Dr J Scott Mill...: I'll plug right now, if we have any, either recent or soon to be PhDs that are interested in NASA, we are now open, accepting applications with a deadline of March 1st. If you want to take a look at the, over 700 opportunities available with NASA.

Michael Holtz: Say the number again.

Dr J Scott Mill...: Over 700 research opportunities.

Inttroduction: You're listening to Further Together, the ORAU Podcast. Join Michael Holtz and his guests for conversations about all things ORAU. They'll talk about ORAU story history, our impact on an ever-changing world, our innovative, scientific, and technical solutions for our customers, and our commitment to the communities where we do business. Welcome to Further Together, the ORAU Podcast.

Michael Holtz: Happy Wednesday, and welcome to another episode of Further Together, the ORAU Podcast. My name is Michael Holtz and I am your host, and today I'm very excited to be talking to Dr J Scott Miller, who is the program director for the brand spanking new, 2ORAU or back at the ORAU, as the case may be, NASA postdoc program. And we're going to talk about that program. We're going to talk about awesome opportunities and whatever the heck else Scott and I can get into, because he's an interesting guy with a awesome history. And I think you're going to find this conversation very interesting and enlightening. Scott Miller, welcome.

Dr J Scott Mill...: Thank you so much, Michael. It's a pleasure to be here. Pleasure to get to talk to you again.

Michael Holtz: We are so glad to have you back. I know it's been a bit since you've been on and we've had conversation, but talk a little bit about who you are, your background and what you do now, for ORAU.

Dr J Scott Mill...: Sure. Well, going back to school, my formal education is in physical chemistry/chemical physics, which is, my interest where in exploring very small molecules and seeing what vacuum ultraviolet, agonizing radiation does to those very small molecules.

Michael Holtz: Okay.

Dr J Scott Mill...: And from a technical perspective, I'm what's considered more of an experimentalist. I like to build and use really big toys, which is the way I describe these things. Fairly complicated experiments that are not commercially available. They're built to order and generally require a fairly large, user facility capability to operate, not always. And then, moving into just, Scott Miller's random walk through his career. It really is scatter function. I did my postdoc-

Michael Holtz: The meander of-

Dr J Scott Mill...: Yeah, right, wherever. It's what opportunity seems best suited at whatever time it presents itself. That's the way I've done.

Michael Holtz: Yeah. Yeah.

Dr J Scott Mill...: I lived in Boston for a while. I did my postdoctoral research with the air force research laboratory and the space vehicles director there at Hanscom Air Force Base, which was great, because I grew up in the South. I did my graduate work in Baton Rouge, at LSU, go, Tigers. Had to get that one in, sorry for the Vols fans. I know we're very Vols and Commodore's heavy on this listing channel, but I have respect for you and at least you are not other schools in the SEC, that I'll refrain to comment on right now.

Michael Holtz: And I know we have listeners in Louisiana, so they will appreciate that.

Dr J Scott Mill...: Very good, I'm very happy to hear that. Yeah. And then after Boston, I did a little bit of work with the Navy, doing research in energetic materials, which are commonly known as explosives, with the Naval Surface warfare Center, Indian Head Division, in Indian Head, Maryland. That was a very cool job. I was a federal employee at that time with this outfit, just south of DC, but home was calling. I recently married my current wife, my first wife, my current... Finally married my wife is the way I say that. We were together for five years before we actually got married. But that happened while we were in DC. And I started looking for opportunities further south and came across an opportunity in Huntsville, at the NASA Marshall Space Flight Center, which is housed on Redstone Arsenal, in Huntsville. And came to Huntsville in 2005, and have been here ever since. I'm still remote here, with ORAU.

So I've worked with the NASA community, I was dedicated to the NASA community from 2005, until I think 2019. So a lot of years at Marshall, with a couple of organizations, that was actually my first encounter with the NASA postdoctoral program. I did help operate that program in a previous career. And I found another opportunity in town. So at Marshall is where I started making the transition from, purely technical, into technical/leadership. And now I'm essentially, fully leadership. It's just the path that some of us to take. Some of us choose to stay technical, and some of us start out wanting to go into management and leadership. Like I say, I was fortunate enough and lucky enough to have some good opportunities present themselves at the time.

Michael Holtz: Right.

Dr J Scott Mill...: Right. So, worked a lot at Marshall, with NASA, has several mission directorates, as they call them. And the science mission directorate does have work at Marshall, around astronomy and astrophysics and in the earth sciences, predominantly. There's some humanitarian aid work that goes on as well, which was really interesting to use NASA earth observing assets, satellites that are pointed towards the earth, to look at things, to help developing countries transition this data into something usable from decision makers, boots on the ground stuff. So it was really interesting and a great portfolio. I had a brief period of time where I worked with a small business in Huntsville, in what's called Small Business Innovative Research, SBIR work, which are small business grants for technologies that they have invented and come up with, and are looking for past the commercialization. But that was a very brief stint. I had developed a taste for working with nonprofit organizations, especially university-based nonprofit organizations.

I truly believe in the mission that these kinds of organizations can and should be serving, in my opinion. And so, ORAU presented itself as an opportunity, and I was fortunate enough to be able to come over and join the group at ORAU. And I've been here, last month was two years that I've been with ORAU. And during that time, we wrote our proposal for NPP, were awarded the proposal for NPP, and have just this week, completed a 90 day transition into full operations of the NASA postdoctoral program. So that's been my life, in a nutshell.

Michael Holtz: Well, first of all, huge congratulations and big ups on the NASA postdoctoral program contracts. It sounds so easy to say, we applied for it-

Dr J Scott Mill...: Yeah.

Michael Holtz: We got it. But it's- [crosstalk 00:08:13]

Dr J Scott Mill...: Michael, I think you heard me go through the litany of names that were involved in getting this done. It was absolutely nothing, if not a team effort. I start feeling bad that I'm the name that gets pushed out, because there's so many other names that need to be pushed out and raised awareness to. And I've mentioned them all many times before, but it was a great group of people through the entire process. And it's still a great group of people that have finished out, transitioned to moving into operations. I'm really excited with the team that we have put together, to take care of these Fellows during their tenure with NASA. So, really impressive people.

Michael Holtz: Yeah. It has been a huge team effort. I have barely touched any of this process, but I know colleagues in my department have been working really hard- [crosstalk 00:09:08]

Dr J Scott Mill...: Colleagues in almost every department in the organization. No kidding.

Michael Holtz: Yeah. Like you said, it's a huge, huge undertaking. And now it's here, and we're having this conversation on February the 3rd. We assumed management on January the 30th. So it's been four days.

Dr J Scott Mill...: Yes, exactly.

Michael Holtz: And here we are.

Dr J Scott Mill...: Yes, here we are.

Michael Holtz: But it's exciting. It's, I know, brought a huge level of excitement to our organization. I hope it has brought a level of excitement to NASA, to see where we can go from here. But talk about what NASA postdoc program is and why this is important work, not just for us, but for NASA.

Dr J Scott Mill...: Sure. No, it is actually, a very important program to NASA. So the NASA postdoctoral program is their largest and premier workforce pipeline into the PhD level research community, across NASA. I mentioned before, NASA's organized into several different mission directorates, and those are science mission directorate, which is the largest user of the program. But there's also the space technology mission directorate, the aeronautics research directorate. There's an astrobiology, I don't believe it's necessarily a directorate, but it is also a program that heavily uses that. And human exploration, which is the directorate that is responsible for taking care of astronauts and building space stations and all of this kind of thing. Now, HEOMD is evolving into two new organizations at NASA, as do many large organizations tend to rework from time to time. But having said all that as background, it is a program by which NASA brings in, new imminent scholars.

Michael Holtz: Okay.

Dr J Scott Mill...: They're actually, all across stages of the careers split in the two different kinds of programs. There's a more traditional Fellow, which are Fellows that have recently received their PhD. And then, there are senior Fellows, who can be any number of years past their PhD. And we've had people that have had very prestigious careers, that have come in as senior Fellows before. And it's a onsite with NASA, under normal circumstances, when NASAs even onsite, but it's an in-residency program, for them to come in, conduct their independent research, they submit an independent research proposal. And so NASA awards it, almost like a grant award kind of thing. It's not a contracting job. It's a, you were awarded this fellowship to come and conduct this research with a NASA advisor, and that's the program.

So you bring them in and they conduct their research, and they're in from anywhere from, one to three years. And at the end of those three years, they are generally going into one of three-ish paths, they either stay with NASA, as they either come on as a NASA civil servant, or they stay on as a NASA onsite contractor. Or they move into academia, we place a lot of former Fellows into academic positions. Or they move into other areas of the NASA industrial community, the industry base. So they could be going to SpaceX, or they could be going to Blue Origin, or they could be going to Boeing or Lockheed Martin or any of these other places, that are not necessarily on site with NASA anymore, but they're still in the NASA community. And that is really, what's most important to NASA, is building that base of, imminent scholars, these research that will continue to be part of NASA's research workforce.

And NASA is good about being forward looking in that way, and diversifying the sources of where they're able to bring in fellows. And I don't know if you pay much attention to what has been happening in NASA over the past five or 10 years, the commercial space.

Michael Holtz: Oh, it's so exciting.

Dr J Scott Mill...: Right. Everything that they're doing. So, you know that NASA's industry base is just sprawled, it's not just at the centers at all.

Michael Holtz: Right.

Dr J Scott Mill...: It's all over the place. And NASA considers all of this part of its community. And so, that's an important aspect of this particular program. So-

Michael Holtz: So the hope is, the Fellows will stay somewhere in that community, whether its-

Dr J Scott Mill...: Absolutely.

Michael Holtz: As part of NASA or as part of the larger, other contractors, other organizations that are part of... That's really exciting and

Dr J Scott Mill...: Absolutely right. It's NASA and-

Michael Holtz: Good news for fellows.

Dr J Scott Mill...: Yes, exactly. Right. Yeah. Now they're investing in their future workforce. That's exactly what they're doing and that can look several different ways.

Michael Holtz: It's very exciting. And so then, as the company that manages the program, essentially we do, and I will just barely touch the surface, but I know we recruit the Fellows to apply for the opportunities, but then we also manage the stipends and the pay-

Dr J Scott Mill...: Right.

Michael Holtz: And all of this stuff that goes with having an opportunity like this.

Dr J Scott Mill...: Right. Exactly. There's a lot of moving parts to the program, and NASA is very invested in providing a good fellowship experience. For the reason that I just mentioned is that, if you have a bad experience, you're, "I'm ready to get out of here."

Michael Holtz: Yeah.

Dr J Scott Mill...: They don't want that. They want a good experience. And so, you're right, it's everything from marketing the program, recruiting applicants in. As I mentioned, they submit a research proposal. We take care of the external peer review. Those are independently peer reviewed, and results are sent back before selections are made. And then, we handle getting their offer out. We make health insurance and some other benefits available to them, that they can elect. And it's nice. It's actually fairly heavily subsidized by NASA. Their health insurance benefits are another investment that NASA makes in the Fellows. They have to travel to professional conferences and we help them with their travel plans and travel reimbursements for those.

And then, part of what ORAU does with the Fellows as well, is also, we wanted to take a more holistic approach to the Fellow and find, maybe some of your more traditional professional development trainings and opportunities, more opportunities for the fellows to network amongst themselves, but also, maybe more non-traditional training opportunities. I mentioned before, my particular path, most of the things I do day to day, I didn't learn in science school. I didn't learn how to read the federal acquisition regulation. I didn't learn how to do a program budget. I didn't learn management and supervision of employees, none of that. So there are other ancillary functions that are required for many people in various flavors of scientific careers. So what we'll be looking at is, what the Fellows are interested in and learning more about, to help them succeed wherever they may go after NPP.

So that's something that was very important to us. And NASA is very receptive of that. Taking a more holistic approach to providing a good experience to the fellows. It takes a lot of communication. It's very complicated reporting. So like I said, lots of moving parts, but it's a great problem to have, because as you alluded or earlier, ORAU is familiar with this program from before, and many of the current staff is familiar with the program more recently. So we're all very cognizant of the moving parts. And so, that's greatly assisted us in providing a good option for NASA. And we look forward to being able to execute that option for the next, up to five years.

Michael Holtz: Awesome. And it helps that ORAU does a lot of this work anyways, so it's right up our alley.

Dr J Scott Mill...: Absolutely. Its right in our alley. Yes.

Michael Holtz: It's just exciting to talk about NASA, because it's NASA.

Dr J Scott Mill...: Right.

Michael Holtz: And I grew up during the space shuttle age and I was a journalism kid and thought, "I'm going to be the first journalist in space", that sort of thing. And so I've always just, had this love and excitement about NASA. So I love watching launches and still keeping my finger on the pulse of what's going on. So it is personally exciting to be touching work that NASA does, as more organization, for me. And I have to imagine, for you as well. You're the program director, so-

Dr J Scott Mill...: Right.

Michael Holtz: You're spending a lot of time in NASA land.

Dr J Scott Mill...: Absolutely agree. NASA's such a great agency, and it's a civilian agency. It's interesting, this will frame it a little bit. I mentioned I'm in Huntsville, near Redstone Arsenal. Huntsville is also the home for Space Camp, the US Space and Rocket Center, which is also the visitor center for NASA Marshall. NASA Marshall is housed on the Redstone Arsenal, which is huge, but it's only about 10% of the effort that happens at Redstone Arsenal.

Michael Holtz: Oh, wow.

Dr J Scott Mill...: You didn't know that though, did you? You knew about that.

Michael Holtz: I did not.

Dr J Scott Mill...: Right.

Michael Holtz: Yeah.

Dr J Scott Mill...: Exactly. It engages the general public in such a way that it builds excitement, and that enthusiasm you just shared is endemic in our society. And it's really cool to support the agencies with missions, that can really energize people and excite people like that. So yeah, your enthusiasm is absolutely shared.

Michael Holtz: Awesome. Well, and I remember six months ago or whenever it was, that it was announced that we won, we did a whole social media campaign around folks being excited and sending us pictures from being in Huntsville or being at other locations, but we're having-

Dr J Scott Mill...: Right. There's a bunch of NASA locations. Yeah, exactly.

Michael Holtz: Yeah. And having NASA hats or t-shirts, or whatever. So that was really cool to see, but it really is... You say it's endemic to the country. It really is endemic to the country.

Dr J Scott Mill...: Right.

Michael Holtz: You talk about it and people just have so much awe about what the work that NASA does. So it's exciting to be part of it. It just is.

Dr J Scott Mill...: Absolutely.

Michael Holtz: So, Scott, you serve other roles for ORAU, including involvement in research and some other contract work that we right now, can't really talk about and that's fine, but from a research perspective, just talk about your work in that aspect of the organization.

Dr J Scott Mill...: So, as the director of research programs, the way our functions right now are, we've housed a couple of workforce based programs in the division ish that, that I have. We have a very similar program to the NASA postdoc program, that's our other large program with the army research laboratory, which is their research associateship program. Which it's similar, but it's still different, because it's at varying levels of academic preparation. There are people who haven't graduated yet, maybe coming in as interns, there are undergraduate Fellows, graduate Fellows and post-doctoral Fellows as well. Which helps with a similar need for the army research laboratory. Of course, I think most people listening will know that the scientific workforce available to us, in the US today, is not as large as we would like.

So we have a scarcity of well prepared researchers and scientists and engineers, in all of the STEM fields. And the ARL RAT program, the army research lab is very cognizant of that as well. And so, we do provide a very similar function to the army research lab. And we've been doing that for a number of years. I also have Michelle Goodson's group that I work with, which is Workforce Solutions, and it's more of a scientific recruiting function, so when opportunities are in need. And some of that is, recruiting students and recent graduates for other agencies. And some of that is, recruiting highly experienced STEM workers and researchers, for other agencies like that. But everything in research is centered around bringing people in, identifying opportunities and matching people into a federal research opportunity.

So that's where the research programs comes into play, but the two functions are similar, but not the same. And so, it's a good match and a good mix. And one of the things we've been working in, in all the research programs, is finding ways to reach across into the other programs. So that reach back capability, if either, RAT or NPP needs more recruiting, we can reach into the workforce solutions group to, "Hey, can you help us with some recruiting?" Same if they're looking for candidates. Candidates have the option to make themselves available to our recruiters. They're not required to, and it's not by any means, automatic, bu they can be made aware of opportunities. And so, there's a complimentary relationship across the group. And it's a very good group, and it's still growing. NPP really is going to shape and change the flavor of that entire function, in a very positive way.

Michael Holtz: Very exciting. Lots of good things happening.

Dr J Scott Mill...: Yeah.

Michael Holtz: That ORAU has done. And if you are looking for an opportunity, we have them.

Dr J Scott Mill...: Yes, we do. And you can find them on our websites. They are all posted. I'll plug right now, if we have any either, recent or soon to be PhDs that are interested in NASA, we are now open, accepting applications with the deadline of March 1st, if you want to take a look at the, over 700 opportunities available with NASA.

Michael Holtz: Say that number again.

Dr J Scott Mill...: Over 700 research opportunities with NASA.

Michael Holtz: Amazing.

Dr J Scott Mill...: Now, not all of those opportunities are filled every cycle. We generally have about, 200 fellows at any given point in time.

Michael Holtz: Okay.

Dr J Scott Mill...: So it's a competitive program.

Michael Holtz: And you said it's peer reviewed, so it's competitive.

Dr J Scott Mill...: It is absolutely peer reviewed, yes.

Michael Holtz: It's peer reviewed. So, the first deadline cycle, I know, is March 1st and then, July 1st is the next one. And then, November 1st is the third one for this year.

Dr J Scott Mill...: Yep. Every four months, right. And that's a continuous, ongoing cycle. That's been like that forever. And generally, since we're talking about how to apply, what I always tell applicants is, find an opportunity you're interested in. The advisors for those opportunities are listed. And I highly encourage interested applicants to reach out to the NASA advisor, to toss the ball around a little bit on the idea. Does this seem like something you're interested in? Because, what we don't really want the Fellows to do is, spend a month writing a proposal that an advisor's not aware is coming and isn't interested in. And so, it's not a great use of the applicants time and resources. It really works out better to pre coordinate. It's certainly not a requirement, but it's a strong recommendation.

Michael Holtz: Sounds like it would be helpful.

Dr J Scott Mill...: Yes.

Michael Holtz: It sounds like it would be helpful, for sure.

Dr J Scott Mill...: Right. And I can say that from experience. I mentioned I did my postdoc with the air force research laboratory a number of years ago, and that program was not operated by anyone who's recently operated the NPP, but the NPP is structured very much the way that particular program was run at the time, with the same type of peer review and all that. And I found an opportunity and I shot an email to the advisor. He got back to me and we came up with an idea. And so, it was very helpful. He provided very valuable input into my proposal. So it could definitely be to the applicants advantage, to do that.

Michael Holtz: And that to me is an example of, the advisor wants fellowships in his or her program.

Dr J Scott Mill...: That's correct. Yes.

Michael Holtz: So talk to the advisor, to make sure that you're all on the same page.

Dr J Scott Mill...: Exactly.

Michael Holtz: So for anyone who's listening, who's interested in the NASA postdoctoral program, we invite you to visit NPP, that's npp.orau.org, for the NASA postdoctoral program portal. And you can see all of the opportunities that are currently available, eligibility information, pretty much everything you need to apply, to learn about what it means to be a Fellow and meet other Fellows, et cetera, et cetera, is all at that website. So please visit npp.orau.org for all of that information. Scott, is there anything that I have not talked about, that we want to make sure you touch on?

Dr J Scott Mill...: I don't think so. You've set me up with some pretty good and gratefully, some pretty easy questions for me to answer. This is the program I love talking about. I told you, I can talk for forever about NPP. So, there was nothing that hopped out that I thought was critical, that I don't think I underscored as we were going through it.

Michael Holtz: Awesome.

Dr J Scott Mill...: So, thank you. Yeah,

Michael Holtz: Absolutely. Thank you. And we'll have you back to talk about ARL RAT sometime.

Dr J Scott Mill...: Ah, sounds great. Love to talk about that as well.

Michael Holtz: Anything else that's new. That's coming down the pike, we'll talk about, when the time is right.

Dr J Scott Mill...: We'll absolutely let you know. Yeah. Sounds great Michael.

Michael Holtz: All right. Thank you, Scott, so much. Have a great rest of your day.

Dr J Scott Mill...: My pleasure. I appreciate it. You have a good day too. Michael, take care.

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