

*A SciWomen Origin Story*

# RITU RAMAN

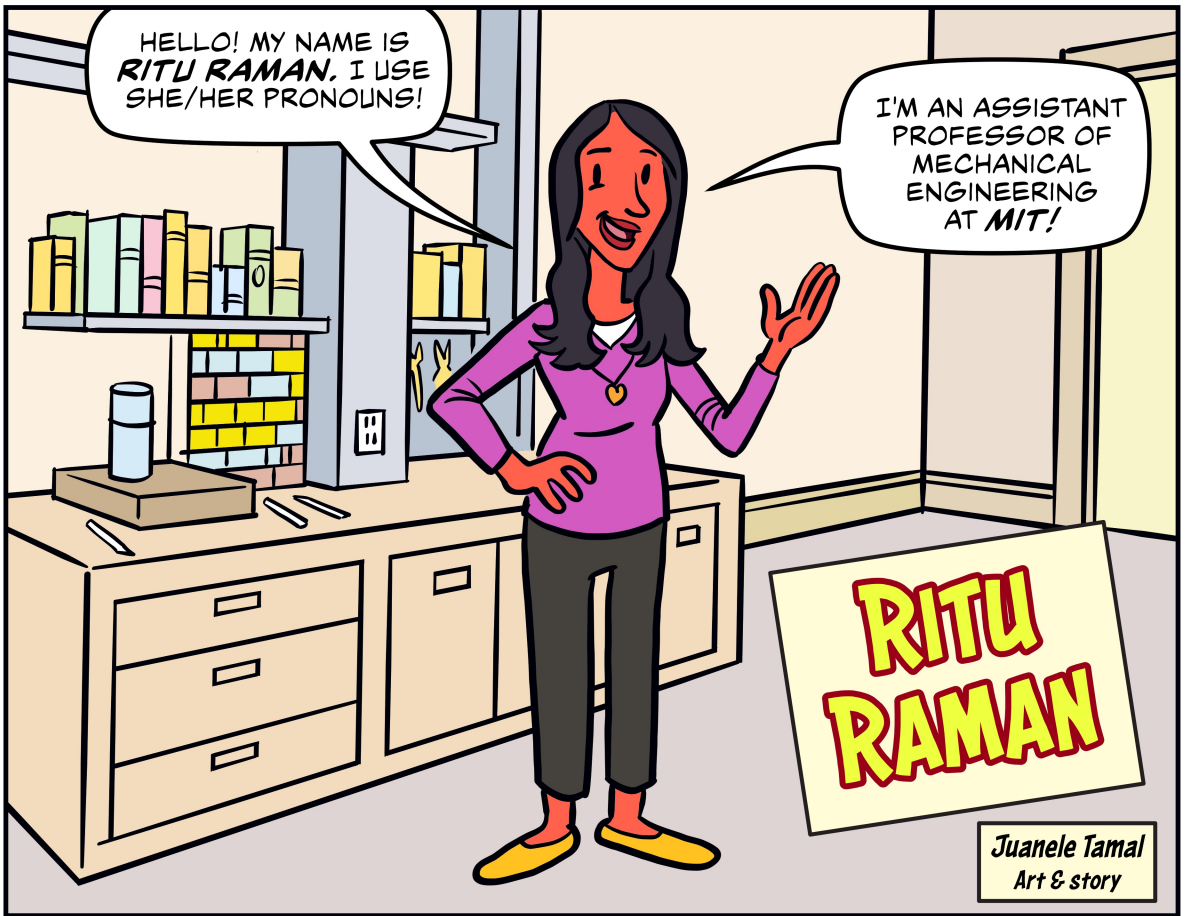


*Juanele 2024*

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 AAAS  
AMERICAN ASSOCIATION FOR  
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*Ambassador*



HELLO! MY NAME IS **RITU RAMAN**. I USE SHE/HER PRONOUNS!

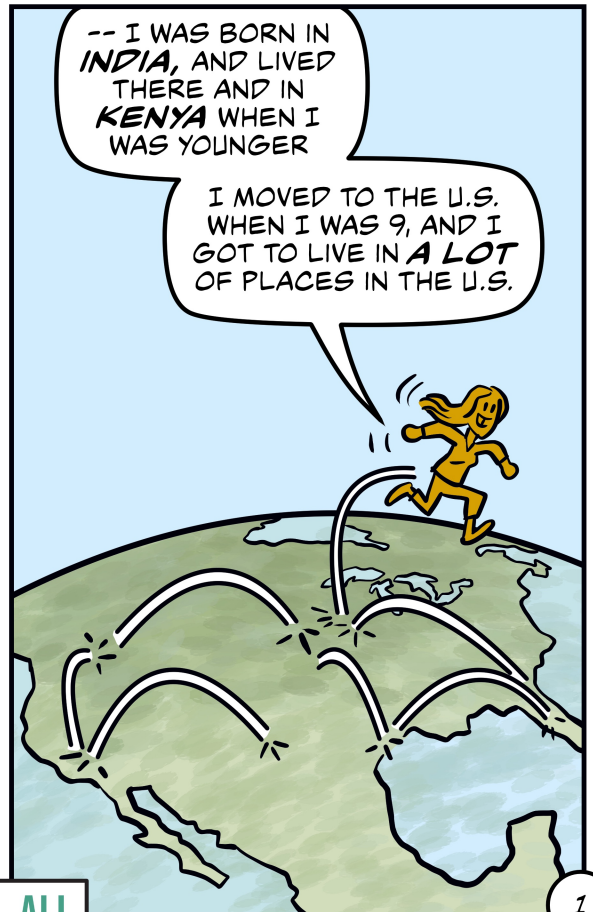
I'M AN ASSISTANT PROFESSOR OF MECHANICAL ENGINEERING AT **MIT!**

**RITU RAMAN**

Juanele Tamal  
Art & story



OUTSIDE OF BEING A **WOMAN** AND A **SCIENTIST**, THE IDENTITY THAT RESONATES THE MOST STRONGLY WITH ME IS BEING AN **IMMIGRANT** IN THE U.S. --



-- I WAS BORN IN **INDIA**, AND LIVED THERE AND IN **KENYA** WHEN I WAS YOUNGER

I MOVED TO THE U.S. WHEN I WAS 9, AND I GOT TO LIVE IN **A LOT** OF PLACES IN THE U.S.

A BIG PART OF MY IDENTITY IS TO FEEL LIKE A **GLOBAL CITIZEN** IN SOME WAY.

MY MOM, MY DAD AND ME, WE GOT HERE WITH VERY FEW THINGS AND NOW WE'VE ACCOMPLISHED **A LOT!**



MOST OF MY FRIENDS IN COLLEGE WERE INDIAN AMERICAN, BECAUSE IT WAS A THING WE HAD **IN COMMON** --

-- IN GRAD SCHOOL, I EXPANDED MY FRIEND GROUPS, REALIZING THERE ARE **MANY** OTHER THINGS WE MAY HAVE IN COMMON...



I'M AN ONLY CHILD, AND I HAVE A **VERY GOOD** RELATIONSHIP WITH MY PARENTS.

GROWING UP, I WAS INTERESTED IN A LOT OF THINGS, BUT IN HIGH SCHOOL I WAS INTERESTED IN **SPACE!**



I ALSO REALLY LIKED **BOOKS** AND **WRITING**, AND PEOPLE SEEMED TO LIKE THE THINGS THAT I WROTE!





WHEN THE TIME CAME TO CHOOSE, I PICKED SPACE OVER WRITING. I WAS JUST BEING **PRACTICAL!**

ARE YOU SURE? WHAT ABOUT JOURNALISM?

I THINK **AEROSPACE ENGINEERING** IS A BETTER OPTION FOR ME!



I ENDED UP BEING A **MECHANICAL ENGINEER** INSTEAD, BUT SPACE STILL INTERESTS ME. MY HUSBAND IS A BIOLOGIST AND HE'S REALLY INTO SPACE TOO, EVEN **MORE** THAN ME!

TODAY'S ROCKET SHIP LAUNCH WAS AMAZING!



I GOT TO **CORNELL** UNIVERSITY, BUT THE INTRO TO AEROSPACE COURSE WAS ALREADY **FULL!**

I'M TAKING INTRO TO BIOMEDICAL ENGINEERING. THE PROFESSOR SOUNDS **FUN!**

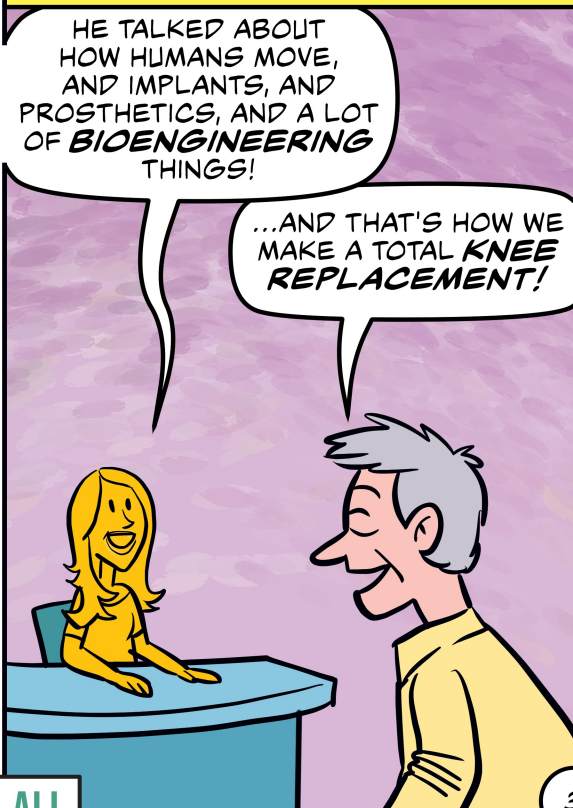
OH, OK. I'LL TAKE IT TOO, THEN!



THE PROFESSOR WAS **DAVE GRUBBS**, AND HE WAS JUST DELIGHTFUL!

HE TALKED ABOUT HOW HUMANS MOVE, AND IMPLANTS, AND PROSTHETICS, AND A LOT OF **BIOENGINEERING** THINGS!

...AND THAT'S HOW WE MAKE A TOTAL **KNEE REPLACEMENT!**





HE TALKED ABOUT **TISSUE ENGINEERING**. PEOPLE WERE TRYING TO BUILD WHOLE TISSUES FROM SCRATCH IN A PETRI DISH, AND THEN **IMPLANTING** IT INSIDE OF THE BODY!



THIS WAS SUPER EXCITING TO ME! IT **SHIFTED** MY TRAJECTORY, AND I WAS SO HAPPY ABOUT IT!



GROWING UP, MY BIGGEST SUPPORT SYSTEM WAS MY PARENTS. THEY PRIORITIZED **EFFORT** AND **PROCESS** MORE THAN OUTCOME!



ALSO, MY BEST FRIEND, **SASHA**, HAS ALWAYS SUPPORTED ME. I MET HER WHEN I WAS 12, SHE'S SOMEBODY WHO WAS THERE!



MY OTHER TWO BEST FRIENDS, **EMILY** AND **ALEX**, FROM GRAD SCHOOL, ALSO FORM PART OF MY SUPPORT SYSTEM!



AND MY HUSBAND, OF COURSE! HE KNOWS HOW **AMBITIOUS** I AM, AND THAT'S A THING HE **LIKES** ABOUT ME!

IT'S NOT SOMETHING I'M TRYING TO HIDE!



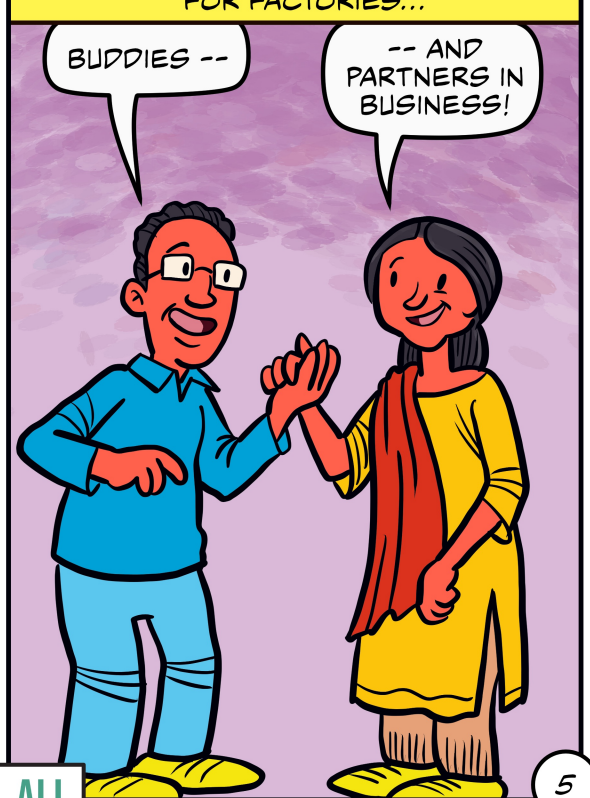
I HAD **SEVERAL** ROLE MODELS GROWING UP. MY DAD, MY MOM, MY GRANDPA -- MY MOM'S DAD...



MY PARENTS HAD A **STARTUP** WHEN I WAS A CHILD. THEY BUILT EFFICIENT HEAT EXCHANGERS FOR FACTORIES...

BUDDIES --

-- AND PARTNERS IN BUSINESS!





I ALSO SPENT A LOT OF TIME WITH **MY GRANDPA**. HE WAS PROBABLY THE PERSON THAT FIRST PUT THE IDEA OF **BEING AN ENGINEER** IN MY HEAD!

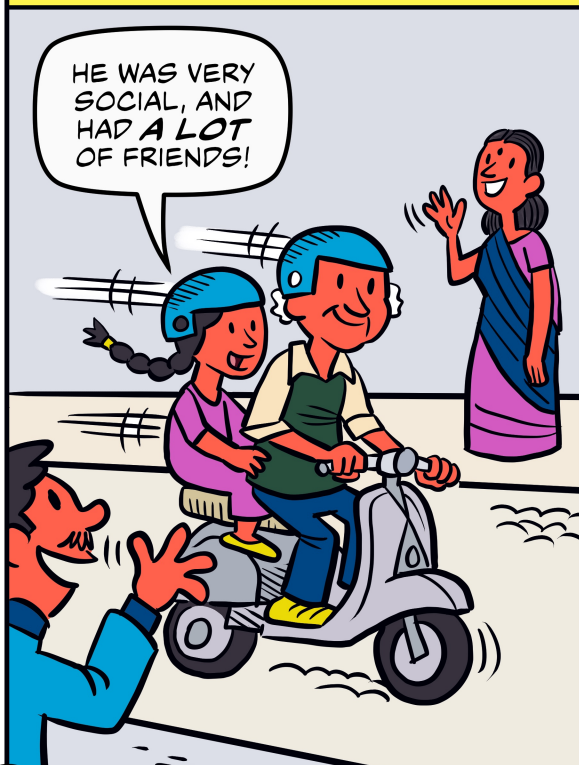


LET'S DRAW IT. WHAT'S THE FRONT VIEW? AND THE TOP AND SIDE VIEWS?

I'M DRAWING IT **TO SCALE!**



WE'D **DRIVE** AROUND THE CITY TO GET A BUNCH OF STUFF TO **BUILD** THINGS --



AT ONLY **EIGHT** YEARS OLD, I ALREADY ASSUMED MYSELF AS AN ENGINEER. IT ALSO HELPED TO DEFINE MY PERSONALITY THAT WE **TRAVELED** A LOT!

I'M USED TO DIVERSITY! PEOPLE ARE **DIFFERENT**, AND THAT'S OKAY!

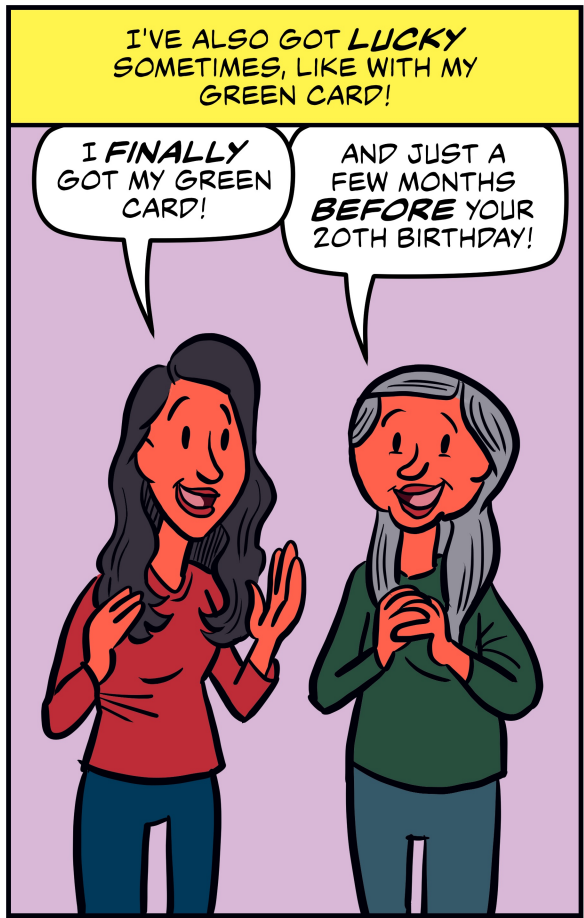






I'M ALSO AN **EDUCATOR**, AND A **SCIENCE COMMUNICATOR**!

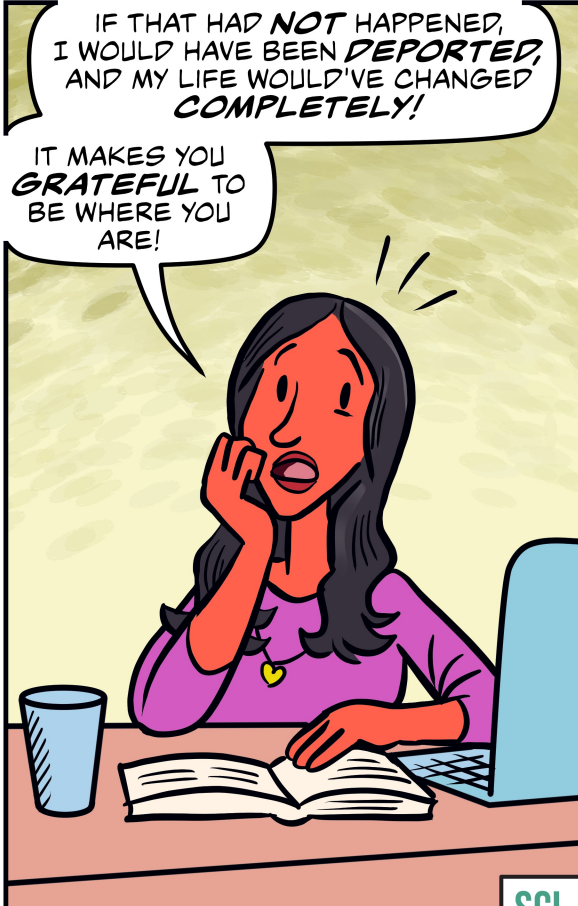
MY EXPERIENCES IN **TRAVELING** AND **LIVING** IN **DIFFERENT** PLACES HAVE TAUGHT ME A LOT IN THIS SENSE!



I'VE ALSO GOT **LUCKY** SOMETIMES, LIKE WITH MY **GREEN CARD**!

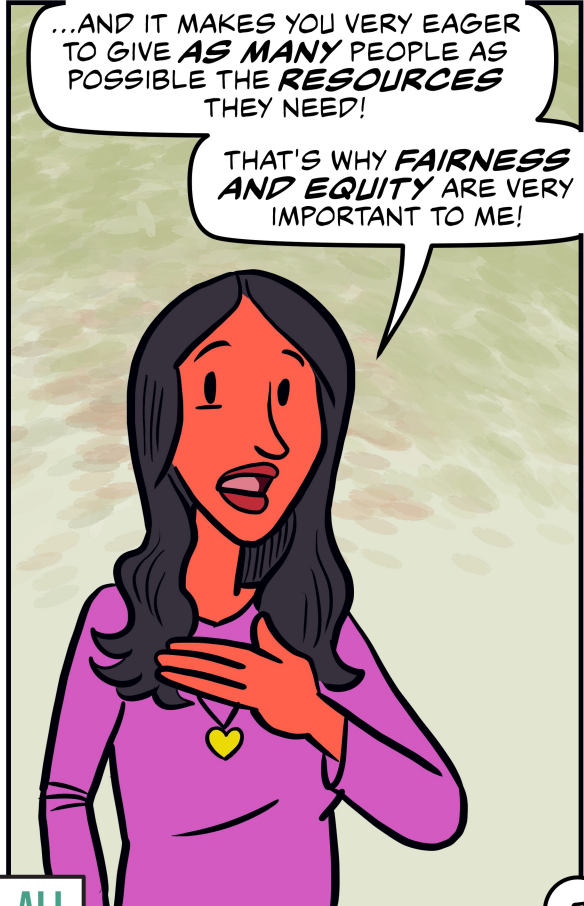
I **FINALLY** GOT MY **GREEN CARD**!

AND JUST A FEW MONTHS **BEFORE** YOUR 20TH BIRTHDAY!



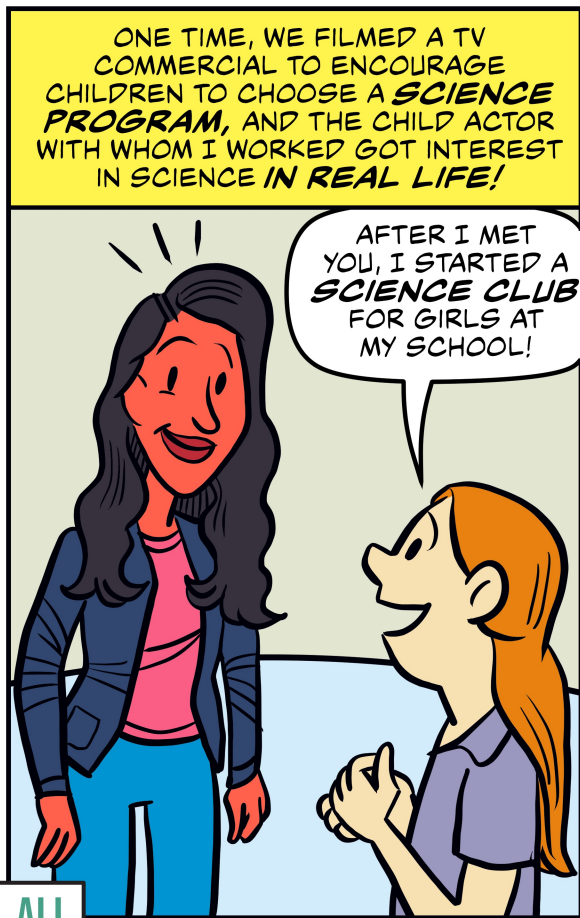
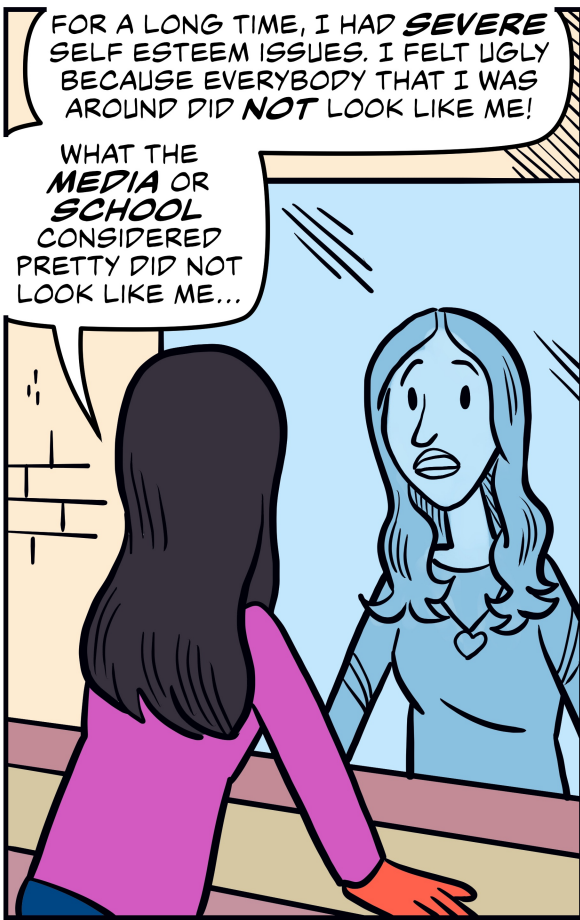
IF THAT HAD **NOT** HAPPENED, I WOULD HAVE BEEN **DEPORTED**, AND MY LIFE WOULD'VE CHANGED **COMPLETELY**!

IT MAKES YOU **GRATEFUL** TO BE WHERE YOU ARE!



...AND IT MAKES YOU VERY EAGER TO GIVE **AS MANY** PEOPLE AS POSSIBLE THE **RESOURCES** THEY NEED!

THAT'S WHY **FAIRNESS** AND **EQUITY** ARE VERY IMPORTANT TO ME!





IN MY LAB, I'M **TRAINING** PEOPLE TO BE RESEARCHERS AND GET THEIR PHDS!

I LOVE WATCHING PEOPLE **GROW** AS SCIENTISTS AND RESEARCHERS!



WHAT THEY HAVE TAUGHT ME IS THAT EVERYBODY HAS DIFFERENT **GEOGRAPHIC AND ETHNIC** BACKGROUNDS, AND THAT MAKES THEM HAVE DIFFERENT **LEARNING NEEDS!**



AS AN **IF/THEN** AMBASSADOR, I LIKE THAT WE FOCUS ON **MIDDLE SCHOOL** AGE GIRLS.

THERE'S A **SIGNIFICANT** DROP OFF IN THEIR INTEREST IN STUDYING SCIENCE AT THIS POINT!



ALSO, I'M FOCUSING ON SUPPORTING AS MANY WOMEN AS POSSIBLE TOWARDS BEING **FACULTY MEMBERS.**

VERY FEW WOMEN START THEIR **OWN COMPANIES.** I WANT TO HELP OTHER WOMEN IN THAT SENSE AS WELL!





IN SCIENCE, **REJECTION** IS COMMON. WHETHER IT'S A GRANT APPLICATION OR A SUBMITTED PAPER, IT'S OK TO BE SAD IF YOU'RE REJECTED, BUT THEN TRY TO DO **ANOTHER** THING OR **APPLY AGAIN!**

IT'S MORE ABOUT **CONSISTENT EFFORT!**

GRANT APPLICATION DENIED

**CONSISTENT EFFORT** IS WHAT LEADS TO **SUCCESS**. TAKE CRITICISM TO BE ABOUT THE PROJECT OR THE IDEA, AND **NOT** ABOUT YOU!

I HOPE YOU'VE ENJOYED MY STORY! MY **ADVICE** FOR YOUNG WOMEN OR PEOPLE CONSIDERING PURSUING ENGINEERING IS:

...FIGURE OUT A PROBLEM THAT YOU'RE **VERY INTERESTED** IN SOLVING --

-- AND THEN FIND A **PRACTICAL** AND ALSO **HAPPY PATH** TO THAT GOAL!