>
<td><a href="http://hea-www.cfa.harvard.edu/~ascpub/iyl/iylinternal.html">http://hea-www.cfa.harvard.edu/~ascpub/iyl/iylinternal.html</a></td>
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<td>From Earth to the Universe Exhibition</td>
<td>Exhibits - From Earth to the Universe (FETTU) is a collection of astronomical images that will showcase the most dramatic views of our Universe. The images represent the incredible variety of astronomical objects that are known to exist - planets, comets, stars, nebulae, galaxies and the clusters in which they congregate. These exhibits, held in public parks, airports, art centers and at other unique sites, will bring the wonders of the Universe right to you.</td>
<td><a href="http://www.fromearthtotheuniverse.org/learn_more.php">http://www.fromearthtotheuniverse.org/learn_more.php</a></td>
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| **Amazing Space: Visions of the Universe** |
| Notes: | Exhibits - A visual journey through 400 years of progress in our ability to fathom what lies beyond planet Earth. |
| External Resource URL: | [http://amazingspace.org/visions/](http://amazingspace.org/visions/) |

| **Kimberlé Crenshaw: The urgency of intersectionality | TED Talk** |
| Notes: | Now more than ever, it's important to look boldly at the reality of race and gender bias -- and understand how the two can combine to create even more harm. Kimberlé Crenshaw uses the term "intersectionality" to describe this phenomenon; as she says, if you're standing in the path of multiple forms of exclusion, you're likely to get hit by both. In this moving talk, she calls on us to bear witness to this reality and speak up for victims of prejudice. |
| External Resource URL: | [https://www.ted.com/talks/kimberle_crenshaw_the_urgency_of_intersectionality](https://www.ted.com/talks/kimberle_crenshaw_the_urgency_of_intersectionality) |

| **Kimberle Crenshaw - research article on intersectionality** |
| Notes: | This is the research article by Kimberle Crenshaw - Demarginalizing the Intersection of Race and Sex: A Black Feminist Critique of Antidiscrimination Doctrine, Feminist Theory and Antiracist Politics |
| External Resource URL: | [https://philpapers.org/rec/CREDTI](https://philpapers.org/rec/CREDTI) |

| **Inclusive Astronomy Recommendations - Google Doc** |
| Notes: | In June 2015, 160 astronomers, sociologists, policy makers and community leaders convened the first Inclusive Astronomy meeting at Vanderbilt University, in Nashville, TN. The goal of this meeting was to discuss the issues affecting people of color; lesbian, gay, bisexual, transgender, genderqueer/genderfluid, agender, intersex, queer, questioning, or asexual (LGBTIQA*) people; people with disabilities; women; people disenfranchised by their socio-economic status; and everyone who holds more than one of these underrepresented identities in the astronomical community. A key focus of this meeting was examination of issues of intersectionality: the well-established conceptualization that racism, sexism, heterosexism, transphobia, and ableism are often linked (e.g., that women of color are faced with the intersection of racism and sexism). |
| External Resource URL: | [https://philpapers.org/rec/CREDTI](https://philpapers.org/rec/CREDTI) |
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