

00:00	[music]
00:05	[music]
00:10	[music] Roberto: Hi there. I am Dr. Roberto Marin,
00:15	founder of ingear.org. Welcome to my podcast.
00:20	If you are listening, odds are you have downloaded my book PhD in the USA:
00:25	Study your Master's or Doctorate With a Full Scholarship: No Strings Attached.
00:30	If you have not, go ahead and use the link below to download your free copy of
00:35	PhD in the USA. These podcasts complement the book, and my intention is
00:40	to provide a blueprint for your to follow in your quest for improvement
00:45	and towards obtaining an advanced degree in a world class university. Our
00:50	very first guest is a very special one. She's Ms. Sandra Cauffman,
00:55	the NASA Earth Science Division Deputy Director.
01:00	In 2016 I sat down with Ms. Cauffman in her office
01:05	in NASA headquarters in Washington D.C. Please do me a favor,
01:10	and listen to the whole recording. Director Cauffman speaks with transparency about
01:15	about her life, and how she went from homeless to NASA deputy director.
01:20	Through her life, Director Cauffman experienced many if not all
01:25	and more than all the obstacles and hostilities that you have faced in your life.
01:30	I guarantee you that you will learn a lot from this conversation.
01:35	There are things in this recording that you might have never conceptualized,
01:40	but that you have experienced. Learning about the life of
01:45	Ms. Cauffman will help you to have your own breakthroughs
01:50	and possibly reach your full potential. So, thank you again for listening,
01:55	and remember, listen to the whole recording, and if you can,
02:00	get a notebook and take notes. You will not regret it.
02:05	RM: What advice would you give to young engineers and scientists
02:10	and even, you know, children that dream about working with NASA?
02:15	SC: Well, they have to prepare themselves. Go back to [inaudible]
02:20	You cannot just say you want to work with NASA and expect that NASA's gonna be your job.
02:25	You have to do something that NASA is interested in, you know.
02:30	Largely, we hire scientists and engineers, but we do hire doctors,
02:35	we hire lawyers, we hire accountants, we hire secretaries,
02:40	we hire all kinds of people. Not as many as we hire
02:45	the people in the STEM fields, that would be science, technology,

02:50	math, engineering, those types of fields are more prevalent here.
02:55	But, you know, prepare yourselves, study hard, and look
03:00	for opportunities, you know, get your degrees. If you feel that a bachelor's
03:05	[inaudible] now you really need a higher
03:10	RM: Advanced degree? SC: Advanced degree to really get noticed like,
03:15	and if you get a PhD, even better.
03:20	And for foreign kids, you can have a PhD you can come and do a post-doc here.
03:25	That's one venue that I always tell kids you want to, you know, come and work for NASA,
03:30	get a doctorate and get a post-doc. We do hire post-docs, and
03:35	eventually they might stay. And I know a couple,
03:40	very few people that we hire that are only green cards, but I have two
03:45	examples of people who with green cards that were hired to NASA.
03:50	Because they had a skill that nobody else had, and [inaudible]. But, again,
03:55	you have to study, you have to prepare yourself, [inaudible]
04:00	where you came from, and look at where you can go. And,
04:05	and we have ten centers at NASA, I keep saying that, everybody
04:10	they keep asking me, [inaudible]
04:15	and they asked me where I was from. Are you from Houston?
04:20	[inaudible] Cause that's where we do the astronauts. NASA has ten centers across the United States,
04:25	any center is... RM: There are opportunities. SC: There are opportunities [inaudible] I have,
04:30	we have 16,000 employees. RM: What is the, what is the, what is the
04:35	mission of NASA? SC: Our mission is to discover what hasn't been discovered before,
04:40	to look at different ways of doing things, to explore
04:45	earth [inaudible] basically a planet how our planet
04:50	functions, look at earth as a system to really understand it from all angles,
04:55	and use that information in a [inaudible] so it is
05:00	of societal benefit. RM: Some people expect that opportunities come to
05:05	them rather than seeking them. SC: Yeah, and sometimes
05:10	a lot of people they just feel like they are gonna do the bare minimum and they are,

05:15	the opportunities are just gonna show up at their door. Well, sometimes opportunities do show up at their door,
05:20	but they don't, they're not ready to take them. So, they waited
05:25	and I think it works better is if you prepare yourself somehow
05:30	do whatever is [inaudible] within you, and also
05:35	seek the opportunities. And one door it might say no,
05:40	and the next door they might not open the door but the third one, they might
05:45	open the door, so you are constantly seeking those opportunities and preparing
05:50	yourself and learning in the process. You cannot just wait for
05:55	these to be just dropped by your door, because that's not the way the world... RM: And how many doors would
06:00	have to close before you give up? SC: You never give up, you want
06:05	something bad enough, you are gonna try and try and try and try and
06:10	try until you make it happen. And if you try and do find out what I,
06:15	they closed that door on me because I didn't have this preparation.
06:20	Then you go and get it, and then you try again.
06:25	And then you learn in the process. And when you want something bad enough you are
06:30	gonna try until you try to make it a reality. You may not get it, in the process, in trying to
06:35	learn more things in the dark you aren't gonna get really far. But
06:40	if you give up at the first no, then you did not achieve anything. RM: Yeah. Would you agree that there are
06:45	at least two types of pain associated with
06:50	this process. The first one would be rejection,
06:55	which is terribly painful. And then there is the pain of doing the work, you know,
07:00	for example the preparation. Studying for exams, and spending continuous nights studying
07:05	things like that is hard. SC: Yeah, I mean I didn't say it was easy.
07:10	You know, you're not gonna just give up at the first no and just because
07:15	you're feeling sorry for yourself because you were rejected. It's very easy to make, be
07:20	the victim. It's very easy to say oh, they rejected me you know because and to start boohooing and crying.
07:25	Get over that, get over the victim attitude, pick up the pieces, get
07:30	Up, dust yourself, and then go for the next hurdle. You cannot just
07:35	give up. RM: Here I think that we are already talking about two concepts,
07:40	very deep concepts. One of them I call it entitlement to be

07:45	given the opportunity, like you said. Entitlement. They think that they don't have
07:50	the power, for example, the economic power, if you were born poor it's like your mind is set to
07:55	be poor, and you don't think that this is gonna end at some point and you're gonna have the
08:00	power, the economic power, let's say, to take opportunities, to improve yourself.
08:05	SC: I agree that a lot of that is sort of engrained in a
08:10	particular culture. You don't know what's out there, you really don't know
08:15	whether you can or not. So sometimes it takes somebody else to come and pull you out of that
08:20	and open up your eyes and say you know, just because you are poor doesn't mean that you cannot go and be an
08:25	engineer or be a scientist, or dream and try to achieve your dreams.
08:30	There are a lot of opportunities out there. A lot of kids don't know what those opportunities are, so you have to
08:35	go and tell them. It doesn't mean that you are gonna go drop the opportunities on their lap,
08:40	that's not the point, but it is, I believe that if you
08:45	open up the kids' eyes from the beginning and tell them you don't, you can,
08:50	you can achieve anything that you set your mind to do, then they
08:55	will try because somebody told them they could. In my case,
09:00	it was my mother. I'm not gonna tell you the whole, my mother's history, but
09:05	she was an orphan. She grew up with
09:10	nothing. And she had to, she's a self-made person.
09:15	She had to struggle and do all the things that you have to do in life,
09:20	and she had to go to San Jose by herself, she ended up trying to figure out how to eat, how to
09:25	dress. And so you know when I was born, she already had that,
09:30	you know it's like you want something? You go and get it. And that's how I grew up.
09:35	We have to break, we have to break through those
09:40	cultural barriers, beliefs in some areas, and
09:45	at the same time show these kids that [inaudible]
09:50	or how our parents never went to school. My mother never finished high school.
09:55	It's not an excuse. You know, if you want something, really you've got,
10:00	you have to, you have to, it's not easy, but if you want it really bad you work for it, and
10:05	you have a really good chance of getting what you want. There are a lot
10:10	of scholarships, there are a lot of opportunities and also
10:15	when somebody sees somebody really putting forth the effort,
10:20	[inaudible] RM: Now, when you came

10:25	to the United States to study, George Mason, right? SC: George Mason. RM: How did you pay
10:30	for the studies? SC: I worked. I worked. I didn't, you know, that was the only way.
10:35	I worked in a hardware store. I worked.
10:40	I was, I did have a place to live, because my adopted dad,
10:45	he had a house in Manassas and I did have a place to live, but he wasn't paying for my school,
10:50	anything. I had to pay for it, otherwise I wasn't gonna go to school. I had to
10:55	buy the car, and I had to pay for my studies, and that's how
11:00	I got my degrees. RM: Everybody can see in the NASA video that was made
11:05	about yourself, you dream about going to the moon, or you know, the stars, but
11:10	somehow you came here to this place and end up working with
11:15	NASA. Was that part of a plan or it just somehow happened? SC: I always
11:20	wanted to work for NASA. And it was sort of like, it was a bit of luck and a bit of hard work.
11:25	And I have to tell you, you know, like I said you have to watch for opportunities.
11:30	Sometimes opportunities come to you, and if you're not ready for them, they might pass you by, you know. So you have
11:35	to be ready for those opportunities when they come, because if you're not, you know, if you're not ready,
11:40	then you're not gonna be able to go there. But, the thing is like this, mom was a
11:45	single parent, I grew up, she had to have two or three jobs to really take care of us.
11:50	My biological father never recognized
11:55	me and even though mom tried to get him to help us sometimes [inaudible] help us.
12:00	So, life went on, and [inaudible]
12:05	high schools were public, [inaudible] Costa Rica, public, and
12:10	I got a scholarship to go to the university in Costa Rica. By the time I graduated from high school,
12:15	at that time I was graduating from high school and starting college, mom met my
12:20	adopted father. And it so happened that he was born here.
12:25	So, he legally adopted us. So,
12:30	after three and a half years of being in the University of Costa Rica,
12:35	I, I was stuck studying something that I really didn't want to do,
12:40	because they wouldn't let me study what I wanted. It was in my frustration, you know, I was like, you know,

12:45	you don't seem happy, and I was like you know, I really don't like what I'm studying but I cannot go [inaudible] they won't let me.
12:50	So, I ended up, he,
12:55	and it was sort of like that's the serendipity kind of thing, you know, he was happy
13:00	because he worked for the NIH for twenty years, his pension was
13:05	almost nothing, but in Costa Rica it went a ways.
13:10	If he, you know, moved here, his pension was gonna be, he only, he only,
13:15	got like \$1500 a month, that's all he got. In Costa Rica.
13:20	RM: That was a lot of money. SC: That was a lot of money. And, you know, we got a nice little house, and
13:25	we did well. But, in here it wasn't that way. Well, it turns out
13:30	the Costa Rican, the Colon started devaluating, so it went from
13:35	eight colones to a dollar to a hundred in like
13:40	a jump, it went like really fast. So, that was about the time when
13:45	I was finishing my third year in college over there.
13:50	And he was losing money, and the money wasn't going as far as he thought it would be,
13:55	so he decided that he wanted to come back to the states.
14:00	And so I said, and he gave me the choice, he says, you know,
14:05	you can finish school here and then you can find a scholarship or something to get a master's over there,
14:10	or if you want to we can leave as soon as we can, and you're gonna have to work,
14:15	you know, you're gonna have a house and you're gonna have a roof, and food, but you're gonna have to work
14:20	to go to school, and you're gonna have to pay your studies, and you're gonna have to probably go to a school that is
14:25	where I have a house over there. That's, and I only
14:30	had the green card, when I came I only had the green card, so I told him no, let's go and [inaudible]
14:35	everything, and I came. And so, and I knew,
14:40	the house, we had the house which was in Manassas, Virginia,
14:45	was close enough [inaudible]. And I kept telling him, you know, I wanna go
14:50	over there because I know [inaudible] is close, and I know I've always wanted to work for NASA.
14:55	And, you know, I don't know if I can, but I can always try.
15:00	So, we moved, and I transferred to George Mason, they
15:05	only recognized 31 credits out of seven semesters that I had. I had
15:10	to start pretty much all over again, and when I graduated,

15:15	I found out that there was, I knew I couldn't be a NASA employee right away because I didn't
15:20	have the citizenship but I could work for the company.
15:25	There was a job there in Tyson's corner. RM: That was with your bachelor's
15:30	SC: Once I graduated, I graduated in December RM: You have a double major, right? Physics
15:35	and electrical engineering. SC: And I have a master's that I got later, actually NASA paid for my master's,
15:40	I went every night, every night [inaudible] semester I had to skip
15:45	two semesters because of my, my older son was already born,
15:50	it took me six years to get my master's, but I got it. But anyways I knew that in this job
15:55	fair there were some companies that were contractors with NASA. And so,
16:00	I went, and I interviewed, and I got the job. You know,
16:05	I was really really happy when I got that job, you have no idea how happy I was, but I couldn't work for NASA
16:10	directly because I didn't have the citizenship. So, a year later
16:15	I got the citizenship and then I started trying to apply for NASA jobs.
16:20	And almost three years to the date [inaudible] a job at NASA.
16:25	And the serendipity thing too is, you know, mom happened to marry somebody
16:30	who could provide the bridge for me to come here.
16:35	We went through so much, so much when I was young,
16:40	starting when I really do not remember, when I was a baby and my mother got
16:45	married to my brother's father, and he
16:50	hated me, and he wanted to kill me. Mom found him with a pillow over my face and
16:55	I was just crying. When I was four years old he burned my [inaudible] in a toaster, he
17:00	would put rice on the floor, you know, so he could watch you eat.
17:05	I found him may times he was hiding his socks and his soap and everything, just so he could have something to
17:10	fight the next day. He would beat the crap out of me and my sister, and my sister is a
17:15	different story but she didn't live with us at the beginning, and
17:20	so she would come in very
17:25	[inaudible] RM: Social services? SC: Social services, you know, the family she was with, my uncle,
17:30	my uncle and his wife they stole her from mom.
17:35	They registered, like if it was their kid, and mom, you know, mom,
17:40	had her out of wedlock when she was nineteen. And they stole her from her, so mom was

	fighting and fighting and fighting
17:45	over my sister. So, my sister, by order of
17:50	Social service would come and visit us, he was [inaudible]
17:55	and he was a mean person. RM: Evil, I would say. SC: Well, you know, I don't know, I think he
18:00	was a little sick, and mom you know always tried to be a nice person and say, you know, he's just sick,
18:05	[inaudible] And we tried to be sympathetic to the fact
18:10	that he might have been sick and a rational person who was healthy would not do the things that he would do, but,
18:15	by order of social services [inaudible] mom had to divorce him because
18:20	he was gonna kill me, he was gonna kill my sister, my brother was
18:25	his son, and he loved my brother, but, but you know, my sister and I were
18:30	just not good enough. And, you know, so
18:35	that was my childhood. And I can go on with a bunch of other stuff that
18:40	happened, you know, after that, but I was little. It's just, if
18:45	I start going boohoo hoo he treated me bad, you know, [inaudible] and just because what happened when I was
18:50	young, you know, I wouldn't be here, you know. So you've
18:55	gotta, you have to learn to move forward and put things behind.
19:00	And I have to tell you again, I go after my mother. My mother was a really,
19:05	and still is a good role model.
19:10	[inaudible] strong person, lost her parents when she was,
19:15	her mother when she was seven and her father when she was nine.
19:20	She was the youngest of all, and you think that the older siblings would take care of the little ones,
19:25	but she was just the ping pong in a war from sister's house and
19:30	the husband would try to rape her, then she would go to another sister's house, and you know then she would go to the brother's house,
19:35	and the sister's in law would not let her go to school because she had to take
19:40	of the kids. So it was like, so she finally by the time she was eleven or twelve, she
19:45	ran away and she moved on. And she did what she had to do to move forward,
19:50	and so, and then you know she marries
19:55	a person that is, and then she loses my sister, you know she went through so much,
20:00	and by the time she was, and then when dad divorced her, she had a
20:05	breakdown, and she was in the hospital for like three months. And I was pregnant with my

	older son, I was
20:10	8 months pregnant with him. And she's well now, thankfully, but she,
20:15	she's so strong, and she pushed through so much,
20:20	you know, and you look at her now, and she'll talk about things
20:25	and, and I think it's part of the therapy too, you know,
20:30	that you bottle up so much that you have to explode.
20:35	And through her I learned that you know sometimes you cannot just bottle things
20:40	inside. That you have to use things
20:45	for the positive things. You know, it's not to
20:50	complain or to say people are mean or something, it's to say let's start to turn the
20:55	things upside down and the tables around, you know, yes, this happened to me but what lessons did I learn?
21:00	And how I'm gonna move forward, and you know, life is going on, and why you know
21:05	that doesn't even bother me. RM: You are very transparent, and it's obvious that
21:10	nothing of this is like baggage. And, so that means that
21:15	you are very authentic. SC: I don't know what you want to call it, Roberto, but
21:20	to me it's another saying that we have in Spanish "esto es del oficio." It happens,
21:25	and sometimes people that like to cover it up all of the family history, all this and all that,
21:30	it is part of who I am. I, this is how I got here.
21:35	And, you know, I cannot change the past, I cannot change where I come from,
21:40	I cannot change the things that I've done, I cannot change the things that I have said.
21:45	RM: Because you could get stuck in feeling pity about yourself, your situation,
21:50	and not get anywhere. But yeah, you are
21:55	more focused on the future, and it seems that that has been the norm.
22:00	SC: And now, more than ever it is some, I'm focused on trying to
22:05	pass on to kids the fact that, you know, they have to focus on the future,
22:10	too. If it can happen, it happened, it's nothing, there's nothing you can do about the past that it
22:15	can change your life in the future or how you do things. My mother always said, and
22:20	I said this many times, you know I go and give talks, but my mother
22:25	always says that life is a long river full of rocks and
22:30	treacherous paths, and dark tunnels, and beautiful forests, and
22:35	you know, I mean everything, like the road is paved with a bunch of rocks.
22:40	Rocks, and we all carry a big backpack on our backs,

22:45	on our backs. So, we're walking on that road, and we trip on a rock,
22:50	and it hurts, and some of us will
22:55	pick up the rock and put it in our bags, then we keep on walking and
23:00	pick up the next rock that we've tripped on and so on and so forth. And so what happens to all those people who are
23:05	picking up all those rocks on the road? You know, after many years or miles,
23:10	they can hardly walk. RM: That's an amazing metaphor.
23:15	SC: And not only they remember the rock that they trip on, they go find that rock
23:20	in the backpack, and they hit their toe again. But there are some people
23:25	who, they trip on that rock, they leave it on the road, they keep on walking.
23:30	They trip on that rock, and they leave it on the road. So, many miles ahead,
23:35	They remember the rock, it's not like they forgot about the rock, but the rock is way out there.
23:40	They keep on walking because they have a light backpack, they don't carry all that load. And
23:45	that's how I try to live my life. There are two things that I try to do.
23:50	is, you know, the rocks aren't made back there. I remember the rocks,
23:55	it doesn't mean that I forgot the rocks. Maybe the further I go the less I remember the
24:00	far away rocks, but the other thing is I try to live my
24:05	every day, and every single day of my life do the best that I can.
24:10	And, when I put my head on my pillow, and I say my prayers
24:15	before I go to bed, I know that I did the best that I could that day, and [inaudible] tomorrow.
24:20	And that's very important to me, you know, you never know when you're gonna go.
24:25	So, you do the best that you can, treat everybody with kindness,
24:30	treat everybody with respect [inaudible] don't say, don't speak ill of anything
24:35	or of anybody. Don't say lies, and do the best that you can in everything
24:40	that is in front of you. And then [inaudible] and so what, you know?
24:45	That's just the way. RM: Now, how do you realize all of that?
24:50	Is there a moment in your life in which you understood all of this? Or...
24:55	SC: It is not perhaps it's a moment, and I cannot tell you it happened here or it happened there,
25:00	it's just that I'm 54 years old, and it's just nuggets
25:05	that I have learned through life, RM: But, did you carry
25:10	the bag of rocks for a while and then throw it? Or...
25:15	SC: I don't remember ever carrying the bags,
25:20	I don't remember every doing that.

	RM: Have you every
25:25	felt shame and had to recover from that? SC: Oh yes, of course.
25:30	Yeah, I mean there are a lot of situations that happen and you are sort of
25:35	RM: Even though it wasn't your fault. SC: Yeah, yeah.
25:40	RM: So that, that is a breakthrough. SC: Yeah,
25:45	and you just have to, like I said, those rocks are way out there, I have to live with them.
25:50	But they're way out there, you know.
25:55	RM: Do you feel stronger being authentic, embracing
26:00	and acknowledging your circumstances in the past?
26:05	Does it make you, you know, stronger than if you had
26:10	a different life without all these situations? SC: It's not stronger or anything.
26:15	It is who I am. Yes, there were some instances where I was
26:20	ashamed of situations, and, but,
26:25	but it's not that it makes me stronger or anything, it's who
26:30	I am. That's who I am, that's, with all the baggage that
26:35	people might think I have, that's me. And
26:40	I'm not ashamed of saying where I come from, I'm not ashamed of
26:45	telling you where I come from, you know the things that I've done, you know,
26:50	is done. What can I do about it? But you know I hope that I learned something from
26:55	those things and those mistakes and that life that I had.
27:00	And by the way I love my life, every piece of it, you know, if I have to live it again,
27:05	I would probably do it again because that's who I am. RM: And having such high
27:10	goals do you think was key to this moving forward
27:15	in your life? It looks like from the very beginning you had these
27:20	very high goals, like going to the stars. SC: It's a commitment, it's a commitment to
27:25	your life, a commitment to your goals, a commitment to not
27:30	letting, not letting your head
27:35	just droop around and just walk around in shame all your life, because of
27:40	something that wasn't your fault. You know, and that's kind of, you know,
27:45	again, going back to my mother, you know, the kind of person that, that

27:50	she is, and the example that she gave me.
27:55	RM: Now, even before thinking about NASA, just thinking about
28:00	the electrical engineering, it's, let's say outstanding that you
28:05	wanted to be an electrical engineer. It looks like such an outlier.
28:10	SC: I wanted to be an engineer, I knew I wanted to be an engineer,
28:15	I didn't quite know what kind. Looking at what electives I wanted, and once I started taking
28:20	physics and math, then I realized that, you know I wanted something
28:25	that was a little more revolving around math and physics. You know,
28:30	I eventually ended up getting a double major in electrical and physics, because I really loved the two.
28:35	And I couldn't decide, and, you know, so, when I found out that I could spend another year and get
28:40	my bachelor's in physics I decided to do it even though that meant postponing my graduation, but I, but
28:45	I went ahead and did it. RM: That means you really enjoy it. SC: Yeah, I mean you know I really like it. RM: You were passionate about it.
28:50	SC: I wanted, I actually wanted to get a PhD in solar physics, but
28:55	I had to be around the house, I had to go to work, I got married, and got pregnant, and you know
29:00	[inaudible] I ended up through work being able to go to night school and get a master's, and
29:05	I graduated [inaudible] when I got my master's, but
29:10	I wanted to get my master's, and I did it, and sometimes I wonder if
29:15	I want to go back to school and still get that PhD. I started looking at what kind of engineering
29:20	degrees were out there. And actually it just
29:25	grabbed me, you know, it was something that just grabbed me. And
29:30	I love working on cars, too, that's one of the things that RM: That's quite something.
29:35	SC: That's one of the things that my dad did when I was, you know finally getting, learning how to
29:40	drive, we went to a junkyard. And we bought a piece of crap that couldn't even,
29:45	wasn't even running and brought it to the house. And we were scavenging parts
29:50	in junkyards all over town, and [inaudible] car got it working,
29:55	and that was my first car. And the, you know, I got hooked on cars, so
30:00	I would just go and find whatever little money I would get and go buy a piece of car, and we
30:05	started this company of cars and [inaudible] car. The new cars I don't know so much

30:10	I mean I like working with my hands, I like, you know, it's just
30:15	it's what moved me, that was what [inaudible]
30:20	A bureaucrat now, but I mean when I first graduated I was [inaudible]
30:25	RM: I have some pictures of you wearing the suit that is using the
30:30	clean rooms? SC: Yeah, I have to go in clean rooms and work on the satellites, and
30:35	you know, I used to do that, now they might not let me close to that.
30:40	RM: So I bet you really enjoy doing that. SC: Oh, yeah, that was a lot of fun.
30:45	Yeah, I still enjoy it when they let me in a clean room, it's a lot of fun.
30:50	RM: So, there is something you like very strong drive, that,
30:55	do you think it's like a physiological? Something that keeps you like
31:00	laser focused on the things that you really want to do? SC: I have to be honest, you know,
31:05	this job that I have right now. So, I never really, never really
31:10	aspired to have what we call a senior executive service position in the government.
31:15	That was just not in my, that wasn't, I was just happy being a
31:20	general scheduled government employee, I was stopped at the GS15 level.
31:25	I, the SES positions are the bureaucrats
31:30	that you called. But, you know, a couple of years ago,
31:35	I started thinking you know, I've been a GS15 topped out.
31:40	You know, in fact I had the [inaudible] from federal employees, you know, NASA's a federal agency,
31:45	[inaudible] and
31:50	so they froze the salaries for the federal employees
31:55	for three years, you know, for three years I didn't get a raise. And again, I don't work for the money, I work for the
32:00	type of activity. RM: But still you have bills to pay. SC: Yeah, I mean I still have bills to pay, and
32:05	My salary's not keeping up with the cost of living increases, you know, that other people are getting,
32:10	and I didn't get anything. And I still didn't really think that I wanted to,
32:15	to be on SES. And I got talking with my old boss
32:20	who was the budget manager for me when I was [inaudible] and he said
32:25	Sandra, you know, you really have everything that you need to
32:30	jump, to make the jump on SES. This position was like a general in the government they only

32:35	156 of these positions in NASA [inaudible]
32:40	And we have 60,000 employees, and there's only 150 some positions.
32:45	And my boss said you know, you can do it, you have everything, you have a lot
32:50	of training, you have all this experience. And I was like I don't know, and he says you have a
32:55	lot to contribute. And when he said that, the contribution, I mean not that
33:00	I wasn't contributing before, but that he thought I could contribute at a different level,
33:05	RM: At a higher level. SC: At a higher level with a more strategic point of view, I started thinking, and
33:10	I said, you know, maybe. So,
33:15	I wanted to be ready for the opportunity when the opportunity presented itself, but that's how I think.
33:20	So, I knew I had to fill out, it's a book, you know, the application is
33:25	practically a book, you have to explain why you have the five competencies that are
33:30	required, you have to give very specific examples from the last ten years,
33:35	you have to write your own explanations and then you have to illustrate that you have all the technical competencies as well,
33:40	and it's another book that you have to write, but I took my time, I took my time explaining
33:45	what I needed to do, I asked the recruiting service people to, you know,
33:50	once I had a draft, can you read this? Can you help me make sure that I have all the right things? And then
33:55	once I had the version from the recruiting services, then I went and
34:00	seeked out a couple of people that I knew were in panels of viewing those applications,
34:05	cause I wanted to get their perspective, you know, do I really have the right messages
34:10	in there. And they reviewed it, they gave me a couple of ideas, I fixed them, and then
34:15	I had my application. I didn't have any jobs to apply to, but
34:20	I had my application, and... RM: That's quite amazing. SC: And then, and then,
34:25	every now and then I would go online, go to the US jobs, and look for
34:30	the right opportunity for that. And two opportunities came at the
34:35	same time last year. They were two deputy jobs, one for earth science
34:40	and one for [inaudible] to join the agency satellite division. And
34:45	I applied for both. And they called me first for this one which is the one
34:50	that I really wanted, and I took it. So, when they called me from [inaudible], you know,
34:55	I was high up there in the list, they couldn't tell me if they were gonna
35:00	select me or not because I had already accepted this one. But later, once I got here,

35:05	They told me that I was the top of the list, and they would have given me the job if I hadn't
35:10	Taken, if I hadn't take this one. There was something I clapped, I clapped, you know, and I
35:15	got ready. And then,
35:20	and then I go and do what I need to do. And perhaps that's why, what I do
35:25	is so effective, because I mean I'm a project manager. RM: As a leader.
35:30	SC: I grew up from the bottom at NASA, you know, I've been here counting the three years that
35:35	I was a contractor, next year it's gonna be 28 years that I've been working, you know
35:40	in a NASA environment. And I started in a ladder, I started from the bottom, but everything I
35:45	kind of set aside, I know where I wanna go and I really fought, you know, for what I want to do
35:50	but there are some steps that you need to achieve, or you know how do you get ready for the
35:55	next level. That's kind of like a ladder, you have to prepare, you cannot just
36:00	sit there and wait for the chances to come, you've got to do something to prepare yourself, and then and then [inaudible]
36:05	RM: Methodically. SC: Methodical, yeah, and then as a project manager you don't wanna,
36:10	who's finally able to manage a mission, you know, what do you do for a mission? You've gotta be
36:15	methodical about how do you plan the mission, the cost, the schedule, the [inaudible] everything,
36:20	the process, you have to really be very methodical and understand every step of the way [inaudible].
36:25	RM: It looks like there is more than physics and electrical engineering
36:30	needed for that kind of job. How did you learn all of that? SC: Well, slowly, I mean
36:35	I started from the bottom, like I said, and slowly I knew I needed more preparation.
36:40	You seek out the opportunities, you seek mentors, you seek people that you talk to, you know.
36:45	In '98 I knew that I eventually wanted to be a project manager,
36:50	so in '98 I applied for a training program that was a called Project Management, Development,
36:55	and Price. And a lot of people applied three or four times, I got in the first time,
37:00	I wrote my application [inaudible]
37:05	I got in, and it was usually a three year [inaudible] program.
37:10	I have been the one that [inaudible] two years. RM: Wow.
37:15	Now, your job is, you are the executioner, right? You make things happen.
37:20	SC: I make things happen.

	RM: Exactly, that is very technical, you're not just a boss that is
37:25	asking somebody else to do things. So, what are these technical skills that you need to
37:30	develop? SC: Well, I mean yes, I have to understand,
37:35	I [inaudible] physics. I work very well with scientists
37:40	and engineers alike because I can bridge the gap between the two things.
37:45	Scientists, they think of a pie in the sky, and engineers are trying to put their
37:50	feet on the earth, you know, this is what we can do [inaudible] and this is what we can do in terms of money, and these are the things that we can do
37:55	in terms of time. So scientists have wonderful ideas,
38:00	and we need somebody that can really think out of the box about the things that we can do, but, you know, eventually
38:05	we have to put our feet on the earth, and we have to
38:10	decide how we're gonna really make this happen. And so, so
38:15	I have been very effective working both sides, because I understand both sides.
38:20	And, I don't know, maybe some people would,
38:25	some people really understanding real people, I don't know.
38:30	RM: And what about understanding or learning the culture? The culture of this
38:35	organization. SC: Well, I mean, I started from the bottom like I said, so I have learned the organization
38:40	since I was a young engineer. And slowly I
38:45	know how NASA as a culture thinks, works, everything.
38:50	And how we do things, and I make it my job to really
38:55	understand how the business of NASA is.
39:00	But I also always try to put myself in
39:05	other peoples' shoes. There's always that team dynamic, there is always the team culture.
39:10	Every time you aren't part of the team, that is a whole new bubble in
39:15	itself. You know, yes, you have the big NAS culture, but every team is a separate
39:20	entity in itself, and how that team works is very important, too.
39:25	Without that, you can make or break a mission. And so,
39:30	that's one of the things that I always try to do is that team dynamic, and
39:35	stand and work with the mission, even the oddballs out,
39:40	you know cause I have a lot of people who think differently, that they feel like they're part of the team, that they
39:45	can [inaudible] contribute. RM: Now, talking about teams,

39:50	On one side you can be invisible in the team, and I'll be very
39:55	quiet timid, on the other, on the opposite side.
40:00	And you can be viewed as arrogant or a bit disregarded.
40:05	So, how do you achieve this balance? SC: Well,
40:10	as a supervisor, as a manager, you have to make sure that everybody has
40:15	an opportunity to speak up. You can give them the opportunities.
40:20	RM: And when you were not the manager, how did you manage the invisibility?
40:25	Cause that's something that has been identified, especially with women and minorities.
40:30	SC: I was invisible for a while. When I first started, I was,
40:35	I was invisible more, and one day I calmed down and
40:40	I did have a voice that I didn't know. I would go to meetings and if
40:45	I happened to feel like I wanted to say something, I would say something, and nobody heard
40:50	me. And the next guy sitting next to me would say the same thing I said
40:55	and I thought to myself I just said that, you just stole it. Now
41:00	everybody thinks it's his idea, it's mine, it's mine, it's what I said. I mean not in those
41:05	terms, I've always had the team mentality, you know, so I don't care what was said or if I said it or not, as long as the team
41:10	moves forward it's ok. But, after a couple of times,
41:15	you know, of that, I finally, at first I was really,
41:20	I don't want to say embarrassed,
41:25	my English wasn't very good, and I was a young engineer, so,
41:30	you know, the credibility stopped there, and, but eventually you know I
41:35	RM: You kind of justified that invisibility. SC: Yes. And eventually I was like, but you know
41:40	I do know that stuff. And yest I have a master's, but I think I can explain myself.
41:45	So, I started finding my voice and speaking up and when people want to hear me
41:50	I would raise my voice and I said excuse me, I have something to say, and
41:55	I would say it. And I don't just say
42:00	things just to say something. I mean I said it because I do have some basis for what I say, you know,
42:05	I'm not somebody who's gonna [inaudible] all the time. And most of the time
42:10	I'm actually trying to listen to the team dynamics,
42:15	looking at the body language, I like to read body language
42:20	and that's why I have such a hard time on telecoms because... RM: Did you, do you get formal training for that?

42:25	SC: It's to me, sometimes,
42:30	the body language speaks louder than the words that are coming
42:35	out of peoples' mouths. So, I am a [inaudible]
42:40	Team dynamics, body language, what people
42:45	do with their faces and their hands and you know [inaudible] saying the words and
42:50	[inaudible] and the other thing is
42:55	when you're talking with somebody one on one,
43:00	You're actually listening to that person and not the instructive of this or that, you know,
43:05	really, you really have a conversation, you know, and respect the fact that you're
43:10	talking to somebody and give them the time of day [inaudible] that's important.
43:15	RM: Now, how do you manage the, you know, as a leader now,
43:20	somehow you have to facilitate that people progress
43:25	and perform, and it's like putting them first than yourself.
43:30	SC: In many ways. And I mean it's not about me, it's about
43:35	the larger, the larger picture, it's about, it's about
43:40	you know, making sure that people are comfortable with their jobs, they're comfortable with
43:45	[inaudible] and if they are happy, I'm happy and everybody's happy.
43:50	You know, the whole group is happy. RM: In line with this
43:55	latest point, there is something very important to ask, and it's have you ever struggled
44:00	in asking for help? Was it ever a problem?
44:05	SC: If I don't know something, I will ask.
44:10	I mean I wasn't born, I wasn't born learned, and
44:15	you know, we don't know, one important thing to know
44:20	is what you know. And I can't stand it when people
44:25	want to pretend that they know it all, and they really don't.
44:30	My youngest son has a saying, he says,
44:35	“those people who think they know and don't are a great annoyance to those of us who do.”
44:40	But, you know, if you don't know something,
44:45	Just say, you know, I didn't quite get it, I do not understand it, or
44:50	can you help me understand it? Or I do not know that,
44:55	can you help me with this? You know, if I get an assignment and I don't know how to do it, how am I going to do it if I don't know how to do it?
45:00	So, you know, at any job that I've taken, at anything
45:05	that I've done, you know, if I don't know something I just ask. And it's not, I don't feel ashamed

	to ask,
45:10	you know, I wasn't born... RM: There is no dumb question. SC: No, the
45:15	dumb thing is not to ask, there are only dumb answers.
45:20	So, there are not dumb questions. RM: We have talked about so many things, so
45:25	I just want to thank you for your hospitality. SC: Well, you're very welcome. RM: And I
45:30	am sure that this recording is gonna touch a lot of lives, cause we are really really interested in
45:35	Especially, you know, like I mentioned at the beginning, Central America, Honduras,
45:40	Guatemala, El Salvador, Nicaragua, there are other countries in Latin America, but
45:45	Africa, sub-Saharan Africa, and obviously many places in
45:50	Asia that are not represented in the graduate schools
45:55	of the United States, and this could be a big step to solving
46:00	the problems of the world. Big dreams. SC: Yeah, I mean
46:05	I always say even if you are able to change
46:10	one life, one person, help one person see
46:15	[inaudible] perspective, that person can influence others, and
46:20	you have a little snowball and pretty soon you're gonna have an avalanche. It just takes one,
46:25	the power of one. RM: Exactly. Well, thank you very much.
46:30	SC: You're welcome. [music]
46:35	[music]
46:40	[music]