

Message from the Newsletter Editor



Greetings, FECS members! We are excited to present to you our newsletter for Spring 2020. We hope you find it informative and interesting during these interesting times. During the pandemic, I have been “working” from home with my toddler, whose daycare is closed, while my wife works at the hospital.

I know many others are in similar or much harder circumstances. (I’m thankful I still have my job.) And although my work productivity may have decreased, more importantly, I have been able to spend much more time with my son than normal, and that has been great! I hope and pray that you all have been able to cope well with all the struggles and blockades the have accompanied the pandemic.

In these newsletters, in general, we aim to provide you with useful information about basic research in different fields of physics, information about our activities at conferences and elsewhere, opportunities to actively participate in FECS, and helpful guidelines toward furthering your career. This issue includes a summary of the FECS virtual activities for the March and April Meetings, an update on the FECS postdoctoral poster competition, a report on the expansion of FECS and its executive committee to better serve the physics community, a list of career and mental health resources in light of the pandemic, and an article outlining the seminars that the APS is offering to benefit early career scientists.

I offer my sincere gratitude to all the contributors for this issue of the FECS newsletter, who worked hard to provide useful and engaging content, and many thanks to all the FECS members for reading. Suggestions, comments about the newsletter, and article contributions are always very welcome, and you can reach me with these at kludwick@lagrange.edu or on our Facebook group (called “APS Forum

Continued on page 3

IN THIS ISSUE:

Message from the Chair	2
Expanding to Serve You Better	3
Cancelling the March Meeting Didn't Cancel FECS Sessions	4
APS April Meeting Activities.....	5
The First FECS Postdoctoral Poster Competition.....	6
Annual Postdoctoral Poster Prize	7
Career Resources in Light of the Pandemic.....	8
APS Launches Summer Webinar Series	9
FECS 2020 Executive Committee.....	10

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 Chair

Ben Ueland



Dear Colleagues,

On behalf of the FECS Executive Committee, I thank you for your continued commitment to our forum and the greater APS community. FECS remained busy and productive over the past year and we look forward to expanding our engagement this year.

Ben Ueland

FECS organized its first solo sponsored sessions for the 2020 APS March

and April Meetings and cosponsored two sessions at the March Meeting, one with the Forum for International Physics (FIP) and one with the Forum for Industrial and Applied Physics (FIAP). Despite the cancellation of the in-person meetings, the March and April FECS sessions still took place virtually and can be found online at virtualmarchmeeting.com/sessions/topics-in-diversity-wellness-and-inclusion-for-early-career-scientists and aps-april.onlineeventpro.freeman.com/sessions/15336077/B08-Invited-Session-A-Sampling-of-Career-Paths-Available-for-Early-Career-Scientists.

I thank Treasurer Kevin Ludwick, Member-at-large Adam Iaizzi, Past-Chair Jason Gardner, former Past-Chair Maria Longobardi, and FIAP Chair Matthew Thompson for their efforts towards organizing these sessions. I also greatly appreciate all of those that agreed to present. FECS additionally sponsored a highly successful panel session on applying to postdoc and faculty positions at the November 2019 Division of Fluid Dynamics (DFD) meeting, with Members-at-Large Mark Owkes and Sara Clements taking the leads. Details may be found at aps.org/units/fecs/newsletters/201912/splash.cfm.

In addition to the oral scientific sessions at the 2020 March Meeting, Jason Gardner organized the inaugural post-doctoral poster competition sponsored by FECS. The competition would have awarded a \$500 prize to the best poster and several \$100 runner-up prizes. We hope to expand interest for this session for the 2021 meeting. FECS also continued to support the Distinguished Student Awards with FIP. These awards offer some travel support for students travelling to the meeting to present. Maria Longobardi took the lead for FECS, with support from Sara Clements.

The elections for the 2020-21 FECS executive committee occurred last fall, and I welcome our new Chair-Elect Shaowei Li and new Members-at-Large Wennie Wang and Daniel Borrero-Echeverry. I also thank LaNell Williams for being the FECS representative to the APS council. The 2021-22 election cycle is also getting underway, and Jason Gardner is actively

searching for candidates. If you would like to become directly involved as a member of the FECS executive committee, please think about the role you would like to play, and be on the lookout for emails regarding the upcoming election.

Finally, these are challenging time, and as scientists in what can be especially stressful points in their careers, it is important to remember that you are not alone. FECS has been working with the APS and others to provide resources for our community, and the executive committee would appreciate hearing your ideas concerning ways FECS can assist (Facebook page: APS Forum for Early Career Scientists). Early-career scientists face significant challenges during these unique times, and as someone who was in the middle of his first postdoc when the Great Recession hit, I can assure you that the challenges will be overcome. Do not lose hope and continue pushing forward with your careers.

Best Wishes,

Ben Ueland

Ben Ueland is an experimental condensed-matter physicist specializing in neutron and x-ray scattering studies of magnetic correlated-electron materials. He earned a Ph.D. in Physics from the Pennsylvania State University in 2007 for his work examining cooperative magnetic-relaxation effects in geometrically-frustrated magnetic oxides using various very-low-temperature thermodynamic measurements. He joined the NIST Center for Neutron Research in 2007 as an NRC Postdoctoral Associate to learn neutron scattering techniques and became a G. T. Seaborg Institute Postdoctoral Associate at Los Alamos National Laboratory in 2010. In 2012, he joined the Correlations & Competition between the Lattice, Electrons, & Magnetism group at Ames Laboratory located at Iowa State University and is currently a staff scientist there. Some of his recent work includes identifying emergent itinerant ferromagnetism in hole-doped BaMn_2As_2 , examining magnetostructural coupling and itinerant magnetic excitations in various 122 pnictide superconductors and related compounds, and characterizing fragile antiferromagnetism in the heavy-fermion YbBiPt .

Expanding to Serve You Better

Jason S. Gardner, Past Chair



Jason Gardner

The Forum for Early Career Scientists (FECS) is now three years old. Since the early days as an idea in Marilena Longobardi's mind, we have become quite an active unit within the American Physical Society (APS). Our recruitment activities, sessions at the annual meetings, and participation in various committees and taskforces at the APS have kept the executive busy, but we still recognize we should do

more. To achieve more and to distribute the workload more within the FECS community, we propose to increase the size of the executive. You should have received an email asking all FECS members to vote on the approval of new bylaws. These not only put us in compliance with new APS best practices, but also allow us to expand the executive by ~30%. We would split the office of Secretary/Treasurer into two positions. Each position carries a significant amount of responsibility, and we believe that things will run more smoothly if the tasks were divided. We would also be creating a Communications Officer and an International Affairs Officer. The Communications Officer would be charged with improving the electronic communication between members, becoming more active on platforms like Facebook, keeping our official APS website active, and encouraging conversations on the APS messaging board Engage when it is rolled out to all APS members. The FECS has always had a strong emphasis on international activities, often collaborating with the Forum on International

Physics. To promote more fellowship between physicists across borders, we hope a new International Affairs Officer will devote some time to creating new opportunities.

If you are interested in knowing more about FECS, please reach out to any member of the Executive. We always need help with the annual meetings, divisional meetings, and simply getting the word out that we are here to help. If you want to get more involved, consider joining the FECS Executive or contributing to the newsletter or our web presence. Every summer we look for nominations to several positions, and the Past Chair of FECS is always willing to answer questions.

After obtaining his Ph.D. at Warwick University in the UK, Jason worked for several national laboratories in North America before moving to Sydney, Australia in 2013. He is currently a research Professor at Songshan Lake Material Laboratory, a new research laboratory in China. His scientific interests are primarily in frustrated magnets, but he's also performed research in many areas of condensed matter over thirty years of research. He has published over 150 papers and 4 book chapters. He was made a fellow of the Institute of Physics (UK) in 2008 and the APS in 2019.

Message from the Newsletter Editor *continued from page 1*

for Early Career Scientists"). I hope to connect with you on our Facebook group and at upcoming APS meetings!

Sincerely,

Kevin Ludwick

Kevin obtained his Ph.D. from the University of North Carolina at Chapel Hill. After a two-year postdoc at the University of Virginia, he became an assistant professor at LaGrange College in 2015, and he is the Pre-Engineering Dual Degree advisor there. His research is in theoretical cosmology, pertaining to dark energy and dark matter models.

Cancelling the March Meeting Didn't Cancel FECS Sessions

Adam Iaizzi, Member-at-Large



Adam Iaizzi

Exhausted from the long trans-pacific flight to Denver, I was already in bed when I got the email: the March Meeting was cancelled due to COVID-19. I was stunned; I had seen coronavirus in the news, but it was suddenly very real. It was certainly disappointing, but the events of the last two months have made it clear that cancelling the March Meeting was the right call.

FECS was sponsoring three sessions at the 2020 March Meeting:

“G38: Topics in Diversity, Wellness, and Inclusion for Early-Career Scientists” was FECS’s first independently-sponsored invited session. We worked hard to organize this event, and I was heartbroken to think it wouldn’t happen. Fortunately, many speakers agreed to livestream their talks and post them online. The livestream was watched by over 50 people, and the talks are now available on YouTube and from virtualmarchmeeting.com/sessions/topics-in-diversity-wellness-and-inclusion-for-early-career-scientists. Special thanks to Andrea Welsh (one of the speakers) for organizing and chairing the live session.

FECS had planned two other sessions; unfortunately, these did not take place virtually. We may try these same topics at a future March Meeting (and you can let us know what you think).

For “F28: Seeing your Career in a New Light” (cosponsored with FIAP), we invited speakers to discuss their careers outside the conventional academic track in fields like photonics, physics writing, national labs, industrial physics and even entrepreneurship.

FECS had also planned a session, “S37: Top Science in Europe: Early Career Scientists and the ERC Grants” (cosponsored with FIP), featuring talks by European Research Council (ERC) grantholders as well as advice on

how early career scientists can apply for ERC Grants.

From all of us at FECS, we hope that you are all healthy and safe in these trying times. We are already looking forward to FECS events at the 2021 APS meetings. In the meantime, we want to hear from you! What topics do you want to see FECS cover at upcoming meetings? How has COVID-19 impacted you as an early career scientist, and what can FECS do to help?

Links:

Wellness Session on APS bulletin:

meetings.aps.org/Meeting/MAR20/Session/G38

Seeing your Career in a New Light:

meetings.aps.org/Meeting/MAR20/Session/F28

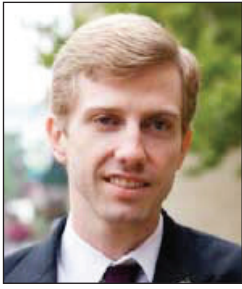
Top science in Europe:

meetings.aps.org/Meeting/MAR20/Session/S37

Adam Iaizzi is a postdoctoral research associate at National Taiwan University. He received a B.S. in physics from Ithaca College (2011) and a PhD in computational condensed matter physics from Boston University (2018). During graduate school Adam was active in student leadership, serving as treasurer and later president of the university-wide Graduate Student Organization, where he successfully advocated for a paid parental leave policy for PhD students and a 75% budget increase for the organization. He also organized events for the women in science group. Within the physics department, Adam helped organize a graduate student peer mentoring program. Off campus, Adam served as a science consultant to Massachusetts State Senator William Brownsberger, where he wrote a report summarizing the latest projections of sea level rise along the Massachusetts coast. Since moving to Taiwan, Adam has gotten involved in science outreach, speaking to junior high school classes about careers in science.

APS April Meeting Activities

Kevin Ludwick, Newsletter Editor and Secretary/Treasurer



Kevin Ludwick

The APS April Meeting 2020 was originally planned to take place 4/18-4/21 in Washington, DC. However, because of safety restrictions as a result of the coronavirus, the meeting transformed into the APS Virtual April Meeting, which went very smoothly considering the short amount of time the APS staff had to plan it. FECS hosted one invited session there, which focused on career path options inside and outside of academia. Once you log in with your APS username and password, you can watch the session at aps-april.onlineeventpro.freeman.com/live-stream/15336077/B08-Invited-Session-A-Sampling-of-Career-Paths-Available-for-Early-Career-Scientists.

The title for the session was “A Sampling of Career Paths for Early Career Scientists”, and I chaired the session. Dr. Ajinkya Kamat, a postdoctoral associate at the Institute for Data, Systems, and Society at MIT, talked about transitioning

from pure science research to technology policy research. He also reported on the interesting interdisciplinary research he has been doing, which is well served by his physics background. Dr. Daniel Berdichevsky, from NASA’s Goddard Space Flight Center, spoke about changing from academia to a contracting employment. He told of his interesting and somewhat unpredictable experiences that led to the transitions and milestones in his varied career, and he shared the wisdom he gleaned from all these. Our third invited speaker had to cancel due to extenuating circumstances.

On average, we had 100 viewers in the virtual audience throughout the session, which is many more than our sessions normally have at in-person meetings! We also had many good questions the audience chatted to me, and we actually ran out of time to address them all. Some of the viewers connected with one of the speakers after the talk to ask further questions. Overall, judging from the viewers’ comments in the chat, they found it insightful and beneficial. I am glad that FECS and APS were able to host useful sessions in spite of the pandemic.

Project 2: Multinational industrial R&D in China and India

100 multinational companies account for more than 20% of world’s R&D funding.

Research question:
What does make China and India equally prominent locations for R&D of US multinational companies?

Country	1999 (Million USD)	2017 (Million USD)
Germany	3300	8100
UK	4000	6400
Switzerland	200	4700
China	200	3600
India	200	3600
Canada	1600	3400
Ireland	200	3300
Japan	1400	2800
Israel	400	2500
France	1400	2000

More researchers, lower costs, larger market → more R&D funding ??

Ref: Kamat A.S., Sagar, A.D., Narayanamurti V., (in preparation)

11

Dr. Ajinkya Kamat (above right) giving his virtual talk

The First FECS Postdoctoral Poster Competition

Jason S. Gardner, Past Chair

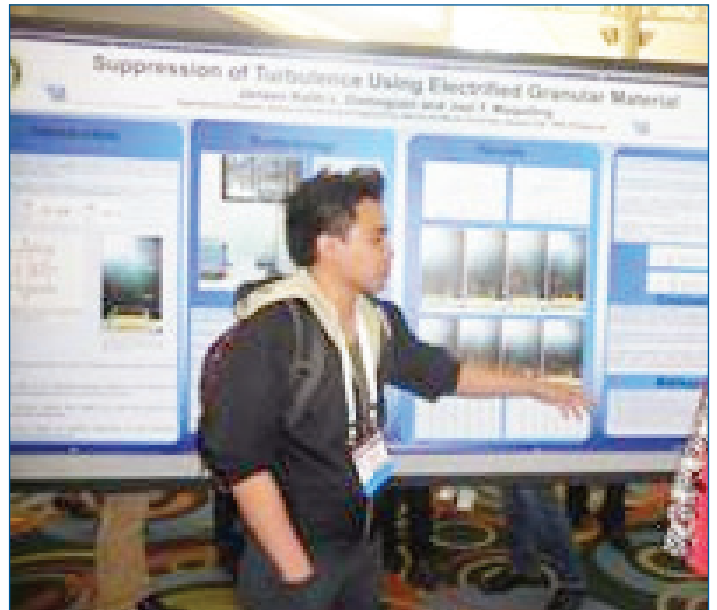


The Forum for Early Career Scientists (FECS) had great plans for the first annual poster competition at the March Meeting for postdoctoral fellows, and it was scheduled for March 3rd. We were only 3 days away from this great event when the American Physical Society cancelled the entire meeting on February 28th.

Jason Gardner For the safety of all attendees regarding the global spread of the coronavirus disease (COVID-19), this was absolutely necessary. Although only a small fraction of participants arrived in Denver, at least one visitor returned home and contaminated the research laboratory. I personally was able to participate in a few informal meetings and left Denver with no virus. Unfortunately, we are still living through these tough times, and although some data look promising today, it is hard to believe that on February 28th there were only 68 reported cases in the USA.

During these difficult times, scientists have been very resourceful, and some of the 10,000+ researchers have presented the results of their hard work online through various electronic platforms, including YouTube and virtual meetings on Zoom. A collaboration between the University of Sydney in Australia and the quantum technology company Q-CTRL developed a Virtual APS March Meeting website where many presentations have been uploaded. FECS decided not to start this annual poster session online and hopes to reboot the Postdoctoral Poster Competition in Nashville, TN (March 15-19 2021).

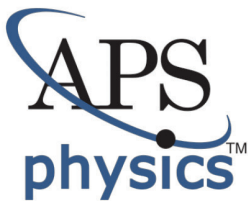
This poster competition, dedicated exclusively to postdocs, will have a “Best Poster” prize consisting of \$500 and a certificate; runners up will receive a certificate and



Distinguished Student prize-winner presenting at the APS meeting.

\$100. All registered postdoctoral fellows within 5 years of their PhD being awarded are eligible to participate in the competition. The posters can cover any topic covered in the meeting, and the poster abstract submission does not prevent a submitter from entering an abstract for an oral presentation. The applicant must be the presenting author of the poster and a member of the Forum for Early Career Scientists at the APS. We intend for this to be an annual event at the APS March Meeting.

We look forward to seeing you in Nashville, and we hope many of you submit work to the FECS Postdoctoral Poster Competition in 2021.



FORUM FOR
Early Career Scientists

Win
\$500

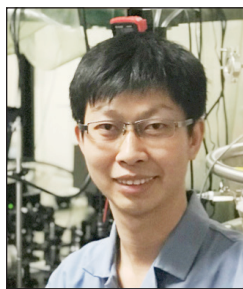
The Forum for Early Career Scientists (FECS) will be running the annual postdoctoral poster prize in Nashville, TN.

Postdoctoral fellows who received their PhD after March 2016 and are members of FECS are eligible.

PLEASE REMEMBER TO SUBMIT AN ABSTRACT TO THE
COMPETITION NEXT YEAR

Career Resources in Light of the Pandemic

Shaowei Li, Chair-Elect



Shaowei Li

The safety, health, and well-being of the early career scientists' communities we serve is our first priority. Recently, we have noticed some significant changes in the job market as a result of the global coronavirus (COVID-19) pandemic. While some employers are freezing their hiring plans, many others are announcing new opportunities. As part of our com-

mitment to helping communities, we have summarized a list of resources containing recent hiring information. We encourage you to follow these resources to remain alert to the rapid changes in the job market.

The APS Job Board

careers.aps.org/jobseekers/

Careers in Physics Workshop/Webinar by Peter Fiske

youtube.com/watch?v=DI2D68pS8tk#button

Linkedin page: Who is hiring right now

linkedin.com/feed/news/heres-whos-hiring-right-now-5161074/

Candor: Who's freezing hiring from coronavirus

candor.co/hiring-freezes/

Ipoint3acres

jobs.ipoint3acres.com/

google doc made by Dr. Karen Kelsk about academic hiring

docs.google.com/document/d/1KohP4xZdN8BZy1O-MeXCAGagswvUOWpOws72eDKpBhI4/edit

The information contained here is provided for informational purposes only and should not be construed as legal advice on any subject matter.

As the virus affects everyone, times are really hard. The Mental Health in Physics (STEM) Google Group and Slackchannel are available if you need to talk, need a space to share, or need some support. We will be hosting a virtual conversation in the near future, so if you want to join in the conversation now about when we will host it, join the group: groups.google.com/forum/m/#!forum/mental-health-in-physics.

Shaowei Li is a Heising-Simons Postdoctoral Fellow in the Physics Department, University of California Berkeley. His research focuses on developing a novel imaging technique combining laser and a scanning tunneling microscope (STM) to shatter the diffraction limit and probe the inhomogeneous properties in low dimensional materials. The desire for observing finer details using optical microscopy particularly in bio-science and material-science is pushing technology developments beyond the diffraction limit. The coupling of photon excitation with electron tunneling at the junction of a scanning tunneling microscope combines the femtosecond sensitivity of a laser and the Angstrom resolution of tunneling electrons. The joint fs-Å resolution will provide a new window for viewing the unique ultrafast dynamics of individual nano-scale objects. Shaowei received his Ph.D. in physics from UC Irvine in 2017. Prior to that, he received his bachelor's degree in physics from Nankai University in 2010. He spent a year as a postdoctoral fellow at Northwestern University before joining UC Berkeley. His past work involves probing the physical and chemical properties of single molecules and low-dimensional materials with optical techniques and STM.

APS Launches Summer Webinar Series

Farah Dawood and Midhat Farooq



Farah Dawood



Midhat Farooq

We are experiencing unprecedented hardships in the time of the COVID-19 pandemic. Many of us are working from home or are under restricted working conditions. Experimental science has been temporarily suspended because laboratories are shut down, and much of the computing power that typically drives theoretical research has been reassigned to monitoring and modeling the pandemic. During this time, APS is working on initiatives to continue to support our members.

We launched the Summer Webinar Series on May 13th in an effort to help our student and early career members continue to advance professionally. The first three webinars are directly related to the APS response to the pandemic. We kicked off the series with a webinar entitled **Building your**

Professional Path during COVID with over 200 participants in attendance. Crystal Bailey (Head of APS Career Programs) discussed APS career resources, best practices for virtual networking, and how to build an online presence using LinkedIn. In our efforts to assist international students, we planned a webinar entitled **International Students & the APS Response to the Pandemic** for May 19th. Francis Slakey (APS Chief Government Affairs Officer) and Amy Flatten (APS Director of International Affairs) discussed the resources that APS has in place for international students during this time. We plan to round up May with **Adjusting Lab Practices During a Pandemic on May 28th**, a panel discussion organized by FGSA and FECS and co-sponsored by APS. Six physicists representing universities and national laboratories from across the country will talk about how they are continuing to be productive in research, while still adhering to social distancing guidelines and best safety practices.

To help us plan topics of future webinars, we surveyed FECS and FGSA members last month about professional development opportunities of interest. The results of the survey were used to design a series of webinars and workshops that we are planning to host this summer. Some of the topics that will be covered are:

- *Differences in Physics Career Opportunities Across Sectors*
- *Discovering Careers Off the Beaten Path*

- *How to Obtain a Position in Industry*
- *Preparing and Interviewing for a Faculty Position (research-and teaching-focused)*
- *Tutorials for Authors and Referees (conducted by APS Journal Editors)*
- *Grant Writing*
- *Mentor/Mentee Training*
- *Project Management*



For more information on the Summer Webinar Series and to view recent webinars, please visit go.aps.org/summer-webinars. Here, you can find information on upcoming events and links to past events. To receive the most up-to-date information, you can also sign up to join the mailing list for the Summer Webinar Series. We value your input, and if there are topics that you would like covered, please email us at dawood@aps.org or farooq@aps.org and we will do our best to accommodate your requests. Please join us for the Summer Webinar Series!

We sincerely hope that you and your loved ones are safe and well during this time.

Farah Dawood is the Chapters Program Manager at the American Physical Society. She earned her Ph.D. in Materials Chemistry in 2010 and completed two postdoctoral positions at the University of Maryland and Los Alamos National Laboratory. Prior to joining APS, Farah was an Assistant Professor of chemistry at Hamilton College in Clinton, NY. At APS, she will be implementing APS Chapters to engage graduate students, postdocs, and early career scientists. Farah can be reached at dawood@aps.org.

As the APS Careers Program Manager, Midhat Farooq works on developing programs and resources intended to help students and early career physicists learn about the different career paths available to them, as well as to help them better prepare for their own career trajectories. Midhat regularly gives career talks at colloquia and conferences, and also organizes events at APS Meetings to facilitate professional development and networking opportunities for APS members.

FECS 2020 Executive Committee on the Forum for Early Career Scientists

	Chair: Benjamin Ueland <i>Iowa State University</i>
	Chair-Elect: Shaowei Li <i>University of California Berkeley</i>
	Past Chair: Jason Gardner <i>National Synchrotron Radiation Research Center</i>
	Secretary/Treasurer & Newsletter Editor: Kevin Ludwick <i>LaGrange College</i>
	Member-at-Large: Eric Sorte <i>Sandia National Laboratory</i>
	Member-at-Large: Adam laizzi <i>National Taiwan University</i>
	Member-at-Large: Wennie Wang <i>Pritzker Institute for Molecular Engineering, University of Chicago</i>
	Member-at-Large: Daniel Borrero-Echeverry <i>Willamette University</i>

Webmaster: *Greg Hamilton*