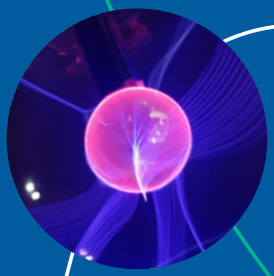
APS Forum for Early Career Scientists
FECS

Newsletter | Spring 2023



Message from the Newsletter Editor Tugba Piskin

Dear FECS Members,

We are thrilled to share our Spring 2023 newsletter with you! We are happy to release a newsletter now that the global pandemic is finally receding. After a long period of isolation, we would like to provide information about the events and experiences from the FECS community with the hope of increasing connection among early career physicists.

In this newsletter, we share information about our activities at the March and April meetings, opportunities to participate in FECS with upcoming elections for various executive positions, and an invitation to apply for the FECS Diversity and Inclusion Award. We are featuring a special article about the APS Wiki Scientist Program, which we hope you'll find informative. I extend my sincerest gratitude to all of the contributors to this issue for their valuable insights and efforts.

We are eager to include interesting articles from our FECS members in the upcoming FECS newsletter. Thus, I would like to invite you to contact me (tugbap@umich.edu) if you would like to provide an article for future editions or provide suggestions and comments about the current newsletter. We encourage you to connect with us and other FECS members on APS Engage (https://engage.aps.org/fecs/home) and on our Facebook Group - APS Forum for Early Career Scientists. We look forward to staying connected with you in the future!

Sincerely,
Tugba Piskin

Tugba Piskin
Communications Officer

Tugba obtained her Ph.D. from Purdue University in West Lafayette, IN, USA. After completing her doctorate, she worked as an assistant professor at Middle East Technical University in Turkey for a year, mainly focusing on teaching. She has been a postdoctoral researcher at the University of Michigan for the last two years. Her research primarily focuses on the computational modeling of low-temperature plasma and fluid dynamics for the semiconductor industry and aerospace applications

In this Issue

Views and opinions expressed in articles are those of the author and are not necessarily shared by the editor or the APS/FECS.

Message from the Past Chair Adam Iaizzi

Dear FECS Members,

My name is Adam Iaizzi. I've had the privilege of serving on the FECS board since 2019 as a Member-at-Large and now on the chair line. This year is my term as Past Chair and thus my final year on the board.

In the best of times, early career scientists have no shortage of challenges to overcome, some of which I've had to deal with first hand. Postdocs are isolated in a new place, often dependent on a single PI for their funding and even visas. Untenured faculty are also in a tenuous position, scrambling to set up their lab alongside a full teaching load. Scientists transitioning to industry have our own challenges as we adjust to working in an entirely new paradigm.

On top of all that, we have been living through a pandemic unlike any other in living memory. Labs suddenly shut down, conferences became online-only, international borders slammed shut, and hiring ground to a halt. It's hard to write that crucial paper when you can't collect data. Faculty were suddenly overwhelmed by a first order transition to remote learning. Besides our careers, we also feared for our lives and the lives of our loved ones.

For me, the pandemic struck near the end of my postdoc, just as I was returning from what would be my last trip home for quite some time. Being a postdoc in a foreign country, cut off from my friends and collaborators, was already a challenging and isolating situation. Starting a new job in a new field, working the graveyard shift with coworkers I might never meet in person, was harder still.

During that time, it was a great comfort to be connected with so many fellow early career scientists through FECS. Being able to work with you all gave me a sense of purpose when other aspects of my professional life looked bleak. One of the best perks of my position at FECS has been having the opportunity to meet so many of our wonderful members from all over the world. Through poster sessions and conference receptions, both virtual and in person, I have met so many talented young physicists. Nothing has filled me with more hope for our field than you folks.

Looking back on the past few years at FECS, I'm most proud of the ways we have come together as a community. When the 2020 March Meeting was canceled at the last minute, I saw the speakers for the March Meeting session I had planned come together and host the talks themselves virtually. I saw our members get involved in advocacy, writing and calling congress to advocate for the Supporting Early-Career Researchers Act, which later passed the House.

Amidst all that, I am proud of how FECS has been able to help make things a little easier for our fellow physicists. In the course of my time with FECS we dramatically increased our membership, stood up a new Diversity and Inclusion award, and obtained a permanent voting representative on the APS Council. At the height of the pandemic, we established a mini grant program that supported our members to attend virtual conferences when no other funding was available. I am particularly proud of one case where we were able to secure a fee waiver for a student in Iran to attend the virtual March Meeting; due to sanctions, it was impossible for them to transfer money to pay the registration fee.

As physicists, we are fortunate to have an excellent professional society that speaks for us and serves our interests. Being part of this board has led to many connections and opportunities that have been a huge help to my career. We're always looking for more people who want to give back to their community and build a more supportive and inclusive community of physicists.

If you're reading this and you have found FECS valuable in your physics journey so far, I want to encourage you to get involved with APS on some level. One of the best ways to do that is by running for a position on the FECS Executive Committee. Keep an eye out for the upcoming call for nominations for FECS positions (probably in mid-summer). You can expect a short nomination form (self-nominations encouraged), which will be used for an initial screening to determine who will be on the ballot. We're an early career group and we actively encourage nominations of early career scientists. The final decision is made by our

members (like you) voting online and the new officers will start in January 2024. This year we need candidates for chair line, Members-at-Large, Treasurer, and International Affairs Officer.

Finally, I want to ask you a favor: please take care of your mental health. Mental illness is an epidemic in the research community and I want you to know that there are effective treatment options out there. Don't suffer through it alone. There is no shame in getting help when you need it.

All the best,
Adam Iaizzi

Adam Iaizzi

Adam Iaizzi is a consultant working in the quantum industry and he currently serves as Past Chair of the APS Forum for Early Career Scientists (FECS) and FECS' ex-officio representative on the APS Committee for Careers and Professional Development (CCPD). Adam earned his Ph.D. in computational condensed matter physics from Boston University in 2018. From here he took on a postdoc in Taiwan followed by an AAAS Science & Technology Policy Fellowship in the Department of Energy Office of High Energy Physics.

Message from the Chair Wennie Wang, Chair

Dear FECS members,

Welcome to the Spring 2023 FECS newsletter! While the impacts of the pandemic linger, we emerge on the other end stronger and more resilient. On behalf of the FECS executive committee, I would like to thank the FECS community for your continued engagement with APS. In this last year, we have continued and augmented the efforts of the FECS committee for promoting and addressing the unique needs of early-career scientists. Here, we highlight a few events and happenings.

Conference Meetings

For the annual March Meetings, APS implemented a separate in-person and virtual program and FECS held three sessions. In our FECS session "The Early Career Scientist Experience in Times of Crises and Struggle" we heard perspectives and reflections of early-career and established scientists impacted by tumultuous events: past and present, global and personal. Dr. Savannah Garmon gave a personal and hopeful account of her experiences and activism as a trans woman; Dr. Michelle Frank and Dr. Soma Banerjee provided a historical perspective, covering the early-career experiences of Chien-Shiung Wu and the impact of Indian Physicists during the peak of the British Empire; Dr. Andrea Liu shared how she channeled her early career struggles into action and advocacy.

We partnered with FIAP to highlight "What Do Early Career Physicists Do?", focusing on physicists in non-traditional career paths. Dr. Elizabeth Decolvenaere presented on her transition as a hybrid research scientist and software developer; Dr. Olivia Lanes shared her experience as an experimental researcher in the IBM Quantum Community; Dr. Elizabeth Iwasawa discussed ways in which scientists from academia, startups, and national labs play a role in quantum technologies; Dr. Walter Guttenfelder promoted the role of public-private partnerships in fusion energy research and development; Dr. Sara Bartolucci at PSI Quantum spoke about her experiences in working at a start-up company. Our March meeting sessions were rounded out with a co-sponsorship with FIP on the "International Perspective for Young Physicists from Particle to Materials" highlighting the work and experiences of international early-career physicists, particularly during COVID.

Lastly, we continued hosting the Postdoctoral Poster Competition across both the in-person and virtual sessions. We received a hearty 84 submissions for the poster competition and had a robust poster session. We congratulate the first-place winner, Sam Dillavou from the University of Pennsylvania (poster: "A Physics-Driven Self-Learning Transistor Network"), and the runners-up, Amanda Carr from Argonne National Lab (poster: "Convenient confinement: Examining ion and water behavior near graphene and graphene oxide thin films") and Kazuhiro Kuruma from Harvard University (poster: "Extension of orbital lifetimes of silicon-vacancy centers in diamond using phononic crystals") for their excellent posters and presentations. In addition, twelve early-career FECS members were awarded mini "travel" grants to cover the cost of conference registration.

For the 2023 April Meeting, we hosted a panel on "Meet your future: A Conversation about Career Pathways" with Dr. Meghan Anzelc, who spoke about transition from physicist to advisor in data-centric product offerings, Dr. Jorge Nicholas Hernandez Charpak, who serves as the Federal Relations Senior Associate for APS Physics, and Dr. Alexis Knaub, who specializes in physics education at the postsecondary level. We hope to continue another year of sessions in support of the FECS community.

New and Ongoing Programming

As part of FECS efforts to support the early-career community, we sponsored several new and ongoing awards. For a fully list of awards, please visit our awards page: https://engage.aps.org/fecs/honors/prizes-awards

1. Diversity and Inclusion Award, in recognition of extraordinary contributions of early-career scientists, nominations open until July 31!

2. APS-EPS-ICTP Travel Award Fellowship Program (ATAP), in support of early-career scientists from and working in developing countries for a two-month research visit to a participating lab in Europe or North America.
3. Distinguished Students Program, in recognition of outstanding postdocs and students in any field of physics and includes travel support to the March or April Meetings; in collaboration with FIP

Elections and open positions

Finally, be on the lookout for announcements on how to become involved with the executive committee!

As the school year comes to a close, we hope you take the time to reflect on your accomplishments so far and take on a renewed vigor for the summer ahead.

We wish for your continued involvement with the FECS community and will continue to support you!

Please do not hesitate to reach out, we hope to meet you at future FECS events!

Sincerely,
Wennie Wang
Assistant Professor, University of Texas at Austin

Wennie Wang

Wennie Wang earned her PhD in computational materials science from the University of California, Santa Barbara in 2018 before completing a postdoctoral appointment at the University of Chicago. She is currently an assistant professor in the McKetta Department of Chemical Engineering at the University of Texas at Austin and focuses on the deployment and application of first-principles methods for understanding optoelectronic properties of novel materials (https://wangmaterialsgroup.com). She has served as a member-at-large with FECS and APS Career Mentors Fellow.

Invitation to Apply for FECS D&I Award Andrew Seredinski

Dear FECS Members,

Efforts to improve the climate in physics are vital to the health and advancement of individual programs and the discipline as a whole. The APS Forum for Early Career Scientists (FECS) recognizes the invaluable and often uncelebrated contributions to diversity, equity, and inclusion of early career scientists through an annual award.

The FECS Diversity & Inclusion Award is a $2500 honorarium and certificate of recognition presented to an early career scientist who has made such a contribution. The awardee will also be invited to give a talk at a future FECS session at an APS meeting. You can learn more about the previous awardee, Dr. Alex Frano, here.

Nominations for the award are due July 31st, 2023, by 11:59pm EDT. Self-nominations are welcome. The nominee must be a FECS member (see the link below to join), and preference will be given to early-career scientists who received a terminal degree in the past 10 years. The nomination letter should include a statement (500-word maximum) about the nominee's past contributions and future commitment to diversity and inclusion in their capacity as an early career scientist. The nominee's CV and contact information for one reference, or for two references in the case of a self-nomination, are also required. The winner will be notified by September 1st, 2023.

Submit applications here: https://tinyurl.com/yc53tjxe

If you have any questions, please email Andrew Seredinski (seredinskia@wit.edu).

To join FECS, follow this link and sign into your APS account: www.aps.org/membership/units/join-unit.cfm

The APS Wiki Scientist Program

Andrew Seredinski

The APS Wiki Scientist course trains physicists to edit Wikipedia. I was part of the fifth iteration of the program, and I came away feeling empowered. Here, I sketch my motivation for enrolling, the course's outline, and what I took away from it.

Wikipedia is one of the most visited websites on the planet, and creating and improving articles there is a sometimes-overlooked form of public outreach. Some of this means creating and updating pages on technical topics. Equally important is creating and updating physics biographies, especially for women and BIPOC (Black, Indigenous, and people of color) physicists.

I was introduced to this latter idea by the work of Dr. Jessica Wade, an early career scientist and highly visible advocate for tackling gender and racial bias within STEM on Wikipedia (I encourage you to take a look at her Wikipedia page if you are not familiar with her work). I had been showing an interview with Dr. Wade in an introductory physics assignment about systemic barriers in the STEM pipeline for the past year or so when the APS Wiki Scientist 5 program popped up in a communication from APS FECS. I had the inspiration and then finally the invitation that I personally needed to get engaged.

When I'm curious about something, my first stop is usually Wikipedia. When my students aren't sure where to start (not end, mind you), I'll usually send them to Wikipedia. But I didn't make my first substantive edit until joining the course in the Spring of 2022.

The APS Wiki Scientist course runs for six weeks, with weekly one-hour meetings and homework assignments. There are no grades or late penalties. Our goal in the program was to write or significantly update a page on a woman or BIPOC scientist. The first week introduced editing (which is easy, as many of you know), as well as Wikipedia's policies on things like notability and sources. These were more rigorous than I expected, and it's an impressive architecture given that it's upheld almost entirely by volunteers.

In the second week, we made some small edits to get started and learned about drafting longer content in sandboxes, which are sharable pages that aren't directly searchable on the site. We were also introduced to resources for finding scientists to write about, like the Wikiproject Women in Red (WiR). As of May 2023, under 20% of all biographies on English Wikipedia are of women. WiR is a group of Wikipedia editors whose goal is to correct this (to turn red links blue), and they maintain redlists of women who likely meet Wikipedia's notability standards but don't yet have pages.

Having learned the ropes and chosen our subjects, we worked on our articles. We tackled several questions along the way: How do we find useful sources? How should the page be structured? How can we write with a neutral tone? What information is important to put in an encyclopedia entry and what should be left out? One of the valuable aspects of working in the course format was having an instructor to provide feedback along the way.

By the end of the six weeks, my first Wikipedia page was live. I have made a couple more in the past year. This is a nice outcome, but for me the most important one has been adapting what I learned for my classroom.

I took the nascent assignment on representation in STEM from my introductory courses and reworked it. Each of my students now chooses a notable woman physicist who is lacking a Wikipedia page, finds a few sources on them, and writes a paragraph or so of biography. To keep the timeline shorter, I don't ask students to create full pages, but we do add their subjects and sources to the redlist of women physicists maintained by WiR.

Overall, I took away practical knowledge about Wikipedia and its workings, built capacity around biography-writing, and left empowered to make a small bit of difference. With or without the APS Wiki Scientist course, if you're like me and were waiting for someone to invite you to contribute to Wikipedia, here it is: you're invited.

Andrew Seredinski

Andrew Seredinski is an Assistant Professor of Physics at the Wentworth Institute of Technology. His scholarly work focuses on the optical and electronic properties of graphene and other van der Waals materials. His research interests also include superconductivity and physics education. He earned his Ph.D. in Physics from Duke University, and his B.S. in Physics and B.A. in Philosophy and Mathematics from Washington and Lee University.

The Open Positions in the Upcoming Election

For the upcoming elections, five positions are open: Chair-Elect, Treasurer, International Affairs Officer, and Members-At-Large (x2). Below is a brief summary of the positions, along with a few words from current position holders. More detailed explanations and rules regarding FECS governance are provided on the APS FECS Engage.

1. Chair- Elect

The Chair-Elect is selected for a one-year term, followed by a one-year term as Chair, and a final year as Past Chair on the Executive Committee. The Chair-Elect covers the duties of the Chair whenever the Chair is unable to perform.

> *"It has been a privilege serving in the FECS chair line. I have been able to work with and meet so many amazing early career scientists on the executive committee and in the FECS community; it makes me immensely optimistic for the future of physics. I look forward to serving the community in the final stages of the chair line."* Wennie Wang, Chair

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> *I have been a member of American Physical Society (APS) since 2009 and have benefited as an APS member in getting support and mentorship in my student and postdoc period. Being one of the APS unit leaders allows me the opportunity to serve back the physical community and to help more early career scientists. We meet and discuss topics around global challenges, policy, ethics of emerging technologies, and engaging the public. We pay visits to Capitol Hill to advocate on behalf of the physics community and to influence policymakers. We also provide mentor and financial support for early career scientists in post covid period, as well as involving more minorities in community activities. This service experience offers me a sense of rewarding since we are devoting efforts in shaping the physics community's future, together with all our peers.* Yuan Zhang, Chair Elect

2. Treasurer

The Treasurer is responsible for all funds regarding the FECS, keeping financial records, and sharing financial reports and annual budgets during Executive Committee meetings. The Treasurer position is elected for a term of two years.

3. International Affairs Officer

The International Affairs Officer is responsible for developing activities that promote early career scientists globally. The Officer works in consultation with the APS Director of International Affairs on these activities. The Officer is elected by the membership for a term of three years.

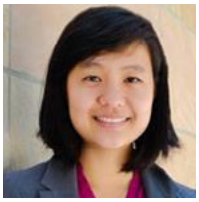
> *"As the International Affairs Officers for FECS, I've had the honor to promote international scholars and collaboration in science. Working closely with my colleagues in the FECS Executive Committee, as well as others in APS and other scientific organizations, has been a greatly inspiring experience. In addition to my specific duties, I've served on prize committees, organized sessions at the March Meeting, and helped make FECS events and programs a success, which has helped me grow as a professional."* Mehmet Dogan

4. Members-At- Large (2 positions available)

There are four Members-At-Large positions on the FECS Executive Committee. Although there are no fixed duties or responsibilities for Members-At-Large, position holders usually help the Executive Committee depending on the association's needs. The position is elected for a term of two years.

> *"I really liked contributing to the wellbeing of early career academics and trying to find ways to support them. The role doesn't require a lot of time dedication and you can implement your own projects and ideas. I especially enjoyed representing FECS at the March Meeting and getting to know our members and hearing their needs and wants."* Mariana Fazio

FECS 2023 Executive Committee on the Forum for Early Career Scientists



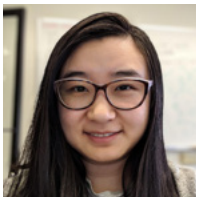
Chair:
Wennie Wang,
University of Texas Austin

Chair-Elect:
Yuan Zhang,
Old Dominion University

Past Chair:
Adam A Iaizzi,
Booz Allen Hamilton Inc.

Treasurer:
Ankit S Disa,
Cornell University

Secretary:
Daniel Marx,
Brookhaven National Laboratory



Councilor:
Xuan Chen, Cornell Laboratory for Accelerator-Based Sciences and Education

Members-At-Large:
Daniel Borrero,
Willamette University

Members-At-Large:
Mariana Andrea Fazio,
University of Strathclyde

Member-at-Large:
Tyler Van Buren
University of Delaware

Member-at-Large:
Andrew Michael Seredinski,
Wentworth Institute of Technology

International Affairs Officer:
Mehmet Dogan
University of Texas Austin

Communications Officer:
Tugba Piskin
University of Michigan