

NOYCE NEWS

UCF - OCPS - CITY YEAR



ORDER OF PEGASUS AND OCPS HERO TEACHER

Congratulations to Fellow **Nisha Phillip Malahoo** for being selected as a 2023-2024 Order of Pegasus Award recipient. Order of Pegasus is the most prestigious award a student can attain at the University of Central Florida. This award recognizes exemplary performance by UCF students in the areas of academic achievement, outstanding university involvement, leadership, professional or community service, and publication or research experiences. In addition to Nisha receiving this prestigious award, she also was recognized as the OCPS Hero Teacher at Pinewood Elementary. Nisha goes above and beyond for students, families, and teachers at Pinewood Elementary.



**NISHA
PHILLIP MALAHOO**

REGIONAL DIRECTOR FOR SOUTHERN 1 - NCSM

Abi Ruiz was nominated and elected to NCSM's Regional Director for Southern 1, a mathematics education leadership organization. Abi will oversee operations, organize events, promote membership, nominate members for awards, and contribute to publications. She will also assist with the Annual Conference if held in her region and undertake additional duties as needed.



ABI RUIZ

YOU'RE INVITED

Cultural Day at Pinewood Elementary celebrates the diversity that exists within a thriving school population. Join Fellows **Nisha Phillip Malahoo** and **Sarah Lumpkin** on May 22nd, 2024 from 5:30 - 7:00pm at Pinewood Elementary to experience the wonder that is Cultural Day.

[HTTPS://CCIE.UCF.EDU/NOYCE-MATHEMATICS-EDUCATION/](https://ccie.ucf.edu/noyce-mathematics-education/)

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UCF'S COLLEGE OF COMMUNITY INNOVATION AND EDUCATION PARTNERSHIP SHOWCASE



This month, NOYCE fellows **Julia Keith, Abi Ruiz, and Joslyn Vilabrera** shared insights through their participation in the Noyce project, which is a partnership between UCF, Orange County Public Schools, and City Year Orlando at the UCF College of Community Innovation and Education Impact Showcase. They discussed the critical roles of trust and vulnerability in building relationships that drive

meaningful change in communities and shared about the NOYCE project. These leaders' commitment is instrumental in advancing equitable mathematics education opportunities, marking a significant impact on student outcomes.

AFFIRMING LEARNING WALKS

During an ALW, the observers look for the eight teaching practices from America's Best Urban Schools. Fellows **Laura Pimentel, Maria Porras, and Abi Ruiz**, along with Dr. Dixon and Angel Maldonado, were joined by OCPS's Mandy Butterfield and Lanee Wilcox. and visited Dover Shores Elementary, Pineloch Elementary, and Millennia Garden Elementary. Additionally, Fellows **Kelly Penny, Yeidi Diaz, Julia Keith, and Shane Wiggan**, along with Dr. Bush and Angel Maldonado visited Timber Springs Middle School, Avalon Middle School, and Liberty Middle School. They reported on the plethora of amazing things teachers were engaging in!

CONGRATULATIONS ARE IN ORDER!



Fellows **Dr. Deborah Blakeslee** and **Dr. Nisha Phillip-Malahoo** successfully defended their dissertations earlier this month. We congratulate them on their hard work and on accomplishing this milestone.



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COLLABORATION WITH CITY YEAR

The City Year Corps Members joined Fellow **Nisha Phillip Malahoo** to support Pinewood Elementary's STEM Club. The Corps Members had a great time working with Pinewood's scholars to explore how to increase the perimeter of an index card.

UPCOMING PRESENTATIONS

Fellow	Presentation Title	Conference	Date
Abi Ruiz	Mathemagic: Building Mathematical Confidence Through a Cultural Lens	Ontario Association for Mathematics Education (OAME) Ontario, Canada	May 2024
Diane DelliBovi & Abi Ruiz	From Excess to Access: Just-in-Time Scaffolding for Inclusive Excellence	Florida Council of Teachers of Mathematics (FCTM) Orlando, FL	June 2024
Shane Wiggan & Abi Ruiz	Fanning the Flames: Rekindling Joy in Teaching Through a Culturally Relevant Approach	Florida Council of Teachers of Mathematics (FCTM) Orlando, FL	June 2024
Deborah Blakeslee & Maria Porras Monroy	Covering our Bases: Igniting Students' Love of Math	Florida Council of Teachers of Mathematics (FCTM) Orlando, FL	June 2024
Kayla Blankenship	Math Club Magic: Nurturing Elementary Students' Positive Mathematical Identity Development	Florida Council of Teachers of Mathematics (FCTM) Orlando, FL	June 2024
Laura Pimentel & Julia Keith	An Elementary Teacher's Role in an Algebra I Student's Success	Florida Council of Teachers of Mathematics (FCTM) Orlando, FL	June 2024
Julia Keith	Math Anxiety Affects Accelerated Learners Too! How to Reframe the Struggle and Rebuild a Student's Math Identity	Florida Council of Teachers of Mathematics (FCTM) Orlando, FL	June 2024
Lori Hart, Sarah Lumpkin, & Joslyn Vilabrera	Taking the Stress Out of MTSS	Florida Council of Teachers of Mathematics (FCTM) Orlando, FL	June 2024

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Gateway to Livelihood

by Brian E. Moore, Department of Mathematics, UCF

Two teachers, who have been friends for a short time, sit down for lunch together. Let's listen as their conversation unfolds.

Addy: What are you teaching these days?

Carver: Wood sculpture.

Addy: Oooh! Sounds fun. How's it going?

Carver: It is fun. I enjoy the content. There's only eight students, which is nice, but half of them are having such a hard time. I think several of them are about to quit, and that's not so fun.

Addy: Nearly half the class near quitting? Is that typical?

Carver: Yes. It's good though. Good to "weed-out" the students who are not strong enough to survive. Better they learn how hard it is to make a living as an artist now, while they are safe in a classroom, rather than later in the harshness of the real world. They call artists "starving" for a reason, you know.

Addy: Hmm. Does that mean students leave because the course material is so difficult, or do you intentionally make it painful for them?

Carver: Haven't you ever taken an art class?

Addy: Not one where I had to create art, unless you count all the math classes I've taken.

Carver: I don't get that, but I'll ask you later. As far as art classes go, the material is not difficult. Anyone can learn to do it. The thing that's difficult is the critique of your work. Putting your heart, your time and energy, your blood, sweat, and tears, into your work for weeks, only to have it meanly criticized by your peers and mentors, is tough. Not many can handle that type of brutal honesty for the long haul. Like I said, better they experience that now, while they're young and flexible, rather than later when there's more on the line.

Addy: So, you're saying that weeding students out in art classes is somehow a saving grace for them because making a living as an artist is even harder?

Carver: Basically. But also, the best teaching of any subject brings the students into a real world practice of that subject. Don't you think?

Addy: Absolutely! This is so fascinating! It seems mathematics and art are the same in some ways, but opposites in others.

Carver: What do you mean?

Addy: Well, there is a "weed-out" that happens in math classes, too, but not for the same reason. It sounds to me like, in art, students "leave" for the same reason people eventually "leave" basketball. There are just not enough jobs for professional basketball players, and to be a pro requires exceptional skill. But just because someone does not go pro does not mean they have to stop playing basketball. They can still play. It just becomes a hobby. Same with art, right?

Carver: Right. But isn't math like that, too? Not everyone can be a mathematician, so eventually some will just do it as a hobby, or to help their children with homework.

Addy: It's true that not everyone will become a mathematician, but there are so many other jobs for people with math skills. Did you know the Bureau of Labor Statistics projects a 30% growth in job opportunities in the next ten years for math careers. That's nearly 82,000 new math related jobs, not including all the jobs in engineering and technology, among countless others, which also require lots of math.

Carver: Wow! That's news to me. So, the weed-out is not because of lack of jobs. I'm guessing the math weed-out occurs because some people just can't do math.

Addy: It's better to say students *believe* that they can't do it. Either that, or they decide they don't like it. Maybe both, but both reasons are highly suspect. There is evidence that doing mathematics is a skill to be learned and developed, just like doing art or playing basketball, and anyone can do it. For those who say they don't like it, I've found that they often do not really know what math truly is.

Carver: How could they not know what it is? Everyone has to do it in school.

Addy: But so often what they do in school is not mathematics. Let me give you an example. Here's something typical of school mathematics: "Remember this rule, three times four equals four times three." But *really* doing mathematics is not about memorizing facts, it's about curiosity and creativity. Closer to mathematics is asking, "Why is three groups of four the same as four groups of three?"

Carver: Mmmm. I can see why asking that question breeds curiosity. It also invites creativity, because there are so many ways to answer it. That question is far more interesting than just memorizing a fact, without reason, other than "It'll be on the test," or "You'll need this some day." I'm a bit confused though. It sounds like you're saying that the reasons for the math weed-out are not valid reasons. Did I miss something?

Addy: It's a big problem. You're not the only one confused by it. People have been thinking and debating about it for a long time. But let's put that aside for the moment. I think the truly fascinating topic that has emerged here is about livelihood.

Carver: You mean about there being so many math related career options?

Addy: Not really. It's true, there are so many job-related reasons to learn math, but those reasons are all somehow in the distant future for the students. The present, in-the-moment, reasons to learn math are more about curiosity and creativity, which reside in all children to some degree. I mean, livelihood is about much more than just getting a job to support you and your dependents. It's about how you live.

Carver: Yeah! Work to live; not live to work!

Addy: Exactly! Art is one of the things that makes life so rich and interesting and enjoyable. Mathematics is so much like art that it gives real reason to do it in the here and now, not just because it may be useful someday.

Carver: You lost me again. I think we're back to your statement about doing art in math classes.

Addy: Indeed! We are! Let me explain with another example. Have you ever read Jules Vern, especially *Journey to the Center of the Earth* or *Twenty Thousand Leagues Under the Sea*?

Carver: Yes, I've read them both.

Addy: Great! So, you're familiar with the worlds those books describe?

Carver: Yes. That is part of what makes those books so fun to read. Each of those worlds is unknown to the character in the story and full of fantastic things to see and discover.

Addy: The math world is just like that, but you can't know until you actually go there. Another reason math is like the worlds in those books is that they were made up by the author, and math is also made up by its author. Every problem in mathematics allows the problem-solver complete freedom to create a solution.

Carver: But isn't there always only one correct answer?

Addy: I'm not talking about answers. I'm talking about the process, the path one constructs as they work toward understanding something, which requires sifting through ideas and finding the ones that are most pleasing. If that isn't being done, then it wasn't a problem in the first place.

Carver: Ok, but that isn't really creating a fantastic world, like Jules Vern did.

Addy: You're right. It's not. But every aspect of mathematics was made up by someone at some point, and anyone can do that. If a doer of mathematics wants to define two plus one equals one, then I say, "Wonderful! More power to 'em!"

Carver: What!?! That's wrong! Two plus one equals three! Always!

Addy: Not necessarily. It depends on how you define "plus" and your number system. In other words, it depends on the math world you're working in. We set seven plus one equal to one all the time when working with the days of the week. Math is only ever "wrong" when it is inconsistent or contradicts something within its realm. But let's be honest, we wouldn't stand for inconsistencies or contradictions in the worlds that Jules Vern created either, or any other writer or artist for that matter.

Carver: That's for sure. "Art imitates life and life imitates art." Right?

Addy: I think so, and the same can be said of math. Just think about geometry. In planar geometry there is only one line through a point that is parallel to another line, but in spherical geometry there are no parallel lines. Two completely different worlds created with mathematics, both behaving in wildly different ways, and, yet, both imitate the world in which we live. But then, as the math is used to inform our decisions, our world begins to imitate mathematics.

Carver: Wow! It's weird. And kind of funny. What you say seems true, but, for some reason, also seems to contradict my experience with mathematics.

Addy: Maybe your experience was tainted by false perceptions. Mine was when I was a kid. It's not common for mathematics to be seen as it really is. It can describe our world, but sometimes it looks more like art than science.

Carver: It makes me wish I'd had different experiences with math as a kid. I might have liked it more if I could create and explore.

Addy: You and a lot of other kids. What I'm wondering about is the worlds that might be created with wood sculpture. Is that even possible?

Carver: Possible? It's part of what makes sculpture so interesting.

Addy: Let's talk about it next time we have lunch.

Carver: Lookin' forward to it.