



CHAT TRANSCRIPT

Women in STEM

Deanne Bell, Mary Ford, Patti Curtis, Nahima Ahmed, Teresa Mobley
August 5th, 2021

01:57:46 Ma.Cristina Acosta García: Hello from México!!

01:58:32 Mary Ford- National Geographic Society: Hello from Washington, DC!

01:58:49 Scott Kiessig - ScIC | PocketLab: Access the entire schedule at <https://f.hubspotusercontent10.net/hubfs/7934461/ScIC6/ScIC6%20Documents/ScIC6%20STEM%20Summit%20Agenda.pdf>

01:58:51 Dave Bakker - ScIC | PocketLab: Flavio boa tarde!

01:59:02 Liselli Daniel: Hello from Trinidad and Tobago!

01:59:14 Alissa Lai: Hi fellow Trini!

01:59:23 Robby Douthitt | PocketLab: So cool, we have people from all over! Thanks for contributing.

<https://app.thepocketlab.com/lab-report/y0kPFS4p0001yLem?ro=1&ref=%2Fhome>

01:59:24 Jacqueline Oña: Hello again I am from Ecuador

02:00:41 Patricija Nikolaus: Hi everyone from Croatia

02:00:49 Carey Hancey: HELLO!!

02:00:52 DaNel Hogan: Hello, Patti!!!

02:01:13 Scott Kiessig - ScIC | PocketLab: Drop your questions in the chat for the q&a section coming up! Make sure to tell us what school you are from and where in the world you are.

02:01:27 Renata Eugenia Guerra Fraustro: Hello from Tijuana, Mexico

02:01:31 Janice Levitan: CAN YOU please add the schedule again?

02:01:32 Arundhati Jayarao: Hi Patti



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02:01:40 Scott Kiessig - ScIC | PocketLab: Access the entire schedule at <https://f.hubspotusercontent10.net/hubfs/7934461/ScIC6/ScIC6%20Documents/ScIC6%20STEM%20Summit%20Agenda.pdf>

02:01:53 Janice Levitan: Thanks

02:02:19 Naresh Sen: Hello from Mumbai, India

02:02:20 Scott Kiessig - ScIC | PocketLab: Drop your questions in the chat for the q&a section coming up! Make sure to tell us what school you are from and where in the world you are.

02:02:32 Liselli Daniel: Hello back at you fellow Trini!

02:02:41 Christine Hirst Bernhardt: HI Teresa! I teach in Saugus too! I'm at Arroyo Seco-but currently an Albert Einstein Fellow in DC

02:02:50 Mary Kollman: Winston-Salem, NC

02:02:54 María de los Ángeles Robertti: Hello greetings from Caracas Venezuela. So happy to be here again

02:03:12 Cece Padon: Spokane, Washington

02:03:21 Małgorzata Krzeczowska: hello from Poland

02:03:23 Scott Kiessig - ScIC | PocketLab: Learn about our session panelists here <https://www.thepocketlab.com/scic6-summit-women-in-stem>

02:03:25 Michelle Steinberg: Hello from Houghton Lake Michigan.

02:03:26 Celri Olley: Hi Mary! Good to see NatGeo REPRESENTED!!!!

02:03:35 Nikki Bisesi: Hi from Atlanta

02:03:45 Nagwa Fekri Rashed: Great to meet all of you.

02:03:46 Danielle Romais: Danielle Romais from Capital Innovations Academy in Sacramento, CA. It's awesome to see women in STEM

02:04:12 Rachel Thompson: hello from Casablanca, Morocco

02:04:15 Celri Olley: Starting at Green School SA as Science teacher in a few months - hands-on Scie

02:04:26 Scott Kiessig - ScIC | PocketLab: Drop your questions in the chat for the q&a section coming up! Make sure to tell us what school you are from and where in the world you are.

02:04:28 Celri Olley: Hands-on science and learning super excited about this session

02:04:29 Danielle Romais: Love Science Friday

02:04:31 Mary Ford- National Geographic Society: Hi Celri!

02:04:37 KT Moran: I see a lot of Fellows here - wonderful! I work in a bit of a 'grey area' - 2YC! (2-year college/community college). I see Many programs for university, many programs for K-12. Do you know of any similar programs for teachers in 2YC?



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02:04:49 Edith Sampson: Girl Scouts in Gainesville, FL does an excellent job of introducing girls to STEM. University of Florida have women clubs for dental and engineering and art and museum, etc that invite girl scouts to participate in multiple wonderful activities.

02:05:13 Arlette Neira: Greetings from Toluca, México!... it's so motivating to see you all, ladies, sharing about science and engagement on developing knowledge on children! thanks a lot!

02:05:24 Boboeva Nigora: Nigora Boboeva, Samarkand Uzbekistan

02:05:44 Nora Whelan: From the discovery centre in Halifax Nova Scotia!

02:05:46 Nagwa Fekri Rashed: It is 2'26 am in Japan.

02:05:54 Dave Bakker - ScIC | PocketLab: Yay Boston Museum of Science - we need them to be part of a future ScIC :)

02:05:56 Gyan Prakash: hello everyone, anyone from India.

02:06:01 Sunoj Das Shrestha: Nameste and hello all the panelists from Kathmandu Nepal :)

02:06:05 Clifton Roozeboom - ScIC | PocketLab: Nagwa- thanks so much for joining us so early in the morning!

02:06:19 Danielle Romais: My husband and I started a program in Sacramento called YSciT (Young Scientists in Training). This program has since been adopted by Capital Innovations Academy once I started working there.

02:06:24 Julia Hawthorne: Hello from Atlanta, GA

02:06:24 Celri Olley: So many amazing women here! Super excited!

02:06:26 Clifton Roozeboom - ScIC | PocketLab: Put your questions for the panel here in the chat. Thanks!

02:06:31 Denise Zut: Wow! Super impressive group of women!

02:06:38 DaNel Hogan: STEM Superheroes: Women in STEM Careers is a great book highlighting diverse women, who are still living and doing STEM research. Erin also has a Women in Energy book coming out soon too.
<https://stemsuperheroes.com/>

02:06:40 Devalyn Rogers: Power to All on the Panel!

02:06:49 Barbara Davis: Hello from Omaha, NE

02:06:53 Scott Kiessig - ScIC | PocketLab: Valarie- please email us at support@thepocketlab.com

02:07:08 Teresa Mobley - NGSS TOSA Saugus Union School District: SciSHow Kids has added NGSS standards to their newest videos. :)

02:07:29 Devalyn Rogers: How does each of your organizations invite girls in?

02:07:39 Francis Jeffers: Hi Everyone, I am Francis Jeffers from Canadian Multicultural Inventors Museum www.multiculturalmuseums.org



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02:07:53 KT Moran: LOVE SciShow for my freshman/sophomore college natural and earth science courses!!!

02:08:04 Melissa Molema: please help how do I add my location I have registered and now I need to add my location to the project.

02:08:08 Pattye Bright: Check out VivifyStem.

02:08:11 Sunoj Das Shrestha: for all panelist what was the most difficult challenge for you and how did you overcome it?

02:08:13 Scott Kiessig - SciC | PocketLab: Drop your questions in the chat for the q&a section coming up! Make sure to tell us what school you are from and where in the world you are.

02:08:19 Carrie Reardon: We, teachers, need a place to share STEM lessons. Often STEM is lumped with science but they are not the same.

02:08:27 Devalyn Rogers: @Ford: How do we receive a T-Shirt?

02:09:01 Scott Kiessig - SciC | PocketLab: Mellissa- please email us at support@thepocketlab.com

02:09:05 Sunoj Das Shrestha: sure

02:09:13 Vinita Singh: Exactly!

02:09:14 Peter Baker: Good for you Francis. Whereabouts in Canada?

02:09:33 Devalyn Rogers: @Curtis: Indeed! Words matter!

02:09:37 Vinita Singh: Math is a skill and any skill needs practice to master

02:09:47 William Fee: We're providing girls only afterschool programs to act as a safe space for girls. We also present scientists and engineers of all genders, populations and ethnicities

02:09:54 Danielle Romais: so many students I came across have told me how discouraged they've been in the past to enter science because they are girls.

02:09:59 Donna Howard: Hello from Barbados

02:10:04 Celri Olley: We were given the opportunity to work with Callie Veelenturf (NatGeo Explorer and Marine Biologist) as part of the NatGeo Educator-Explorer Exchange programme and so many of the girls in my Grade 8 and 9 classes were in awe of seeing the work that Callie does in the field and in changing policies at government level. Seeing a real-world Scientist making Real-world changes made such a difference in their lives and they are now driving change at our school through a club they have started. They are looking into taking science further in their education career and they were simply freed to KNOW that they CAN.

02:10:20 Ash Bystrom: "You've been doing algebra since kindergarten when you solved the unknown variable: $3 + \text{Ducky} = 5$ "

02:10:34 Johnson Dcunha: Hello from India



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02:10:36 Scott Kiessig - SciC | PocketLab: Drop your questions in the chat for the q&a section coming up! Make sure to tell us what school you are from and where in the world you are.

02:10:40 Brandy Hepler: We should celebrate our failures. YAY! We figured out a process that didn't work! What variable do we want to amend now?

02:10:49 Jaclyn Farley: I have women in STEM fields come chat my after school STEM club.

02:11:03 Niranjana Dangol: Hello from Nepal..

02:11:08 Brandy Hepler: SETMinists!!

02:11:10 Gail Corbman: Hello from Florida where it's a sunny day & raining at the same time. That's a lesson right there!

02:11:26 Eileen Resnick: Use gender neutral pronouns in class

02:11:42 Maureen Bourke: We have found that having female instructors and mentors in the classroom made a difference as well as framing the questions as challenges

02:11:43 Celri Olley: Pronouns DO matter - I have seen the difference in changing it simply to he/she/they and my students noticed!

02:11:52 Steve Frankel: I would so love to see numbers of female physics high school students increase! Some years, there've been too few. (I have to remember to talk to the counselors to Sign-Them-Up!) Our young women in physics often outshine the young men, often excel at communicating their observations, hypotheses, and etc.

02:11:52 Gyan Prakash: Hello everyone, I just finished my masters in botany, and now want to explore research field. please help me.

02:12:01 rhonda heatherly: I think many options for all students is imperative - gender inclusive with encouragement and pronouns for all genders!

02:12:14 MARIA VICENTY: One of my students created a women in science club and asked me to be the advisor. We invite women scientists to talk about their careers and their challenges being a women in STEM.

02:12:29 Sharon Homer-Drummond, PhD: The documentary, 'Picture a Scientist' was really powerful

02:12:35 Mary Ford- National Geographic Society: Check out our National Geographic Explorers here: <https://www.nationalgeographic.org/projects/explorers/>

02:12:36 Theresa Mcendarfer: I was the only female in my HS engineering class. No one wanted me in their group...until they started to see that I was the only one getting all A's

02:13:01 Gail Corbman: My science superhero avatar is a woman of color. My kids love her!



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02:13:38 Noreena Falta:

https://www.google.com/imgres?imgurl=https%3A%2F%2Ffil.wp.com%2Fprideinstem.org%2Fwp-content%2Fuploads%2F2020%2F09%2FFBAD2020.png%3Ffit%3D1200%252C628%26ssl%3D1%26w%3D640&imgrefurl=https%3A%2F%2Fprideinstem.org%2Fflgbtstemday%2F&tbid=gZ-SN2AlKG1a4M&vet=12ahUKEwiWv_3VppryAhXLAzQIHZJhCPoQMygoegUIARChAg..i&docid=hk-wjTOSNrOy7M&w=640&h=334&itg=1&q=STEM&ved=2ahUKEwiWv_3VppryAhXLAzQIHZJhCPoQMygoegUIARChAg

02:13:41 Danielle Romais: Showing girls that anyone can be a scientist is important.

02:14:01 Celri Olley: A lot of our 'challenges' crop up based on cultural views of the 'place of a woman' and my students find themselves quite free at school, but once they return to their homes the situation changes dramatically. How do we start these difficult conversations with 'traditionalist' families actually standing in the way of our girls finding their voice?

02:14:02 Maureen Bourke: We also need to address the leaky bucket of STEM. I can engage students but industry and academia can crush them

02:14:53 Diane Hickey- National Science Foundation: Women in STEM Posters for Classrooms: Series 2

<https://www.energy.gov/articles/women-stem-posters-classrooms-series-2>

02:15:16 Diane Hickey- National Science Foundation: A Hollywood star. An egg saleswoman. A corn expert. A descendant of Japanese-Americans. A suffragist.

These are the backgrounds of women who went on to break barriers in science, technology, engineering, and mathematics (STEM) and are featured in the Energy Department's latest set of the classroom poster series.

Get the posters here.

<https://www.energy.gov/downloads/women-stem-posters-series-two>

02:15:20 Esther Pettigrew: Yes, representation. Yes, female examples. Yes to language choices. Yes to more feminine pronouns used in science discussions. Yes to recognizing and combating sexism (overt and otherwise). A separate issue is that women carry the majority of the child rearing responsibilities. This is a time and financial barrier. STEM education and STEM careers are slow in including and supporting those who face this barrier.

02:15:21 Christine Hirst Bernhardt: I didn't have science encouragement until grad school!

02:16:35 Celri Olley: YES! Inquiry + Curiosity = Student driven learning in a gender-friendly space!



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02:16:39 Steve Frankel: "At age 6, that's when..." Ouch. That hurts. I'd like to see an article on this, keep it on the wall as I teach my (HS physics) kids this fall.

02:16:43 Natalie Granger: All of the science teachers at my school are women!

02:16:45 Scott Kiessig - ScIC | PocketLab: Drop your questions in the chat for the q&a section coming up! Make sure to tell us what school you are from and where in the world you are.

02:16:57 Susan Cabello: Ms. Geiger was my fav science teacher and I have famous female posters all over my classroom

02:17:14 Eileen Resnick: Teach students the importance of learning through failure

02:17:22 Diane Hickey- National Science Foundation: Women in STEM Posters, Series Three <https://www.energy.gov/downloads/women-stem-posters-series-three>

02:17:32 Devalyn Rogers: Can we offer different vocabulary word than "fun". The work can be interesting, engaging, exciting. Often times, "work" "learning" is not Fun. Too often students will stop trying when the work is not "fun".

02:17:39 Scott Kiessig - ScIC | PocketLab: Steve- <https://www.cnn.com/2017/01/27/health/gender-stereotypes-smart-study/index.html>

02:17:42 Danielle Romais: I make it a point to show my students (all of them) the importance of women and the level of discrimination we suffer in science.

02:17:52 Heather Saigo: We know that many people who end up in STEM-related careers did not major in a STEM subject in college. Do you have any suggestions for encouraging more women to engage in STEM as adults? Do "citizen science" programs help?

02:18:05 Godwyn Morris: Sylvia Earl is my fav National Geographic scientist

02:18:21 Danielle Romais: Wonderful!

02:18:25 Devalyn Rogers: @Ford: Awesome!!!!!!!!!!!!!!

02:18:26 Valorie Vance-Kraus: SVAHA also sells female scientists posters, t-shirts, and dresses.

02:18:34 Diane Hickey- National Science Foundation: <https://www.energy.gov/downloads/women-stem-posters-series-one> Women in STEM Posters, Series One I like these because they're a bit art deco..

02:18:35 Celri Olley: Mine too @Godwyn! She is such a force for good - a Hope Spot in her own right!

02:18:48 Steve Frankel: @ Scott K. Thanks. Tragedy!

02:18:51 Nagwa Fekri Rashed: My supervisor , a female professor of chemical engineering was my role model.

02:18:58 Danielle Romais: Dr. Maria Fadiman was my professor in grad school. She is a Nat Geo scholar.



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02:18:59 Noreena Falta: I wish that I would have had female instructors when I went to school. Women taught English, and Men, all the rest!!

02:19:03 Michelle Steinberg: All my science teachers were male. The reason I became interested in science was because on Career day was a female Veterinarian in 7th grade

02:19:10 Nahima "Ema" Ahmed (she/her)- Science Friday: Check out Science Friday's Breakthrough Portraits of Women in Science Video Series and Inclusive Action Toolkit <https://www.breakthroughfilms.org/>

02:19:17 Susan Pritchard: I TAUGHT ALL BUT ONE YEAR WITH MY STUDENTS GROUPED HOMOGENOUS BY GENDER ... WHY .. BECAUSE I RESEARCHED GENDER EQUITY FOR WEEKS AT CSUF LIBRARY AND LEARNED THAT THROUGH THE RESEARCH AT THE TIME ... IN SCIENCE ... GRADES 7 - 9 ... STUDENTS LEARN IN GROUPS HOMOGENOUS BY GENDER ... AFTER MY FIRST YEAR ... WHEN I DID NOT KNOW HOW TO REACH MY FEMALE STUDENTS ... I SPENT THE TIME TO RESEARCH AND NEVER LOOKED BACK ... FOR OVER 30 YEARS I TAUGHT WITH MY STUDENTS GROUPED HOMOGENOUSLY BY GENDER AND GUESS WHAT ... MY GIRLS SOARED AND MY BOYS DID JUST AS WELL IF NOT BETTER THAN THEY DID BEFORE ... BECAUSE INSTEAD OF ACQUIESCING TO THE MALES, THE FEMALES EXPRESSED THEIR THOUGHTS AND IDEAS AND WERE MORE EAGER TO "TAKE CHANCES AND BE PROBLEM SOLVERS AND ACTIVE GROUP MEMBERS ... IT WORKED FOR OVER 30 YEARS ... AND I ADVOCATE THAT TO THIS DAY ... BUT ... DO THE RESEARCH AND SEE WHAT YOU ALL FIND ... LOVE THIS PANEL ...

02:19:39 Steve Frankel: @ Diane H. Thanks! I'm gonna order some inspiration!

02:19:51 Scott Kiessig - ScIC | PocketLab: The chat transcript will be shared with the video recordings next week

02:20:03 Denise Zut: THANK YOU for the links to women in STEM posters - all beautiful!!!

02:20:06 rhonda heatherly: Thank you!

02:20:17 Scott Kiessig - ScIC | PocketLab: Drop your questions in the chat for the q&a section coming up! Make sure to tell us what school you are from and where in the world you are.

02:20:22 Mary Ford- National Geographic Society: All our National Geographic Education programs can be found here: NatGeoEd.org

02:20:25 Brandy Hepler: Thank you

02:20:40 Celri Olley: It was such a privilege! The simple fact that there are so many women active in the resources provided by NatGeo in itself makes it more accessible for girls!



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02:21:03 Ranjani Narayanan: Thank you for the NatGeo link and for the poster series! This is awe-inspiring

02:21:11 Scott Kiessig - SciC | PocketLab: Drop your questions in the chat for the q&a section coming up! Make sure to tell us what school you are from and where in the world you are.

02:21:12 Devalyn Rogers: @Curtis: "Female Speak"

02:21:21 Maureen Bourke: Yes, Patti! I ask "Do you want to change the world?"

02:21:30 Valorie Vance-Kraus: Women trailblazers in stem (socks at this link, and other goodies as you look around the site):

02:21:32 Mary Ford- National Geographic Society: Love that Maureen!

02:21:42 Valorie Vance-Kraus:
<https://svahausa.com/products/outstanding-women-socks>

02:21:46 Ash Bystrom: The "elephant" in the room is how is STEM education in schools addressing the male identified students and teaching them how to create inclusive groups, learning how that STEM is not homogeneous, or showing them that STEM is not some exclusive "male" club.
If we don't address their learning as well, we are perpetuating the problem.

02:22:04 Donna Smith: Yes, you must tie the academics to what a student will do in industry.

02:22:06 Celri Olley: Framing topics and learning opportunities with care is very important. Ensuring the language we use stimulate thinking and curiosity is key.

02:22:10 Heather Saigo: Is the data from that NAEP assessment available for research use? I'm a doctoral student and looking for research opportunities. :-)

02:22:17 DaNel Hogan: This lesson highlights these issues and provides a Matchbox Car Lesson that can be used with young female scientists!
<https://stemazing.org/matchbox-car-pqrst/>

02:22:35 Marc Williams: Do you think the extreme emphasis on ELA and Math in the US hurts our kids desire to go into STEM careers? Especially since the Math portion does not always emphasize practical uses of Science.

02:22:39 Diane Hickey- National Science Foundation: "Why So Few" Women in Science and Engineering, AAUW 2010, Why So Few? Women in Science, Technology, Engineering, and Mathematics: AAUW – I like this resource because it gives tangible suggestions for grandmothers who want to help their granddaughters, like, "Stop saying, 'You're so smart!' and move to, 'Wow, you got smarter today! You worked hard at it! Keep going!' and give gifts that include developing 3D spatial understanding (i.e. LEGO, Minecraft) to know where you are in 3D space in a 2D rendition, which helps when designing spacecraft / airplanes/ kitchens / pockets-in-dresses.



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02:22:46 Michael Bilica: The issue of Stereotype Threat is very real. How do we help our students deal with that?

02:22:54 Diane Hickey- National Science Foundation:
<https://ww3.aauw.org/research/why-so-few/>

02:22:54 DaNel Hogan: This video, in particular, is powerful.
<https://www.youtube.com/watch?v=Boi6E8hnb4c>

02:23:26 Andrea Ford: IF/THEN® seeks to further advance women in science, technology, engineering and math (STEM) by empowering current innovators and inspiring the next generation of pioneers. Rooted in a firm belief that there is no better time to highlight positive and successful female professional role models, IF/THEN® is designed to activate a culture shift among young girls to open their eyes to STEM careers by: (1) funding and elevating women in STEM as role models, (2) convening cross-sector partners in entertainment, fashion, sports, business and academia to illuminate the importance of STEM everywhere, and (3) inspiring girls with better portrayals of women in STEM through media and learning experiences to pique their interest in STEM careers. <https://www.ifthenshecan.org/about/>

02:23:39 Renata Eugenia Guerra Fraustro: Oddly enough, in the school where I teach, the girls are just as interested in the sciences as the boys, they are very familiarized with women in the industry and investigations.

02:23:58 Susan Cabello: Thank you for the posters

02:24:01 Clare Smith: Female role models and mentors aren't just for girls; my husband (an engineer) speaks frequently about how meaningful it was to have a female advisor for his master's degree and a female mentor in his first engineering job. These women were better communicators, more open-minded, better collaborators and better problem-solvers than most others he interacted with. They helped him recognize his role as a male in the science community to work for equity and advocate for female colleagues

02:24:51 Natalie Granger: @Clare-that's so great to hear! Thanks for sharing that.

02:24:54 Susan Pritchard: IF YOU WANT A REAL WORLD EXAMPLE OF GIRLS DOING AMAZING THINGS ... CHECK OUT THE WATER GUARDIANS FROM LA HABRA, CA ... THEY ROCKED AND HELPED WRITE THE AB 1343 THAT WAS SIGNED BY THE GOVERNOR IN 2017 WHICH WHEN FULLY ENACTED WILL SAVE CA OVER 20 MILLION GALLONS OF WATER PER DAY ... THAT IS TEAM WORK PERSONIFIED!!!! AS FAR AS I KNOW ... IT IS STILL THE ONLY STUDENT WRITTEN LAW FULLY PASSED UNANIMOUSLY BY BOTH STATE HOUSES AND SIGNED INTO LAW!!

02:25:20 Michael Bilica: Society expects girls to fall short. Don't the girls who still have passion for stereotypically boy-related fields find themselves in a



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difficult position of being a sort of ambassador for women in STEM and that makes it harder right? That's what I meant by sterotype threat

02:25:36 Brandy Hepler: Media is doing a better job removing gender "boxes".

02:25:53 Joy Giovanini: @Ash Bystrom I really like that question. Don't hear that discussed often enough. That definitely connects back to the Why So Few? Research showing even when young women rise through the barriers they often leave the industry in the first ten years for STEM.

02:26:11 Kelsey Kiessig - PocketLab: Yes! Love this Teresa.

02:26:18 Alison Castillo: Preach, Teresa!

02:26:22 Devalyn Rogers:

<https://journals.sagepub.com/doi/full/10.1177/0261927X20933320>

02:26:38 Susan Pritchard: HIGHLY RECOMMEND FEMINEERS ... IT WAS HONORED AS ONE OF THE TOP 100 AFTER SCHOOL PROGRAMS FOR GIRLS ... HONORED BY THE OBAMA ADMINISTRATION ... CAL POLY POMONA IS A GREAT PLACE TO GET INFO.

02:26:44 Peter Baker: Time to go! All the best!

02:27:04 Celri Olley: We often take time out to talk about our 'place in space' and it is a safe space for everyone to talk about gender-based issues they experience and we have girls who talk about the fact that they are expected to be 'super women' and boys who are confused about their role and where they fit in and our non-binary kids end up being the ones who help the most in giving voice and vocal to the feelings of not knowing where their 'space ' is. It is exciting and helpful as it guides me how to design the next integration or learning session.

02:27:39 Maureen Bourke: @Celri excellent point

02:27:42 Scott Kiessig - ScIC | PocketLab: Drop your questions in the chat for the q&a section coming up! Make sure to tell us what school you are from and where in the world you are.

02:27:55 Diane Hickey- National Science Foundation: Why can girls' things cost more than boys' things? Jul 13, 2021 (i.e. the 'pink' tax) - on the podcast Million Bazillion (A podcast about money for kids and their families. We help dollars make more sense.) | Season 2 | Episode 4

<https://www.marketplace.org/shows/million-bazillion/>

02:27:56 Donna Smith: The MAA had an excellent movie on women in science and the issues they faced. I will try to find

02:28:25 Teresa Mobley - NGSS TOSA Saugus Union School District: Diane- the pink tax is real



02:29:16 Peter Rothman: Helping one of my students it came to my attention that her textbook doesn't mention a single female mathematician or person of color. zero.

02:29:23 Kelsey Kiessig - PocketLab: Diane, thank you for all of these amazing links! I can't wait to hear you speak later today.

02:29:43 Teresa Mobley - NGSS TOSA Saugus Union School District: Imani-Malakia- great book that features many women including Katherine Johnson: Women in Science- 50 Fearless Pioneers Who Changed the World

02:29:55 NAILA SUSANA GARZA ARCAUTE: My personal class approach is to make the students enjoy the class, any STEM class (I am middle school and high school teacher of Chemistry, Physics, Ecology and Math) most of the grown ups I have asked about their chemistry class when they went to high school, if not 100% but 99% of people I know they suffered through their chemistry classes, so to change that paradigm of Science being super hard subject or to suffer through it is what I try to fight letting students know that chemistry is all around us, in every day, without differentiation based on gender, I treat all of my students as capable to learn and enjoy the class

02:29:55 Celri Olley: There is a deep, intrinsic, underlying biases that we need to become more aware of in ourselves in order to not reinforce these stereotypes.

02:29:57 Diane Hickey- National Science Foundation: @Teresa Mobley - My 7&10 yr old listened to the podcast, and I was so proud of their outrageous reaction that the pink tax exists. Marketplace is doing a good job with that podcast.

02:30:01 T Chapman: Thank you so much, Mary! I'm certain we can work with our staff to identify and remove implicit bias

02:30:27 Steve Frankel: Is there a trick I can use so I can copy what's written in the chat? (Not just clicking on a link, which works fine) I forget how that works...

02:30:43 Peter Rothman: also can you comment briefly on how male teachers can support female students?

02:30:45 Steve Frankel: (I mean, copy someone's comment?)

02:30:50 Scott Kiessig - SciC | PocketLab: Steve- the zoom chat is clunky. We will share the transcript next week.

02:31:03 Slavica Bernatović: PrtSc

02:31:10 Kim Sprafka: @Mary - Haven't thought about a secchi disk since I worked at the Ocean Institute. Thanks for the memory!

02:31:13 Jesse Teachman: <https://bechdeltest.com/> this is a great chat about media and how they frame femininity

02:31:31 Jesse Teachman: it is scary how many shows do no pass this test

02:31:35 T Chapman: Teresa come through!

02:31:53 T Chapman: #WeBeenHere



02:31:59 Wendy Kennedy: I started a Girls Science Club 6 years ago and many of my girls are getting into the science field! We do activities that are not done in the classroom and then we participate in Girlstart every year.

02:32:07 Braeden Elenko: This is great stuff! Is there a Google Doc with all of the links that have been mentioned in the chat, like there was last week?

02:32:07 Celri Olley: I loved the Cosmos series - they focused a lot on the role of women and how they had to fight (and still fight) for their place at the table.

02:32:12 Melissa Molema: We were just discussing materials can be raw or man made and I used the following language (hu)men, (wo)men and (men) kind. To even the language as all contribute to what is made and invented.

02:32:15 NAILA SUSANA GARZA ARCAUTE: My middle school physics students loved when we saw Marie Curie (new Netflix movie) and they were so surprised of knowing how hard was for her to do pretty much anything because she was a woman, they did not know she could not be a teacher, etc

02:32:37 Tyler Letendre: I have to say, maybe because I found many ways to have a ton of fun along with my students, I definitely have had a fair mix of boys and girls, however, What I found unique, was how many of my students who associated as female would shy from using new tech such as the pocketlab devices until seeing myself guide them or other boys would freely explore them and the "intimidation" seemed to dissipate.

02:33:06 Debby Nelsondr: Not sure if this was already mentioned, but my middle school boys wear a lot of cool science tshirts. I asked the girls about it, and they said Target has a ton for boys to choose from but only 1-2 options for girls, if any.

02:33:08 Scott Kiessig - SciC | PocketLab: Sorry but Deborah is not with us today collecting links in a beautiful way. We are going to do our best to collect everything and put it with each recorded session when we distribute next week.

02:33:09 Donna Smith: Picture a Scientist: Celebrating Maryam Mirzakhani and Women in Mathematics In 2021

02:33:17 Maureen Bourke: I tell them that most adults are just winging it, haha

02:33:17 Ash Bystrom: It's important for BOYS to see women in STEM roles, so they understand that diversity IS the paradigm.

02:33:26 Diane Hickey- National Science Foundation: And don't forget you can be both! Hedy Lamaar - Hollywood superstar AND electrical engineering patent that led directly to cell phones and wifi today! (and did you know she also was married to a Nazi Arms dealer, escaped to America and offered her invention to the US Navy ? So marriage issues too.) No one is one sided - we all live in life. (That's deep, right?) :-)

02:33:33 Michelle Steinberg: @Teresa, your hands and boys are getting lost in your background



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02:33:38 Nagwa Fekri Rashed: My father, who was a math teacher, encouraged me a lot into STEM. It was not called STEM back then. But, he encouraged me and my sisters to embrace any job or career. He says I believe that girls have a lot more to offer and contribute.

02:33:40 Mary Ford- National Geographic Society: Ahhhh Debby, the clothing issue is huge!

02:33:51 Michelle Steinberg: *books

02:33:52 Linda Dixon: Are there any "Grants" available for "Afterschool" Girls in Science?

02:34:14 Caroline Sloan: 3M has a cool docuseries called Not the Science Type, that is about different women in Science.

02:34:27 Diane Hickey- National Science Foundation: Hedy Lamarr poster: <https://www.energy.gov/sites/default/files/2018/09/f55/Hedy-Lamarr-Poster.pdf>

02:34:30 Debby Nelsondr: Somebody is missing out on a huge market... \$\$\$

02:34:33 Melissa Molema: And from young children are scientists when help cook, playing in the bath with water etc. They are always doing something in their surroundings that makes them scientists in all types of ways.

02:34:49 Caroline Sloan: https://www.3m.com/3M/en_US/state-of-science-index-survey/not-the-science-type/

02:35:39 NICOLE WEIL: Orangutan pee!

02:35:46 Scott Kiessig - ScIC | PocketLab: <https://www.thepocketlab.com/scic5-national-geographic-society>

02:36:01 Scott Kiessig - ScIC | PocketLab: Mary's session from ScIC5- <https://www.thepocketlab.com/scic5-national-geographic-society>

02:36:05 Tyler Letendre: is there a hub for links being shared today much like that from the first session last week? ***loving this session!!

02:36:12 Donna Sawyer: Most of the science teachers in my district are women.

02:36:25 Scott Kiessig - ScIC | PocketLab: Tyler- we will distribute the links we collect with the recorded videos next week

02:36:33 Jen Massey: As to the clothing issue, go check out <https://svahausa.com/>

02:36:33 Celri Olley: We must model our convictions and show our students- all of them - to find their voice and to be brave and to connect with the world we all live in.

02:36:40 Tyler Letendre: thank you!!

02:36:46 Vanessa Kelly: @Donna Mine too!

02:37:21 Noreena Falta: Once again, thanx to everyone posting links!!! :)



02:37:52 Sharon Homer-Drummond, PhD:
https://nextstrain.org/?fbclid=IwAR1ivC1YovfW0ExD1g_Y62GwPsi1HtUtk4KcKmVNAVsRW7oMjwPN3ul6I_o

02:38:06 Devalyn Rogers: How Awesome the stories of support, yet let's address those BIPOC who don't receive those types of support, too often they are turned away!

02:38:17 Donna Smith: I had my male professor affirm me as a Math major working on my Masters at UC Berkeley. He encouraged me to not stop at the PhD

02:38:34 Paul Nugent: Can the links in Chat be sent to use afterwards?

02:38:44 Mary Ford- National Geographic Society: Great point Devalyn, about BIPOC students and scientists.

02:38:46 Donna Smith: I mean to say to not stop at the Masters but continue to my Ph D

02:38:50 Kelsey Kiessig - PocketLab:
<https://www.energy.gov/downloads/women-stem-posters-series-one>

02:39:01 Kelsey Kiessig - PocketLab:
<https://www.energy.gov/downloads/women-stem-posters-series-two>

02:39:03 Mary Ford- National Geographic Society: Here's the project I worked on in Borneo. :) <https://savegporangutans.org/>

02:39:06 Denise Zut: I printed and laminated the posters which I just came upon accidentally online - they are gorgeous!!!

02:39:06 Diane Hickey- National Science Foundation: Yes! Every child who asks "Why?" is a scientist! One of my favorite artists - Tiffany Ard Nerdy Baby - <https://www.nerdybaby.com/> and my favorite: Every Baby Knows the Scientific Method
<https://www.nerdybaby.com/every-baby-knows-the-scientific-method-mini-poster-11x17/>

02:39:10 Kelsey Kiessig - PocketLab:
<https://www.energy.gov/downloads/women-stem-posters-series-three> Diane3

02:39:44 Celri Olley: We also have young women - Greta Thunberg for example - showing girls that they voice and power as youth to change the world!

02:40:11 Mary Ford- National Geographic Society: And here is my role model!!! <https://savegporangutans.org/about/cheryl-knott/>

02:40:13 Celri Olley: Thank you for the amazing poster series!

02:40:37 Andrea Ford: More media examples
<https://www.ifthenshecan.org/about/>

02:40:37 Clifton Roozeboom - SciC | PocketLab: Hear from a couple awesome women scientists in our Ask a Scientist series here:



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02:40:39 Clifton Roozeboom - SciC | PocketLab:
https://app.thepocketlab.com/lab-report/vt0z-e9A0001Wnd_?ro=1&ref=%2Fresources

02:40:43 Celri Olley: Thanks @Mary for that link! Can't wait to dive in!

02:41:12 Rinita Hasa: Amazing poster! Thank you 😊

02:41:19 Diane Hickey- National Science Foundation: "Every baby knows the scientific method" #6 Invite others to reproduce the results - is hilarious!!!
<https://www.nerdybaby.com/every-baby-knows-the-scientific-method-mini-poster-11x17/>

02:41:31 Clifton Roozeboom - SciC | PocketLab: Dr. Megan MacDonald on NASA Heat Shield research:
https://app.thepocketlab.com/lab-report/fM45oH_E0001sVQR?ro=1&ref=%2Fresources

02:41:34 Danielle Romais: I love that!

02:41:59 Danielle Romais: Most of the scientist I got to interact in Skype a Scientist were women

02:42:21 Mary Ford- National Geographic Society: Imani, here's our Explorer Classroom program that brings scientists to classrooms virtually:
<https://www.nationalgeographic.org/tickets/explorer-classroom/>

02:42:28 Clifton Roozeboom - SciC | PocketLab: Dr. Julie Blumreiter on Clean Diesel research:
https://app.thepocketlab.com/lab-report/vt0z-e9A0001Wnd_?ro=1&ref=%2Fresources

02:42:33 Susan Cabello: I started SHPE in my High School

02:42:37 KT Moran: Is there a similar set of posters for people of color or women of color in STEM? This would be great for our LSAMP Grant students

02:42:39 Mary Ford- National Geographic Society: (it's free!)

02:42:41 Susan Bardenhagen: The Miss Virginia contest winner
<https://mymodernmet.com/miss-virginia-science-talent/>

02:42:43 Steve Frankel: @ Cliftont R. Ooh, I really like that heat shield research page!

02:42:58 Noreena Falta: Im not sure about anywhere else, but we should have Science teachers in Home Economics. Getting into the real world stuff.

02:43:06 Susan Cabello: Thank you Ladies

02:43:07 Devalyn Rogers: Thank you All!!!!!!!!!!!!!!

02:43:10 Jen Massey: <https://www.skypeascientist.com/>

02:43:13 Teresa Mobley - NGSS TOSA Saugus Union School District: Thanks for having us!

02:43:15 Danielle Romais: Thank you all!

02:43:16 zarha hammoud: thx everyone

02:43:17 Michelle Steinberg: Thank you all!!!

02:43:21 Alisha Flores: Thank you amazing!



02:43:23 Mary Ford- National Geographic Society: So glad to be here!
Thanks all!!

02:43:23 Alistair Douglas: Thank you all!

02:43:26 Denise Zut: So inspiring, thank you all!!!!

02:43:28 Angela Justman: thank you!

02:43:33 Luis Carlos SOLORZANO MENDOZA: THANK YOU

02:43:34 Kar Fox: So fabulous:)

02:43:35 Tiffeny Thomas: I had trouble getting on this morning, but I can't wait to watch the replay.

02:43:37 Arlette Neira: Thank you!!

02:43:37 Albano Meten: Thank you

02:43:38 Janet Littlejohn: Thank you all for your wisdom, determination and greatness!

02:43:42 Julia Hawthorne: Awesome! Thank you all.

02:43:42 Robin Porter: so inspiring!! Thank you!!

02:43:42 VANESSA ANDREA NAVARRETE SOTOMAYOR: Thank You!!!

02:43:43 Scott Kiessig - SciC | PocketLab: Sign up for the NASA TechRise Challenge here <https://www.futureengineers.org/nasatechrise>

02:43:46 Cynthia Garay: Thank you panelists, for a great session!

02:43:50 Pushpa Raj Acharya: Very Inspiring ! Thanks a lot, Pushpa from Nepal

02:43:51 Susan Bardenhagen: Home economics in Virginia is part of Career & Technical Education. =) really geared to STEAM!

02:43:52 Teresa Mobley - NGSS TOSA Saugus Union School District: Feminist science benefits all, not just women

02:44:00 Scott Kiessig - SciC | PocketLab: Sign up for the NASA TechRise Challenge here <https://www.futureengineers.org/nasatechrise>

02:44:03 Henry Kisanya: This is great work indeed .Henry

02:44:20 Katrina Roseos: wow! I love that!

02:44:28 Tyler Letendre: that is awesome!! much like cubes-in-space!!

02:44:28 Scott Kiessig - SciC | PocketLab: Sign up for the NASA TechRise Challenge here <https://www.futureengineers.org/nasatechrise>

02:44:33 Lisa Slack: Is this only for USA students

02:44:36 Boboeva Nigora: Thank you all

02:44:36 Christine Hirst Bernhardt: I started a HAB (High Altitude Balloon) student program! So cool

02:44:46 Scott Kiessig - SciC | PocketLab: Sign up for the NASA TechRise Challenge here <https://www.futureengineers.org/nasatechrise>

02:44:48 Noreena Falta: WOW Thank You!!!



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02:44:59 Davy Van den bergh: ESA does a simmilar thing for teachers in europe

02:45:12 Ma.Cristina Acosta García: Thank you!!!

02:45:16 Dave Bakker - ScIC | PocketLab: Thanks everyone for the great ideas, links, etc in chat!!!

02:45:58 Scott Kiessig - ScIC | PocketLab: Sign up for the NASA TechRise Challenge here <https://www.futureengineers.org/nasatechrise>



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