

A SciWomen Origin Story

JESSICA ESQUIVEL



Juanele 2024

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AAAS
AMERICAN ASSOCIATION FOR
THE ADVANCEMENT OF SCIENCE

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Ambassador

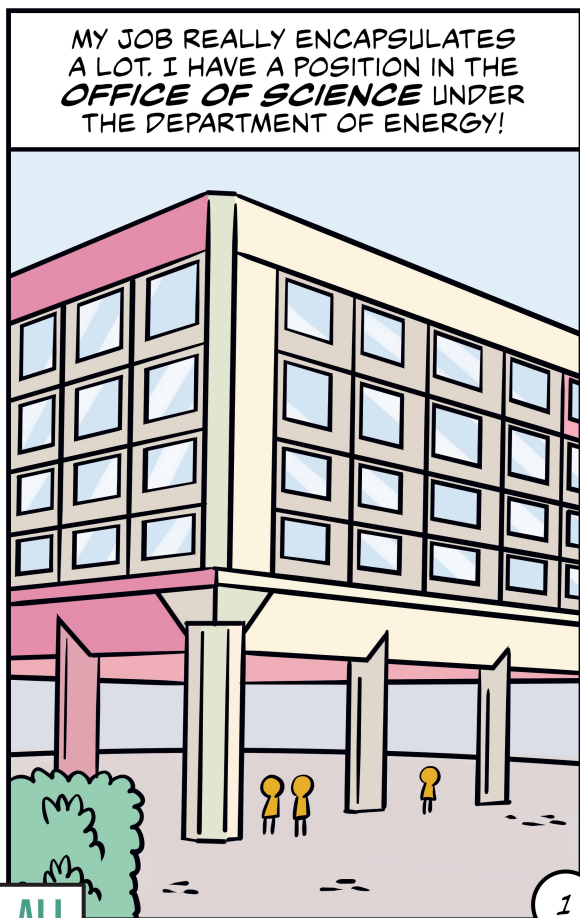


JESSICA ESQUIVEL

Juanele Tamal
Art & story



MY NAME IS **JESSICA ESQUIVEL**, I'M A PARTICLE PHYSICIST WORKING AT **FERMILAB**. MY PRONOUNS ARE SHE/HER!



MY JOB REALLY ENCAPSULATES A LOT. I HAVE A POSITION IN THE **OFFICE OF SCIENCE** UNDER THE DEPARTMENT OF ENERGY!

WE GET MONEY FROM THE GOVERNMENT TO DO THE **SCIENCE** THAT WE DO --

IT'S ALSO OUR JOB TO **SHARE** WHAT WE LEARNED WITH THE GENERAL PUBLIC!



I HELP TO SET UP REVIEW PANELS AND COLLABORATIONS. MY JOB IS TO **GEEK OUT** ABOUT SCIENCE!

RIGHT NOW THIS JOB IS LIKE A **SIDE QUEST** IN MY CAREER!



I GET TO **LEARN** THINGS AND **ASK** QUESTIONS AND THEN I TAKE WHAT I'VE LEARNED AND **REPACKAGE** IT...

THIS IS THE WORK DONE AT THIS UNIVERSITY, AND THIS IS WHAT GRADUATE STUDENTS ARE DOING

THE **POWERS** THAT BE



I'VE ALSO WORKED ON THE **MUON G-2 EXPERIMENT** AT FERMILAB

MUONS ARE **ELEMENTARY PARTICLES**, THEY'RE SIMILAR TO ELECTRONS BUT WITH A MUCH GREATER MASS --

-- I CALL THEM THE PLUS SIZE VERSION OF AN ELECTRON!

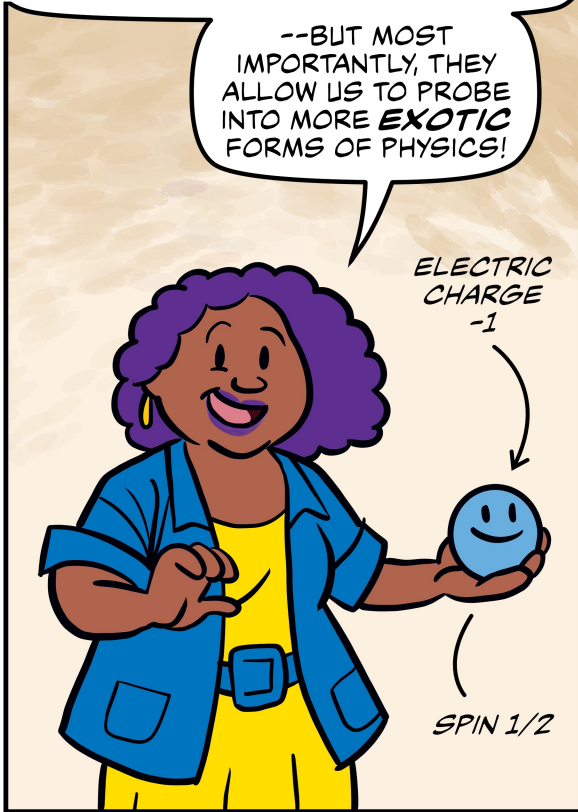


MUONS ARE **HEAVY** AND THEY'RE NOT THOUGHT TO BE COMPOSED OF ANY **SIMPLER** PARTICLES --

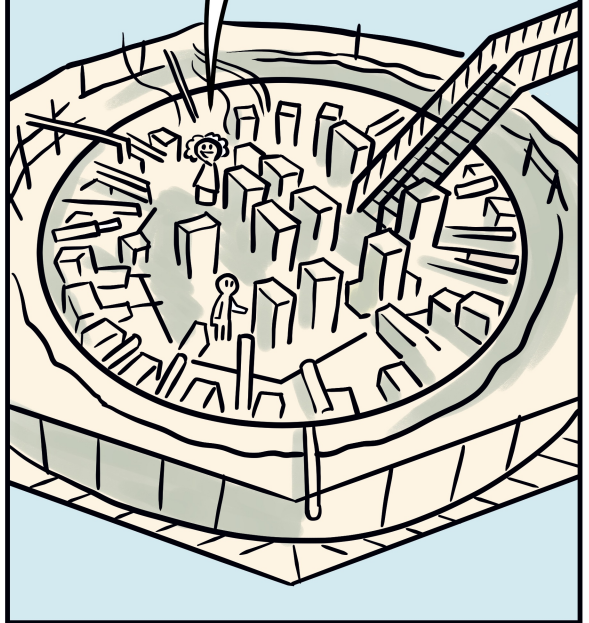
--BUT MOST IMPORTANTLY, THEY ALLOW US TO PROBE INTO MORE **EXOTIC** FORMS OF PHYSICS!

ELECTRIC CHARGE
-1

SPIN 1/2

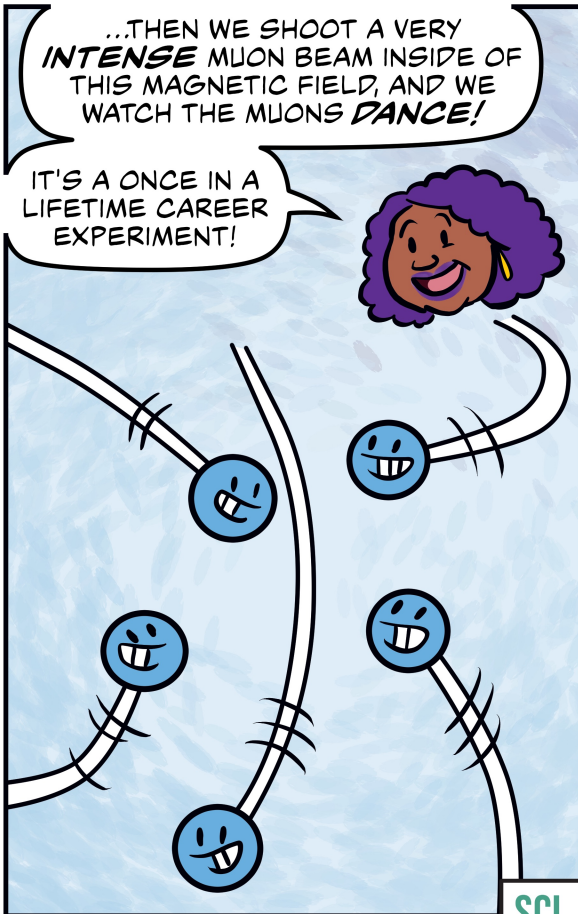


WITH THE MUON G-2 EXPERIMENT, WE WANTED TO MEASURE ITS **ANOMALOUS** MAGNETIC DIPOLE MOMENT. WE HAVE A 15 METER-DIAMETER MAGNETIC RING...



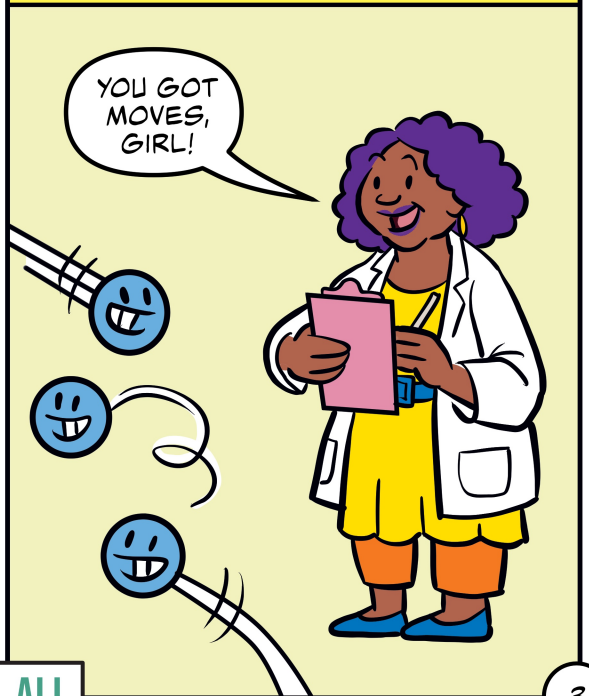
...THEN WE SHOOT A VERY **INTENSE** MUON BEAM INSIDE OF THIS MAGNETIC FIELD, AND WE WATCH THE MUONS **DANCE**!

IT'S A ONCE IN A LIFETIME CAREER EXPERIMENT!



THEORETICAL PHYSICISTS HAVE A VERY **PRECISE** CHOREOGRAPHY TO THIS DANCE, AND WE PAY ATTENTION TO SEE IF THERE IS ANY **DISCREPANCY** BETWEEN THE REAL TIME DANCE AND THE CHOREOGRAPHY!

YOU GOT MOVES, GIRL!







I IDENTIFY AS A **WOMAN**. I DON'T THINK THAT WOULD'VE BEEN A **RELEVANT** IDENTIFIER IF IT WEREN'T FOR THE **MALE DOMINATED** FIELD I AM IN!



I ALSO IDENTIFY AS **BLACK!** UNFORTUNATELY, THERE'S SOME **NEGATIVE** THOUGHTS AND BIASES THAT COME WITH IT --

-- BUT IT'S **NOT** MY JOB TO MAKE PEOPLE COMFORTABLE WITH MY PRESENCE!



BEING BLACK, I'M EITHER THE ONLY OR ONE OF FEW, AND CONSTANTLY **OTHERED** --

-- IT'S MADE ME **STRONGER!** MY BLACKNESS HAS GIVEN ME A SENSE OF POWER THAT ALLOWS ME TO **RAISE** MY VOICE!



LIKE MY EFFORTS IN THE "**CHANGE NOW**" COLLECTIVE, A GROUP OF BLACK SCIENTISTS AND ALLIES AT FERMILAB, TO PUSH FOR **CHANGE** WITHIN OUR WORK ENVIRONMENT!

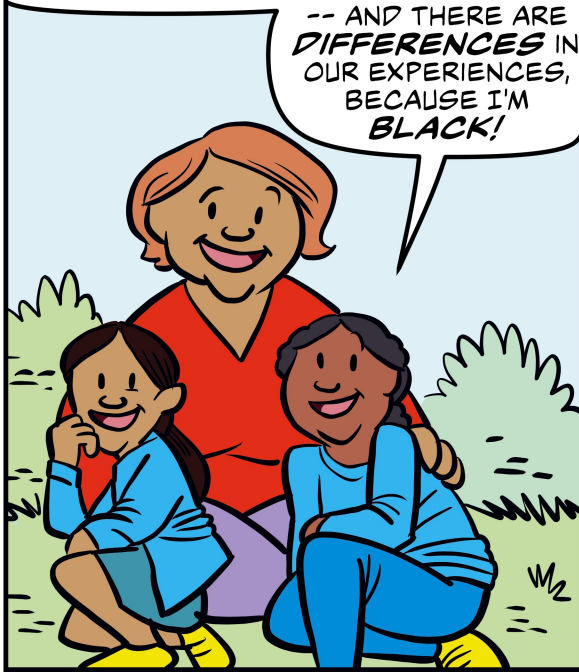
THERE IS POWER IN BEING YOUR **AUTHENTIC** SELF!



I ALSO IDENTIFY AS **LATINA**, I'M STILL ON THE JOURNEY OF BLENDING **EVERY** PIECE OF ME!

I WAS RAISED IN A MEXICAN HOUSEHOLD. MY MOM AND MY SIS ARE LIGHT SKINNED --

-- AND THERE ARE **DIFFERENCES** IN OUR EXPERIENCES, BECAUSE I'M **BLACK!**



I FEEL THE SAME ABOUT BEING **QUEER**, EVEN AMONG MY FAMILY. IT HIGHLIGHTS HOW WE UNDERSTAND PHYSICS...

...WE HAVE CLASSICAL PHYSICS...

...AND **QUEER PHYSICS**, THE QUANTUM REALM!



IN THE REALM OF **QUEER PHYSICS**, EVERYTHING IS CHAOS AND NOTHING IS QUITE AS WHAT IT'S SUPPOSED TO BE!



IF THE UNIVERSE DOESN'T HAVE TO BE PERFECT, WHY DO I HAVE TO BE?





I'M ALSO A **LESBIAN**. QUEERNESS IS LOVE! WHEN I THINK OF IT, I THINK ABOUT MY WIFE, AND THE AMAZING **SUPPORT** THAT SHE'S GIVEN ME THROUGHOUT THIS JOURNEY!



I'VE BEEN ABLE TO CONNECT WITH OTHER **QUEER SCIENTISTS** AND SEE THEIR AMAZING WORK AND CONTRIBUTIONS TO SCIENCE!



I ALSO IDENTIFY AS A **PHYSICIST**. THIS ONE HAS DEFINITELY EVOLVED AS I HAVE AGED!

IT USED TO MEAN GETTING AN ACADEMIC PROFESSORSHIP AND STRIVING FOR TENURE, THEN JUST DOING RESEARCH AND TEACHING **UNTIL RETIREMENT!**

LIKE ME!



NOW, BEING A PHYSICIST MEANS BEING ABLE TO **SHARE** THE WONDERS OF PHYSICS TO FOLKS THAT ARE NOT IN MY FIELD. IT'S **INTEGRAL** TO OUR JOB!

MUONS
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A NEW, RECENT IDENTITY I HAVE IS **NEURODIVERGENT**. I WAS DIAGNOSED WITH ADHD, DEPRESSION AND ANXIETY SOON AFTER MY DAD DIED...



MY BRAIN JUST STOPPED WORKING. IT WAS **SCARY!**

THERE WAS SHAME, BUT NOW I KNOW THERE ARE BETTER WAYS TO THRIVE!



JUST LIKE YOU WOULD GO TO THE **DOCTOR** IF YOUR LEG WAS BROKEN, I WENT TO THE DOCTOR TO FIGURE OUT MY **BRAIN** --

-- NOW I'M MOVING INTO THE POSITIVE SPACE OF HAVING A DIFFERENT **BRAIN!**

HELLO!



I AM **NOT** NORMAL, I DON'T LIKE THE WORD "NORMAL"! MY QUIRKS MAKE ME A **GOOD** SCIENTIST --

-- AND MAKE MY SCIENCE COMMUNICATION MORE **ACCESSIBLE** TO A LARGER GENERAL AUDIENCE!

I'D LIKE TO SEE **MORE** ON SOCIAL MEDIA ABOUT ALL THESE IDENTITIES: BLACK, BROWN, QUEER, NEURODIVERGENT, NONBINARY, AND GENDER FLUID FOLKS DOING **SCIENCE!**



...BECAUSE SCIENCE ISN'T SOMETHING DONE EXCLUSIVELY BY **OLD WHITE FOLKS** ANYMORE!



HARNESS THE POWER OF BEING YOUR **AUTHENTIC SELF!** DON'T TRY TO HIDE ANY ASPECT OF **WHO YOU ARE!**

JUST OPEN UP THE BOX OF **POWER, CONFIDENCE, AND FREEDOM!**

