

EDITORIAL

Proceedings of the 2023 Faculty for Undergraduate Neuroscience Workshop at Western Washington University, Bellingham, WA, July 27-30, 2023

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In July of 2023, the Faculty for Undergraduate Neuroscience (FUN) held a Summer Workshop at Western Washington University. This workshop was the first in-person workshop since 2017. This article provides a brief account of the Workshop themes of inclusive pedagogy, student and faculty mindsets, integrative STEM, and decolonization of neuroscience. The presentations and events that took place were attended by a vibrant community of close to 100, who

engaged fully in the discussions and social opportunities. In addition, we review the workshop planning process to guide future FUN Summer Workshop committees and hosts.

Keywords: Summer Workshop; inclusive pedagogy; integrative STEM education; decolonization of neuroscience education; conference planning

From July 26th - 30th, 2023, 91 attendees converged at Western Washington University (WWU), located in Bellingham, Washington for the 2023 Faculty for Undergraduate Neuroscience (FUN) Summer Workshop. This workshop was the first in-person workshop since the 2017 Summer Workshop at Dominican University just outside Chicago, Illinois (Calin-Jageman et al, 2018) and the 2020 Summer Virtual Workshop (Basu et al, 2020). Below is a description of the 2023 Summer Workshop themes followed by brief descriptions of the workshop events. The Allen Institute of Brain Science (AIBS) provided a pre-workshop half-day excursion to their facilities, including a shuttle ride to the WWU campus. Presentations at the workshop included teaching demonstrations, hands-on workshops, mini-symposiums, keynote presentations, posters, book club discussions, and FUN organization planning sessions. All of the presenters of talks were invited to submit a manuscript for publication in this special issue of JUNE, although some talks are only summarized in this editorial. Bruce Johnson and Alo Basu agreed to work with the JUNE editor to curate the special issue. In addition, a summary of the workshop planning process is included to guide the next FUN Summer Workshop planning committee and hosts.

Attending a FUN workshop provides an opportunity to interact and discuss neuroscience pedagogy, share ideas, relax, and get to know one another personally. At this meeting, most of the participants stayed in campus housing and ate meals together. There were also several social engagements including a banquet with a local band and sampling of local beer and mead. The community building that happens at these workshops is invaluable to our wellness and mission as neuroscience educators.

WORKSHOP THEMES

As FUN members emerged from the coronavirus pandemic, the organizing committee collectively reflected on what the past few years revealed about our historical pedagogical approaches and academic structures. The theme of the 2023 FUN Workshop, "Re-imagining Neuroscience Education," was selected to empower educators to critically examine the status quo in higher education and realign inclusive excellence and cultural humility within neuroscience and allied disciplines. To this end, the workshop offered professional development opportunities within the following thematic areas:

- (1) Inclusive pedagogy and active learning approaches for the neuroscience teaching lab, research lab, and classroom that promote learning and belonging in neuroscience.
- (2) Student and faculty mindsets, identities, and wellness that shape the context and human component of neuroscience courses and curricula.
- (3) Integrative STEM education that leverages the intersections of neuroscience across the sciences, social sciences, humanities, and arts to develop new ideas for pedagogical and scholarly work.
- (4) Decolonization of neuroscience education, which entails examining how dominant cultural influences have shaped the field throughout its history in terms of content, process, assumptions, and structures.

WORKSHOP SYNOPSIS

Keynote Presentations

Two keynote speakers were selected to promote an integrated discussion on the workshop themes. The first keynote presentation was a public lecture by Dr. Oliver Rollins, Assistant Professor of American Ethnic Studies at

the University of Washington, titled 'Towards an Anti-Racist Neuroscience: Education as a Foundation for Social Justice'. His talk brought attention to the structural racism in science, calling on investigators to gain a better accounting for how social factors influence metrics in neuroscience that are differentiated by race (Rollins 2021B). As he called into question the use of these metrics in neuroscience and in society, he urged neuroscience educators to learn and educate students beyond our historical epistemic and disciplinary boundaries as a path to decolonizing the field. Over 250 students, staff, faculty, alumni, family members of WWU, and members of FUN attended this talk either remotely or in person, along with the workshop participants. Dr. Rollins reflections related to this presentation are available in this workshop issue (Rollins, 2024).

In preparation for the presentation, the FUN Workshop committee organized book club discussions inspired by the themes of his book 'Conviction: The Making and Unmaking of the Violent Brain' (Rollins 2021A). The in-person book club discussions were led by Alo Basu, Jackie Rose, Michelle Tong, and a virtual book club discussion was hosted by Sally Seraphin. Themes highlighted in the book club discussion included recognizing and teaching about racial assumptions in neuroscience, and neurolaw: integrating neuroscience, social policy, and public health.

The second keynote presentation titled 'Navigating the Hidden Curriculum Toward Success,' was delivered in a closed plenary session for workshop attendees by Dr. Joyce Balls-Berry, Associate Professor of Neurology at Washington University School of Medicine. She shared insights from her own identity reflections, experiences, and cultural traditions to emphasize the fundamental importance of authenticity, vulnerability, and willingness to exchange stories to achieve inclusive mentoring. She further discussed values and practices that produce implicit messages and efforts to make visible the 'hidden curriculum' that presents barriers for scholars from historically excluded groups (Enders et al 2021). Following the keynote presentation, Dr. Balls-Berry led a workshop session on inclusive mentoring that explored the humanization of higher education with an emphasis on student and faculty wellness. An editorial based on her presentation at the conference is included in this issue (Balls-Berry et al, 2024)

Teaching Demonstrations and Posters

The FUN workshop in 2017 first featured short teaching demonstrations for early career participants (Calin-Jageman et al 2018). In that tradition, many of the 2023 presenters were first-time workshop attendees. The teaching demonstrations revolved around several themes of the workshop, including inclusive pedagogical innovation, integrative STEM education and faculty mindset and wellness.

The first concurrent session opened with a talk by Liz Leininger and Taralyn Tan in which they discussed the importance of incorporating primary literature to discuss difficult neuroscientific topics such as sex, gender and the brain. They also discussed opportunities to train students in skills that would allow them to embrace and advocate for diversity within neuroscience. The side-by-side comparison

of approaches to teaching sex and gender highlighted the critical importance of a multi-disciplinary perspective in the neuroscience classroom (Tan and Leninger 2024).

Maggie Gill and David Donley both discussed integrative approaches to teaching life science concepts. Maggie Gill presented her strategy of incorporating popular science books into neuroscience classrooms to make difficult concepts more accessible and encourage critical thinking. David Donley outlined how to develop science classes for students not majoring in STEM, focusing on the process rather than the traditional content. Both presented changes made to assignment structure and rubrics as well as suggestions on how to integrate nontraditional teaching methods and multidisciplinary perspectives into a classroom. These conversations will be ongoing as faculty experiment with different models and methods for connecting students to the broad community of scientists (Gill, 2024; Donely, 2024).

The session wrapped up with Shannon Eaton and Amy Jo Stavnezer discussing how to develop a professional development network. They highlighted the history and development of the Zoom-based FUN Final Fridays as an example of how faculty-led professional development can be sustainable and facilitate high-quality conversations. The presentation illustrated the potential of pandemic-associated efforts to generate new ideas and approaches to old challenges and the positive impact of community building on faculty connection and wellness (Eaton et al., 2024)

The second concurrent teaching demonstration session began with a talk by Ashley Nemes-Baran who presented a novel board game, "You're Getting On My Nerves". This game was created to help students learn about neuronal cable properties and action potential conduction. In this innovative teaching strategy, students draw cards that instruct them to move forward (e.g., "propagation") or backward (e.g., "demyelination") helping students learn fundamental principles of electrophysiology in a fun and engaging atmosphere (Neems-Baran, 2024).

In the presentation "Making an Effective Flipped Neuroscience Lab by Approaching Students from their Limbic Brain", April Fu suggests incorporating questions and creative learning tools to pre-lab videos to offer students a variety of learning modalities. For example, pre-lab videos demonstrating how to perform a dissection can incorporate humor and knowledge-check questions to engage students and improve comfort with lab procedures. Dr. Fu has shown that these innovations have greatly improved student success in the classroom (Fu, 2024).

Marc Nahmani discussed how to create flexible high-impact lab research experiences or CUREs using freely available 3D imaging data housed within a variety of online image repositories. This approach effectively combines acquisition and analysis steps where students critically evaluate their hypotheses through data analysts. With low implementation barriers, CUREs can help drive inclusivity and active participation by students in their own learning.

In the final talk of the second session, Sarah Greenland-White discussed "Teaching to Different Levels," in which she demonstrated how to use repeatable quizzes and self-

designed learning projects to engage and assess students. These repeatable assessments are geared toward multiple entry levels and contain adaptable questions that ensure students are challenged to extend their abilities. These strategies focus on creating a positive, growth mindset across a broad range of student backgrounds.

The posters presented at the workshop continued on the themes begun in the presentations, especially ideas, tools and assessments for classroom teaching. The posters were presented in an informal setting after dinner and allowed an opportunity for vigorous interaction between participants.

Hands-On Workshops

Seven 90-minute hands-on workshops spanning the conference themes were offered. Mays Imad's workshop on "Recasting the Agreements to Re-Humanize STEM Education & Practices" emphasized the need for instructors to recognize teaching practices that privilege certain student groups due to their origins in the dominant culture. She also urged faculty to examine expectations of students in terms of resilience in the face of structural inequity. She encouraged attendees to identify, question, and challenge practices that deny historical and present-day inequities, thereby further solidifying systematic barriers for students from historically excluded groups (Rendún, 2005, Imad et al., 2023). She also discussed how neuroscience educators can promote inclusive and welcoming environments through experiential learning and interdisciplinary collaboration.

During her "Integrative Neuroscience Curricula, or: What Can Neuroscience Do for STEM Education?" workshop, Alo Basu argued that neuroscience curricula should make more connections between content and perspectives of other related fields. She presented an approach that aligns with institutional and national goals of increasing participation in STEM by developing integrative STEM courses and curricula for neuroscience and thereby garnering institutional investment of resources. This approach emphasized inclusive pedagogical practices within a framework that acknowledges differences rather than deficits (Basu, 2021). Integrative STEM pedagogy increases interdisciplinary awareness in students and aids neuroscience and associated STEM programs in diversity, equity, and inclusion goals (Basu et al., 2017, Basu et al., 2021).

To support the scholarship of neuroscience educators who engage undergraduates in research, Lina Dahlberg led a workshop on "MicroPublications in Biology" (Dahlberg, 2024). She discussed the traditional format of these peer-reviewed articles and guided faculty in identifying current or future student projects that could be submitted. Lina Dahlberg is a member of the editorial staff of the journal (<https://www.micropublication.org/>).

Multiple workshops introduced attendees to computation, modeling, and simulation approaches and techniques, a core competency in the life sciences (Woodin et al., 2010). A team from the University of North Carolina at Chapel Hill including Monica Gaudier-Diaz, presented on the "Sleepy Mice Case Study," a guided activity for students to familiarize themselves with R Studio while analyzing data from the Allen Institute (Gaudier-Diaz et al., 2023). Kaitlyn

Cosimo, Claire Weichselbaum, and Madison Meuler from the AIBS presented a guided walkthrough of open science databases and analysis tools available through the AIBS's website. Participants explored the website's vast resources that enable students to explore the brain based on anatomical, genetic, and electrophysiological characteristics in mice, as well as in healthy or diseased human brains (Meuler and Casimo, 2024)

Ashley Juavinett presented an introduction to coding using Python notebooks, a web-based notebook. The notebooks teach basic Python programming commands for data analysis and visualization. This programming can then be used to analyze physiology data from the AIBS to allow students to investigate a variety of phenomena such as excitation/inhibition balance, intrinsic properties of neurons, and structure-function relationships. These notebooks provide access to programming skills that were previously inaccessible to novices (Juavinett, 2024).

In another session, the team of Olive Perry, Liz Leininger, and Erik Zornik presented Crescent Loom, a game developed by Olive Perry, that allows students to explore the physiological basis of behavior in an interactive gaming environment (<https://crescentloom.com>). Workshop participants were given a tutorial exploring how to create an underwater alien-like creature. To do so, students must construct neural circuits to make their creature move through complex environments, reinforcing their understanding of the nervous system. Drs. Leininger and Zornik discussed educational resources that are available to accompany the Crescent Loom game, including Connectome Explorer which requires students to solve existing circuits. The workshop wrapped up with participants racing their creatures in a single-elimination bracket tournament. This exercise brought out a friendly competition among the assembled neuroscience educators.

Mini-Symposia

The workshop featured six 90-minute mini-symposia covering a variety of important topics relevant to neuroscience education such as mentorship, graduate admissions, racial justice, and generative artificial intelligence. Each presentation uniquely emphasized the overarching themes of the workshop.

Aligned with the decolonization of neuroscience education theme, Christelle Sabatier's workshop on "Strategies to Integrate and Facilitate Racial Justice Conversations in a Neurobiology Course" highlighted the need for educators to create learning experiences in which instructors and students can together begin to unpack the legacy of racial oppression and the colonization of scientific ideas and to dismantle harmful racial tropes within the context of neuroscience curricula. Dr. Sabatier provided a useful framework for integrating racial justice conversations into their courses, articulating specific components for instructor preparation (self-reflection, topic exploration, and skill development), and planning classes (building community, alignment and assessment of learning objectives or goals, and activity development). Workshop participants generated a crowd-sourced compilation of activities to introduce racial justice topics in neuroscience

courses available as a google doc (https://docs.google.com/document/d/1FK6mwwwpKxHQpoo_n_eR3hSI9bpuvaFi2mqc5uBStQZYs/edit#heading=h.3iav0z987gy7).

The “Inclusive Mentoring in Neuroscience” mini symposium featured presentations that introduced a variety of successful mentorship programs for students and faculty that emphasize student and faculty connection and wellness. In addition to leading a discussion on general features of inclusive mentorship practices, Marc Nahmani described one-on-one faculty-to-scholar mentoring programs offered through the Posse program (<https://www.possefoundation.org/>) and the Access in STEM program at the University of Washington, Tacoma (<https://www.tacoma.uw.edu/sias/sam/access-stem-program>). In addition, Karen Parfitt described the faculty and peer mentoring components of a STEM cohort program at Pomona College and David Jewett discussed mentorship programs for professionals offered through FUN and the American Society for Pharmacology and Experimental Therapeutics (ASPET), respectively. Tommy Lee described the mentorship and professional development offered by two education-focused training programs, the NIH Institutional Research and Academic Career Development Award (IRACDA) Postdoctoral Fellowship and the Morehouse And Harvard Partnership In Neuroscience Growth (MAHPING) Pedagogy Fellows Program.

In a session addressing historic inequities in neuroscience research participation, Michelle Tomaszycy, Taralyn Tan, Ashley Juavinett, and Veronica Martinez Acosta jointly led a mini symposium on “Centering Diversity, Equity, and Inclusion in Graduate Admissions.” This presentation discussed the renewed urgency to rethink admissions following the recent United States Supreme Court decisions (Supreme Court of the United States, 2023 a, b) that struck down affirmative action in college admissions. In addition to providing a general overview of the current state of graduate admissions, the speakers outlined the specific admissions processes of two Ph.D. programs in Neuroscience (Harvard Medical School and University of Illinois Urbana-Champaign) to demystify graduate admissions for undergraduate educators. Speakers highlighted a variety of research training programs that prepare diverse trainees to succeed in graduate programs and provided additional resources to empower undergraduate educators to prepare trainees to be competitive applicants for neuroscience graduate programs (Tan et al., 2024).

Tim Marzullo, in a virtual mini-symposium titled “Backyard Brains: The Electrical Signals of Biology” demonstrated the use of their newer electrophysiological recording devices including the human EEG and EKG recording system and brain-machine interface tools from Backyard Brains (<https://backyardbrains.com>). Dr. Marzullo highlighted how approachable electrophysiology can be for all students through simple yet illustrative demonstrations such as the sympathetic nervous system's effect on heart rate, identifying the electrical signature of the fusiform gyrus when viewing faces, and even measuring the electrical response in plants following a wound. The demonstration

also included strategies for advanced data analysis that would extend the applicability of these labs to advanced neuroscience coursework (Gage and Marzullo, 2022).

In an effort to discuss the concept of advocacy, Aparna Shah and Kitty Hartvigsen hosted five virtual speakers who discussed their roles in advocacy in a session titled, “Training the Trainers in Neuroscience Advocacy”. This impressive panel of speakers discussed their paths to science advocacy and how their experiences shaped their roles, passions, and current efforts. Opportunities for advocacy exist at a variety of levels, from faculty-student collaborations at the local level to drafting policy recommendations at the national level. The presenters agreed that advocacy efforts are often plagued by issues such as a lack of incentives, lack of awareness of opportunities, and an overall lack of high-quality resources. Each participant shared strategies for engaging in advocacy. They also emphasized the need for diversity in that community. This goal was illustrated on the panel that featured individuals with policy expertise and legal training as well as those who are educators and academic researchers. Diversity allows for advocacy through multiple mechanisms and expands the impact of these efforts (Hartvigsen et al., 2024).

Elaine Reynolds, Johann Neem, and David Donley addressed the timely topic of generative language models by presenting and facilitating a short discussion on how faculty can approach generative AI in the classroom in their mini-symposium titled “Of Chatbots and Colonizers.” Dr. Neem, a history professor at WWU, began the session by interrogating the question, “What is the value of writing?” He identified that scientists often talk about “writing up their research” as if it were somehow separate from the process of sciences whereas researchers in humanities would not entertain such a dichotomy. He identified writing as an integral part of the knowledge generation process. As a result, generative AI causes us to wrestle with the role of writing in the process of science. Following this, Drs. Donley and Reynolds discussed the faculty mindset, approaches, and options for teaching with large language models in the classroom. They highlighted the tensions as faculty simultaneously deal with the perils and promises of this technology. Though AI tools can amplify dominant narratives and existing inequalities and structural racism, it can also make science education more accessible and inclusive for students (Neem et al., 2024).

In the final mini-symposia titled “Utilization and Unpacking Neuroscience Core Concepts”, Jennifer Schaffer and Patrick Sonner presented on how to identify and develop core concepts in neuroscience using feedback from surveys and teaching workshops (Chen et al., 2024). They asked participants to work in small groups to tease out concrete statements that provide options for implementing core concepts in the classroom and to provide feedback on initial “unpacking statements”. Drs. Schaffer and Sonner both acknowledged the need for community feedback to continually re-evaluate the core concepts and how they are implemented in the classrooms and programs. They outlined a vision of core concepts could provide a framework for organizing facts and understanding and could be useful

as a pedagogical and assessment tool. They emphasized that these concepts should not be used to determine what content should be taught in specific courses or programs.

Strengths: Weaknesses, Opportunities, Threats: SWOT Analysis and Strategic Planning Session

FUN President-Elect Connie Kang presented a summary of the state of the FUN organization that included a video address provided by President Erin Rhinehart and a timeline of accomplishments over the past year. Attendees divided into groups based on feedback themes identified in a prior survey. Topics included: JUNE support of the FUN mission; developing FUN networking resources; community building and professional development; being more inclusive and increasing broader membership; facilitating sense of belonging and communication with current membership; initiatives focused on Diversity, Equity and Inclusion in FUN; ideas for revenue generation. Following discussions, groups reported back to the larger meeting the strengths, weaknesses, opportunities, and threats identified in their discussions. President-Elect Connie Kang closed the session with an outline of next steps, noting that the strategic planning committee would work on implementing plans in the future.

Concurrent FUN Working Sessions and Professional Development Sessions

On Saturday afternoon, workshop participants had the opportunity to learn more about the various FUN Committees and to engage with colleagues in professional development through "table talks." Representatives from the FUN Diversity, Equity, and Inclusion (DEI) Committee, Public Policy Committee, Executive Committee, Education Committee, and JUNE Editorial Board were available to discuss the committees' work and opportunities for interested members to become involved. The professional development table talks included: aspiring from inclusive pedagogy to inclusive programs (Kristin Frenzel); being a good colleague: awareness and action on invisible labor (Amy Jo Stavnezer); navigating promotion and tenure (Michelle Mynlieff); and a table for BIPOC [Define BIOPOC] faculty and pre-faculty sharing (Alo Basu).

WORKSHOP PREPARATIONS AND PRACTICAL RECOMMENDATIONS

Below are guidelines on aspects of hosting a FUN Summer Workshop to help future organizing committees and hosts. Recommendations based on the experience of hosting this workshop are also provided.

Registration and Abstract Submission Process

To enable broad access of the FUN membership to provide the workshop content, the committee sent a call for participation in the main workshop. This was done to not only determine interest in presentation type and themes but more importantly, allow the committee to identify and address thematic gaps. In a separate process, individuals were asked to submit a presentation abstract. The information was used to develop a 3-day immersive

workshop agenda plus a half-day pre-workshop at the AIBS. Those presenting hands-on workshops were asked to present twice, allowing workshop attendees flexibility in attendance, and therefore received complimentary registration for this high workload. It should also be clear to those submitting abstracts that publication in a special issue of JUNE is opportunity associated with the workshop.

Advertising for Attendance

The FUN workshop was advertised, featuring the workshop's keynote speakers, Dr. Oliver Rollins and Dr. Joyce Balls-Berry, through the member listserv, on the FUN webpage, as well as on social media outlets including Instagram, Twitter, and FUN Facebook page. Advertising for the public lecture (Dr. Rollins) was also disseminated to the WWU community through newsletters, WWU websites, and an alumni email list. Although multiple methods of communication were employed to notify potential participants of the workshop, the timeliness of the communication was lacking. For future meetings, it is recommended that the Workshop Planning Committee connect with the newly formed Communications Committee to organize a timeline for information distribution and advertising.

Fundraising for FUN Summer Workshop

Members of the FUN Summer Workshop Committee contacted groups that had provided previous support. Support was either financial or instructional. ADInstruments financially contributed to the FUN Summer Workshop, supporting travel funds for speakers and presenters and other workshop logistics. Backyard Brains and the Allen Institute provided instructional support. Backyard Brains hosted a virtual mini symposium for attendees showcasing equipment that can be used to teach neuroscience concepts. The AIBS provided a pre-workshop half-day excursion to their facilities, including a shuttle ride to the WWU campus. The AIBS also provided a hands-on workshop for attendees who could not participate in the pre-workshop event. Future planning committees should consider applying for NSF conference funding 9-12 months in advance of the workshop dates (see Appendix) so that funds can be included in setting the registration cost (approximately 6 months in advance).

Student Participation in Hosting

The onsite coordination of the FUN Workshop was supported by a mutual partnership between FUN and WWU neuroscience program and undergraduate behavioral neuroscience faculty. Paid student workers staffed information tables, supported arrivals and departures, directed conference attendees to workshop locations, aided catering efforts and event preparation, and provided classroom technical support. They were integral in facilitating smooth transitions between workshop activities and served as helpful contacts for attendees with emergent needs. Notably, the FUN workshop also facilitated numerous experiential growth opportunities for the involved student helpers. Students attended the keynote speaker lectures and observed many of the hands-on teaching

demonstrations. They additionally connected with workshop attendees during the poster session and other social events, engaging in conversations and learning about the range of paths in academic neuroscience. Overall, the inclusion of students from the host institution supported the workshop's aims by enabling a smooth rollout while providing a direct opportunity for student growth.

Considerations for Future Summer Workshops

To move quickly, it is key to define who oversees each aspect of the conference planning. The Summer Workshop is a collaborative effort between FUN and the host institution. For the 2023 FUN Summer Workshop, the Education Workshop Committee (a subcommittee of the Education Committee) led discussions regarding workshop themes and presentation types and coordinated speakers as well as presenters through abstract submissions and solicitation. The committee organized the conference schedule with input from the host institution. The FUN Education Workshop Committee also oversaw external funding submissions, proposed keynote speaker stipend amounts, and proposed stipends for future FUN. The host institution coordinated efforts for room reservations, technology support, food services, transportation to site, and other on-site logistics. JUNE editors worked with the special issue.

Funding available for travel support was a big question during the planning phase. As mentioned previously, having external funding, and having this funding identified early, would be helpful in recruitment of presenters. Many presenters inquired about honorariums for participation, which prompted a discussion about how to equitably allocate available funding. In the future, we suggest clarifying compensation structures for presenters during the abstract submission process. This approach would allow funds to be determined in advance, particularly if external funding is procured to assist with presenter registration and travel. This form of support will be important in continuing efforts to diversify workshop presenters and attendees across demographic categories and institution types.

As for the budget process, the 2023 FUN Summer Workshop budget began with the local committee tallying a total cost estimate for hosting. This budget included the cost of housing, food (catering), banquets/socials, special excursions/networking events, stipends for student workers (rather than relying on students who can volunteer), stipends for keynote presentations, and more. With an anticipated attendance of 75-100 faculty, a total cost per attendee was calculated. This information was then sent to the FUN Executive Committee for approval. Once approved, this projected per attendee cost set the registration amount. Ideally, external funding would be known in advance of this process so the number of stipends and conference support could be advertised with registration. Final note: consider compensation for the hosting institution (e.g., department/program) derived from the "profit" of the meeting such as a dollar amount or student travel for the next Society for Neuroscience annual meeting.

See the Supplemental Material for a table with recommended planning timelines.

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