



# ***Finding Balance***

*in an Uncertain World*



SOCIETY *for*  
NEUROSCIENCE

ANNUAL REPORT FY 2022



## Donor Spotlight

“As an SfN member for **over 30 years**, and as a current officer of the SfN Council, I am also a proud donor to the Friends of SfN Fund. I give to the Friends of SfN Fund because my contributions directly support the field’s public education and outreach efforts.

*The Fund helps today’s newest scientists make professional connections that lead to **new research, collaborations, and learning**—and to tomorrow’s discoveries. I am grateful that being part of the Society helps make the world a better place by empowering neuroscientists to share research findings, explore new ideas, and learn from colleagues.”*

**Julio Ramirez**  
R. Stuart Dickson Professor of Psychology, Director of the Neuroscience Program at Davidson College, SfN Councilor 2015–2019, and SfN Treasurer 2021–2023





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## SfN Mission Pillars

### *Advancing Scientific Exchange*

Advance the understanding of the brain and the nervous system by bringing together scientists of diverse backgrounds, by facilitating the integration of research directed at all levels of biological organization, and by encouraging translational research and the application of new scientific knowledge to develop improved disease treatments and cures.

### *Supporting the Neuroscience Community*

Provide professional development activities, information, and educational resources for neuroscientists at all stages of their careers, including undergraduates, graduates, and postdoctoral fellows, and increase participation of scientists from diverse cultural, ethnic, and geographic backgrounds.

### *Educating and Engaging the Public*

Promote public information and general education about the nature of scientific discovery and the results and implications of the latest neuroscience research. Support active and continuing discussions on ethical issues relating to the conduct and outcomes of neuroscience research.

### *Advocating for the Field*

Inform legislators and other policymakers about new scientific knowledge, recent developments, and emerging opportunities in neuroscience research and their implications for public policy, societal benefit, and continued scientific progress.

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**Message***From the President*

*As the world is slowly finding its footing in the third full year of the COVID-19 pandemic, the contours of the post-pandemic world are emerging.*

The Society for Neuroscience (SfN) has used its pandemic experience to become stronger, more diverse, and more resilient than before. SfN's focus, as documented by this Annual Report, has been on how to best prepare our neuroscience community for the ever-uncertain future, especially as the world presents new challenges daily and the speed of history feels like it is accelerating.

No greater example of how SfN has adapted in the last two years is the difference between the fates of Neuroscience 2020 and Neuroscience 2021. While Neuroscience 2020 had to be canceled, Neuroscience 2021 was able to adapt in the face of the COVID-19 Delta variant wave by offering the meeting's entire program virtually—albeit with significant technical challenges. To ensure minimal content was lost, some sessions, such as Meet-the-Experts and the Advocacy Forum, were held online outside of the annual meeting timeframe to accommodate the largest possible audiences.

The shift toward offering more content in digital settings has continued across all SfN's programming. [Neuronline](#), SfN's home for learning and discussion, has seen significant growth in the number of events hosted and audience size. A recently launched webinar series [SfN Journals: In Conversation](#) features authors and editors discussing pieces recently published in the SfN journals *JNeurosci* and *eNeuro*. [BrainFacts.org](#), celebrating 10 years of engaging the brain-curious public in 2022, continued its outreach efforts through online quizzes and the ever-popular [Brain Awareness Video Contest](#). SfN advocacy efforts built on successes last year to host the second all-virtual Hill Day with a strong cohort of NeuroAdvocates.

Our lives feel a bit more certain now than they have since the onset of the pandemic, though surprises undoubtedly remain. No matter the challenges, SfN will adapt to whatever the future may bring and help our community of neuroscientists adapt, too. I look forward to reconnecting with many of you in person in San Diego for Neuroscience 2022.

A handwritten signature in black ink, appearing to read 'Gina Turrigiano'.

*Gina Turrigiano*

SfN President



Mission Pillar: Advancing Scientific Exchange

# Neuroscience 2021 Embraces Virtual Experience

Taking full advantage of new tools able to convene thousands of people on a digital meeting platform, Neuroscience 2021 gathered 13,989 attendees from 69 countries to enjoy SfN’s first all-virtual annual meeting November 8–11. While originally planned with an in-person gathering in Chicago alongside the virtual format, the in-person portion of the program was eliminated due to nearly half of scheduled lecturers and speakers communicating that they would be unable to attend the meeting in person.



Left to right: Grégoire Courtine, Igor Koralnik, Serena Spudich, Freda Miller, Dana Small

### Worldwide Accessibility

Designed to be accessible to a remote worldwide audience, Neuroscience 2021 programming minimized the time overlap between poster presentations and talks (e.g., symposia, lectures) to reduce mental task switching. To accommodate different time zones, the daily schedule alternated between posters and main stage sessions kicking off each day. Attendees gained access to posters and symposia presentations five days before the live program and after the meeting until November 30. In addition, attendees had the opportunity to leave questions for authors during the annual meeting dates and up to two weeks afterward.

### New Format, New Experience

The virtual format of Neuroscience 2021 drove the evolution of several aspects of the annual meeting’s traditional experience. Symposia and minisymposia offered live Q&A where audience members were able to submit questions and upvote the questions of others during the presentations. Learning from the

previous SfN Global Connectome experience, poster presenters had a one-hour opportunity to meet, discuss, and network virtually with 5–14 other poster presenters in their assigned session in a live, interactive group poster discussion. In addition to virtual booths, exhibitors offered virtual product demos alongside live chats with their representatives. Annual meeting sponsors were recognized through a variety of digital platforms and on social media.

### Press Coverage Hits Live TV

The Neuroscience 2021 press program delivered high-caliber press conferences resulting in news coverage from respected outlets, including **NBC News**, **WIRED**, **NPR**, and **Scientific American**. The article by NBC News covering how COVID-19 can attack the brain was also discussed live on national television, and the *Scientific American* story was shared over 10,000 times on Facebook. More than 120 registered journalists from nine countries produced 653 international news stories.



**13,989**  
total attendees

**238**  
exhibitors

**69**  
countries

**9,318**  
abstracts

“ I think the greatest benefit I’ve had was just opening up lanes of dialogue with other people in my field and invested in the ideas that my research is covering. It opens up quite a few possibilities for collaborations.”

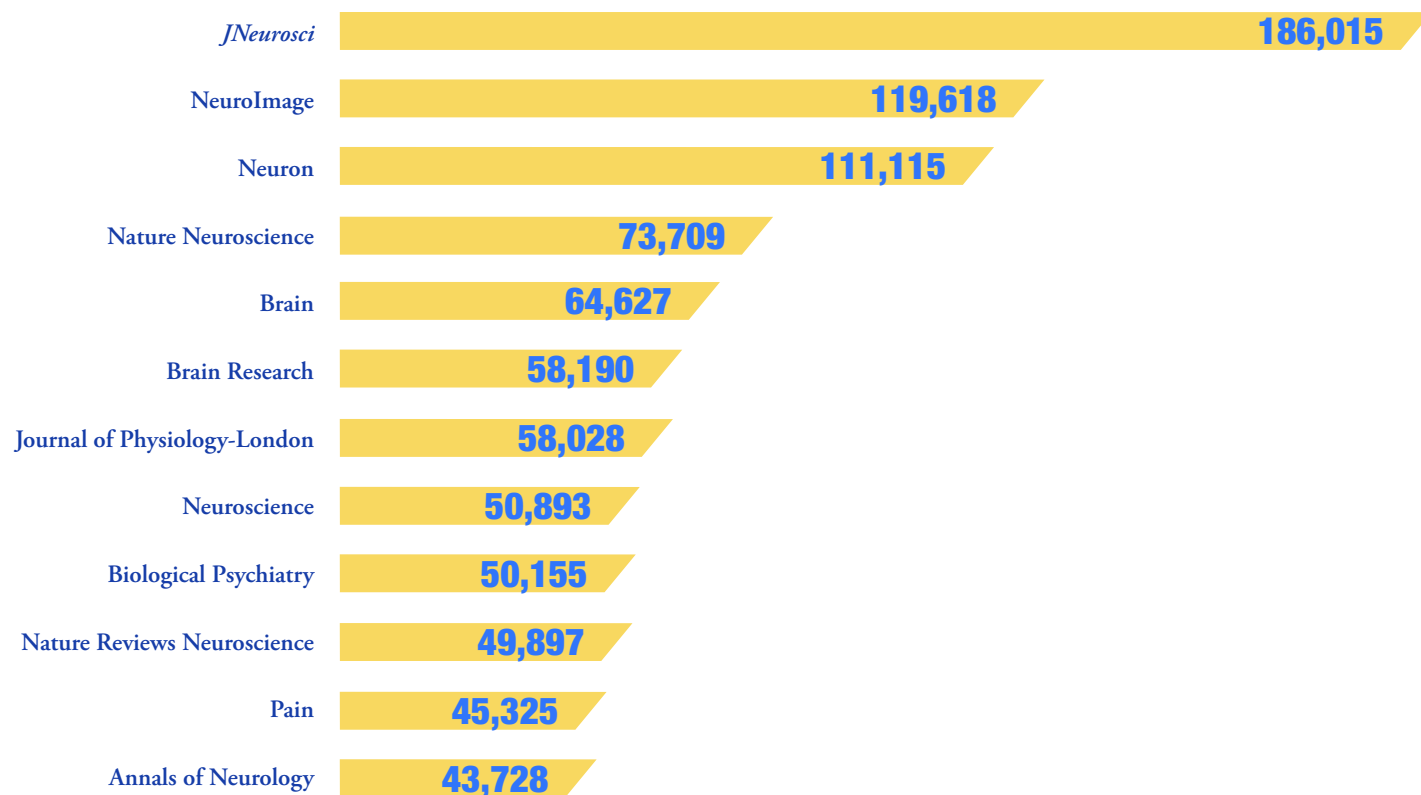
**Philippe Darius**  
research assistant,  
Howard University

Mission Pillar: Advancing Scientific Exchange

## SfN Journals Grow an Increasingly Global Audience

The COVID-19 pandemic significantly changed the landscape of the research community. In response, SfN journals *JNeurosci* and *eNeuro* adapted their procedures and adopted new ways to engage with authors. As a result, the journals continue to enjoy increased readership, engagement, and news coverage.

### Total Citations in 2020: Top Neuroscience Journals



“*eNeuro* has suddenly shot to the front with these very interesting opinion pieces at the front of the journal... It's showing the interest in this more discursive, free-form approach, mixing aspiration, memoir, and data, and I think it's tremendous.”

**John Krakauer**  
professor of neurology,  
neuroscience, & physical  
medicine and rehabilitation,  
Johns Hopkins University  
School of Medicine

### Fostering Scientific Discussion

The journals expanded efforts to facilitate scientific discussion by launching the webinar series **SfN Journals: In Conversation**. These webinars feature interviews between paper authors and journal editors plus a Q&A with the audience. The episodes are complimentary to SfN members. Each episode is also available in audio format via **Neuro Current: An SfN Journals Podcast**.

The journals themselves also offer a space to talk about topics outside of the research itself. *eNeuro* Editor-in-Chief Christophe Bernard published a **call for opinion articles** to encourage debate and discussion about the issues affecting the scientific community. *eNeuro* publishes both opinion articles and commentaries, including a series called **Experimental Bias** that highlights errors in interpretation or the limits of a certain technique.

### A New Range and Reach for *JNeurosci*

The range of *JNeurosci* grew this year: the journal now accepts articles on novel research methods. For the first time, Editor-in-Chief Marina Picciotto sent out a **call for papers** in specific categories identified by senior editors. These efforts will broaden the scope of research published in *JNeurosci*.

The reach of *JNeurosci* expanded as well. Readership continued to grow in 2021 with the *JNeurosci* website receiving more than 6.3 million visits, a 21% increase from 2020. Part of this increase stems from a rapid expansion of readership in China. In 2020,

Chinese readers comprised 9% of total *JNeurosci* readership. The portion grew to 34.5% in 2021, an increase from about 250,000 in 2020 to over 1.3 million readers in 2021. Readership also grew in the United Kingdom, Japan, Germany, France, and South Korea.

The range and reach of *JNeurosci* will continue to evolve under the helm of the next editor-in-chief, Sabine Kastner. Kastner, currently a professor at Princeton University, will begin her five-year term on January 1, 2023, after a period of transition with current EIC Marina Picciotto.

### The Journals in the News

Following the success of a press conference that featured papers in the journals during SfN's Global Connectome virtual experience, Neuroscience 2021 included a press conference comprised of one *eNeuro* and two *JNeurosci* papers. The papers earned coverage in Scientific American and WIRED.

Papers promoted to the press through the Weekly Journal Highlights email regularly earn coverage in high-impact outlets. An *eNeuro* paper on team flow was featured on **Hank Green's SciShow**. A *JNeurosci* paper on how exercise reduces aging-related microglia activation was covered by The New York Times. Finally, a *JNeurosci* paper about using nostalgia as a pain-reliever was covered by CNN.



## Science in Progress

# Dialogues Between Neuroscience and Society: Life of a Neuron



John Morrison

*As he descends a blue-lit staircase to a wondrous, slightly eerie soundtrack, Sandro Kereselidze welcomes a virtual audience to ARTECHOUSE—a space dedicated to experiential art, science, and technology—launching the Neuroscience 2021 Dialogues Between Neuroscience and Society: Life of a Neuron lecture.*

Introducing himself as a proud immigrant from Tbilisi, Georgia, and the scion of six generations of artists, Kereselidze, ARTECHOUSE founder and chief creative officer, steps into a high-ceilinged room where an enormous projection of a human neuron in blue, green, yellow, and purple fills the floor, walls, and ceiling of the space.

Kereselidze is standing in the cerebral cortex: the wrinkled, outer layer of the brain responsible for higher cognitive functions. A looped, 20-minute animation depicts the life cycle of the cortex's pyramidal neurons from pre-birth to death. Lime green, egg-shaped cells radiate long fibers, and a baby can be heard babbling. Next comes sounds of the schoolyard with a forest of pink and purple neurons. The end of the loop zooms in on an

undulating pale-yellow neuron, its surface mottled like the moon. It grays and stiffens, and eventually snaps like aged elastic.

The immersive, data-based art that brings neuroscience principles to life is the culmination of a three-year collaboration between the Society for Neuroscience and ARTECHOUSE, developed as a celebration of SfN's 50th Anniversary. SfN President Barry Everitt discussed the project's process, challenges, and impact with Kereselidze, Riki Kim, ARTECHOUSE executive creative director, and John Morrison, UC Davis professor and director of the California National Primate Research Center.

"I've heard you talk many times over the years, John, about how one of your fantasies was to get inside a 3D actualization of a neuron," Everitt said. "You wanted to visualize it, and then experience it. And, I'm just wondering how this amazing project aligned with what you had in mind?"

"Oh, it's beyond what I had in mind," Morrison responded. "So, I think the first time I saw a virtual reality cave, very many years ago, my first thought was: I want to be able to walk through a neuron."

The spark for Life of a Neuron came in 2017, when Morrison, as *BrainFacts.org*'s editor-in-chief, was feting the completion of an animated, interactive, 3D brain. He turned to SfN's executive director, Marty Saggese, saying "now I want to develop a

*“My first thought was: I want to be able to walk through a neuron.”*

**John Morrison**  
professor,  
UC Davis



virtual neuron that you can walk through and watch it mature, watch it get disease, and watch it heal.”

“And Marty took it seriously and put the wheels in motion for what we called the Neuron Project,” an amorphous concept that Morrison maintained needed to be based on a human neuron that was quantitatively and accurately reconstructed. “As it turned out, that was much harder than we thought it would be.”

Morrison was part of the neurobiology team that isolated and reconstructed the neuron from tissue donated from a brain surgery. It included Dani Dumitriu, at Columbia University, Corrado Cali, now at the University of Turin, William Janssen, at Mount Sinai, and Matt Wimsatt, at Jackson Labs. After injecting the cells with a fluorescent dye, the team slid the sample under a high-resolution microscope. But the microscope only offers a 2D glimpse. At most, you can see a tenth of micron in depth, Morrison says, and neurons occupy a space of hundreds of microns. With assistance from Vimal Gangadharan at ZEISS, the team built the 3D model by taking a series of thousands of images and using software to stack those images on top of each other and stitch them together.

The model still didn’t reveal what’s inside the neuron. They needed Cali to deploy electron microscopy. With 100 to 1,000 times the resolution of a light microscope, electron microscopy brings a neuron’s inner world into focus—from the mitochondria powering the cell to the vesicles packaging and delivering proteins.

At this point, all that was left was to put the internal anatomy into the first reconstruction. “Corrado Cali was the EM expert, and Matt Wimsatt was the 3D expert, and they just developed a way to do this. I’m not sure anyone has done this before,” Morrison says. “Normally, you would take these data sets and work on them independently. But we had to put them back together because we had to give [the visualization] to the artists.”

Weekly calls between SfN and ARTECHOUSE allowed them to plot out how the neuron would be presented once completed. Using the *Brain Facts* book as a reference, Kim saw a storyline—

chapters six through nine outline brain development from fetus to infant, childhood, adolescence, adulthood, and aging. “It read like the life of a neuron,” Kim said. “A story that everyone goes through.”

The main exhibit reflects those stages of life, Morrison notes. In the fetus, the neurons are round balls migrating through space; infancy displays copious spinal plasticity; adolescence brings rampant neural activity; adulthood offers some stability, while aging features neuronal demise. “What’s amazing is the artists did all that art with basically the one neuron we gave them and some 2D Golgi images,” he said.

Kim pointed out the artistic team started work not with the main exhibit, but the side exhibits highlighting vision, addiction, and stress. The process began with “one pager” descriptions of the science associated with each topic.

“We put out a request for proposals from a set number of artists who we knew could comprehend complex concepts and work with scientific data,” Kim says. Once they had chosen the strongest concepts, robust and frequent conversations with the scientific advisors—Eric Nestler for addiction; Bevil Conway and Bob Wurtz for vision; Dani Dumitriu and John Morrison for stress—ensured there was actual science behind the concepts.

“It read like the life of a neuron, a story that everyone goes through.”

Riki Kim  
ARTECHOUSE  
executive creative director

To guarantee scientific accuracy while providing artistic freedom, SfN and ARTECHOUSE developed a set of guiding questions for artists to revisit throughout the project process:

- How can art be used to demonstrate a concept in a way that a text cannot fully appreciate?
- How does the art correctly represent or utilize the science?
- How does the inclusion of an idea contribute to the framework of a life story?
- What are the most important takeaway messages for this concept?
- How does the art further the understanding of the science?
- How does the art piece celebrate and highlight that science?



“The vision exhibit is probably the most literal, and the addiction and stress side exhibits are the most artistically expressive,” Morrison said, noting that reflected the science where “there is still a bit of mystery with addiction and stress, but we really understand vision.”

Everitt agreed, but also pointed out that the portrayal of addiction didn’t focus on the reward and super activity of dopamine neurons. And the neurons looked very unhappy. Kim pointed out the artistic concept is that the people represent the drug, and the neurons respond to the number of people becoming less healthy as more “drug” enters the space. “I think what was fascinating about this whole collaboration is that we were really, truly working together to create something that tells a story and tells the story in a scientific way correctly and also artistically,” says Kereselidze.

A central feature of the artistic expression for the exhibit came from a conversation between Morrison and Kereselidze about the effect of sound on the brain. Kereselidze’s father was a movie director who once told him music is the key for storytelling. “It was a challenge, but an interesting challenge,” he notes. “How can we tell a story with beautiful images but add another layer? From an experiential standpoint, I think that soundtrack takes the visitor to the next level of emotional connection with the art.”

With that connection, Kereselidze hopes Life of a Neuron can have a greater impact. “The next generation of neuroscientists might be walking into [the exhibit] today and experiencing something that inspires them,” he said. “And the next generation of artists see that they want to use the technology as a medium to express themselves. They both leave with curiosity, and that is the magic moment.”





Mission Pillar: Supporting the Neuroscience Community

# A Digital Web of Community Connections

As the pandemic continues to push the demand for online events, SfN has increased its virtual programming on **Neuroonline**, SfN's home for learning and discussion.

## Virtual Program Expansion

Quantifying the demand for online programming, webinar registration in the first quarter of 2022 increased 42% compared to the previous year. One popular online event was **Teaching Neuroscience: Reviving Neuroanatomy**, where speakers introduced new pedagogical practices to make neuroanatomy a more approachable topic. While previously exclusive to SfN members with no charge, 2022 saw non-members offered the ability to attend SfN virtual programming webinars for a small registration fee.

**21** webinars in FY 22

**811** attendees

at most-attended webinar in FY 22  
Beyond the Bench: The Broader Impact of Rigorous Research

**394**

TPDA  
recipients for  
Neuroscience 2021

**230**

NSP  
Fellows and Associates  
supported in 2021

## Extending In-Person Events Online

In addition to new virtual events, several formerly in-person-only engagements were extended to include an online component.

- Five Meet-the-Experts events, a popular session type at the SfN annual meeting where established neuroscientists from a variety of careers talk with trainees to offer their perspectives, were held monthly from April 2022 to September 2022.
- In its second year, the SfN Awards Week celebrated recipients of the 2021 SfN Awards online via videos and social media posts.
- The **Animals in Research panel** saw an event normally held at the annual meeting attract nearly 200 virtual attendees.

## Bringing Training Cohorts Together

Almost 400 **Trainee Professional Development Award (TPDA)** recipients, funded by the **Friends of SfN Fund**, SfN Council, the Burroughs Wellcome Fund, Developmental Studies Hybridoma Bank, Eli Lilly and Company Foundation, Sanofi, and the Nancy Rutledge Zahniser Fund, enjoyed complimentary registration to Neuroscience 2021 and access to professional development opportunities on Neuroonline in the year following their award. The **Neuroscience Scholars Program (NSP)**, a two-year online training program open to under-represented graduate students and postdoctoral researchers, hosted a virtual conference, six webinars, 12 live chats, and the new virtual NSP Social Hours to support the cohort in their professional training and networking. The NSP is generously supported under a five-year grant from NIH's National Institute of Neurological Disorders and Stroke (NINDS). After a two-year pandemic-related pause, the **Latin America Training Program (LATP)** will convene 15 scholars at the Clemente Stable Biological Research Institute (IIBCE) September 26–October 14, 2022, in Montevideo, Uruguay for an extensive training program with top faculty from across the region. The LATP is supported by the Grass Foundation.

“One opportunity that I would not have had if not for the Neuroscience Scholars Program is to have a mentor outside of my graduate program but still within my field.”

**Sikoya Ashburn**  
postdoctoral researcher,  
University of North Carolina



## Science in Progress

*Habits and Compulsion  
in Drug Addiction*

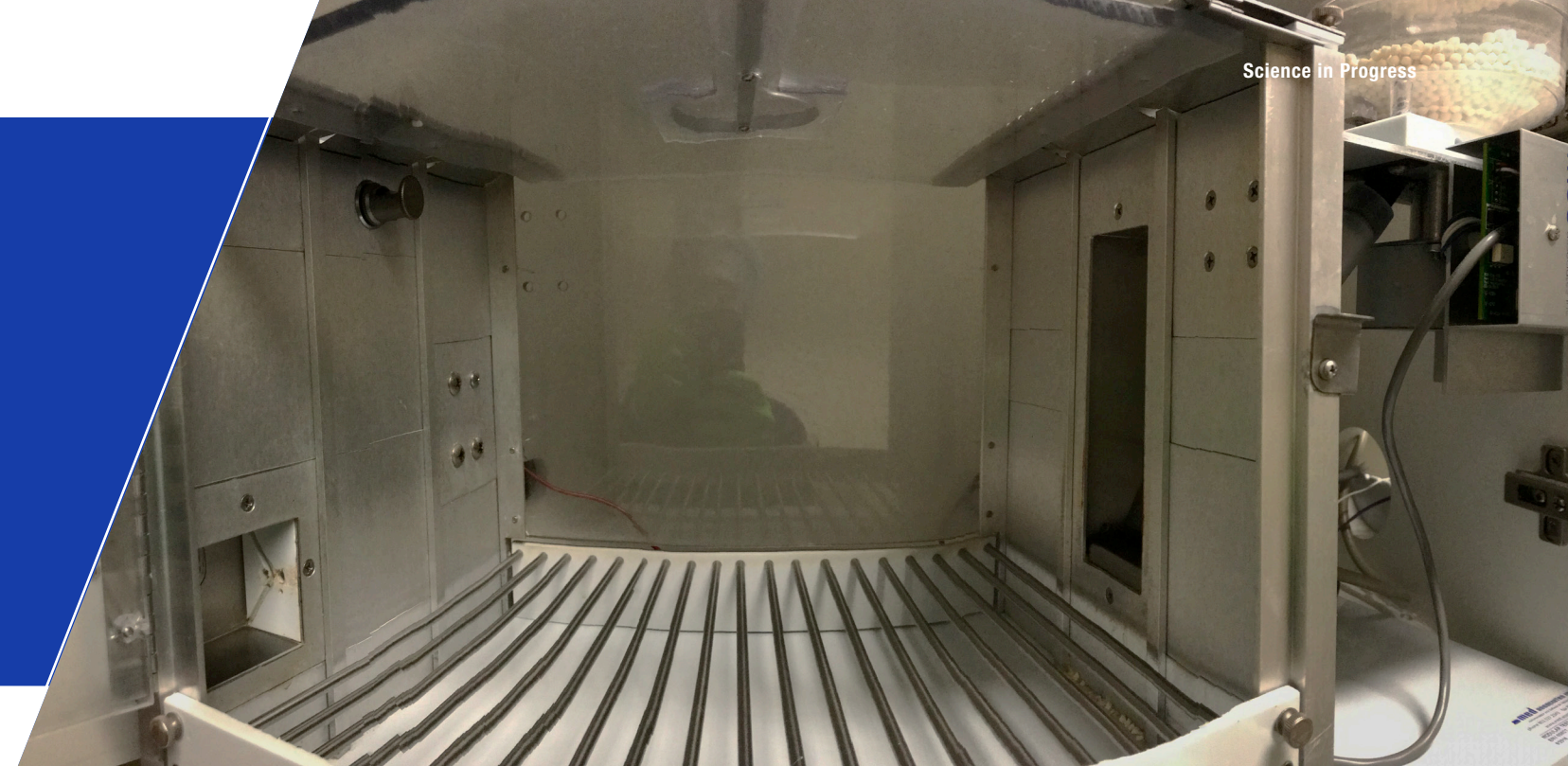
Barry Everitt

*Barry Everitt, the Society for Neuroscience's immediate past-president, studies how drug seeking and use in vulnerable individuals spirals from recreational to compulsive in the development of addiction.*

When he began his work, the majority of addiction research was focused on the pharmacological mechanisms of action of different addictive drugs in the brain, revealing that dopamine in the **nucleus accumbens** is a common mediator of their reinforcing effects.

However, Everitt, who is emeritus professor of behavioral neuroscience at the University of Cambridge, thought that “addiction is a disorder that embodies much more than drug reinforcement or reward, and the development of compulsive seeking and taking of drugs is at its core.” Using a combination of animal learning theory, systems, and cellular neuroscience approaches, he and his colleagues developed novel behavioral procedures to investigate the neural and psychological mechanisms involved.

It has long been known that otherwise innocuous environmental stimuli become associated with the effects of repeatedly taken addictive drugs like cocaine through



An environment where addiction behavior in rats is explored.

Pavlovian conditioning; these ‘drug cues’ induce drug craving and relapse long after drug use has stopped. To study this, Everitt and collaborators developed a procedure in which rats would press a lever for long periods of time for an infusion of cocaine, but only if these cocaine-associated cues were presented contingent on their drug seeking responses by acting as conditioned reinforcers.

Early on, this cocaine seeking behavior is goal-directed and depends upon an amygdala-ventral striatal (nucleus accumbens) system in the brain. But after a few weeks of seeking drugs in this way, control over the behavior shifts from the ventral to the dorsal striatum. Everitt hypothesized and later showed that this reflected the development of a cocaine seeking ‘habit.’ The behavior was no longer goal-directed, but instead the rats’ seeking lever presses were elicited and maintained automatically by drug cues in the environment.

Everitt says, “the suggestion that drug seeking becomes habitual was, and probably is, not widely accepted, despite the compelling neural and psychological evidence in animals and humans; it seems counterintuitive.” How could someone seek drugs if not doing so because they want to? Well, “habits are fundamental to our daily lives,” Everitt says. “We all have them though may not recognize them as such.”

“*Habits are fundamental to our daily lives, we all have them though may not recognize them as such.*”

Barry Everitt  
emeritus professor of  
behavioral neuroscience,  
University of Cambridge

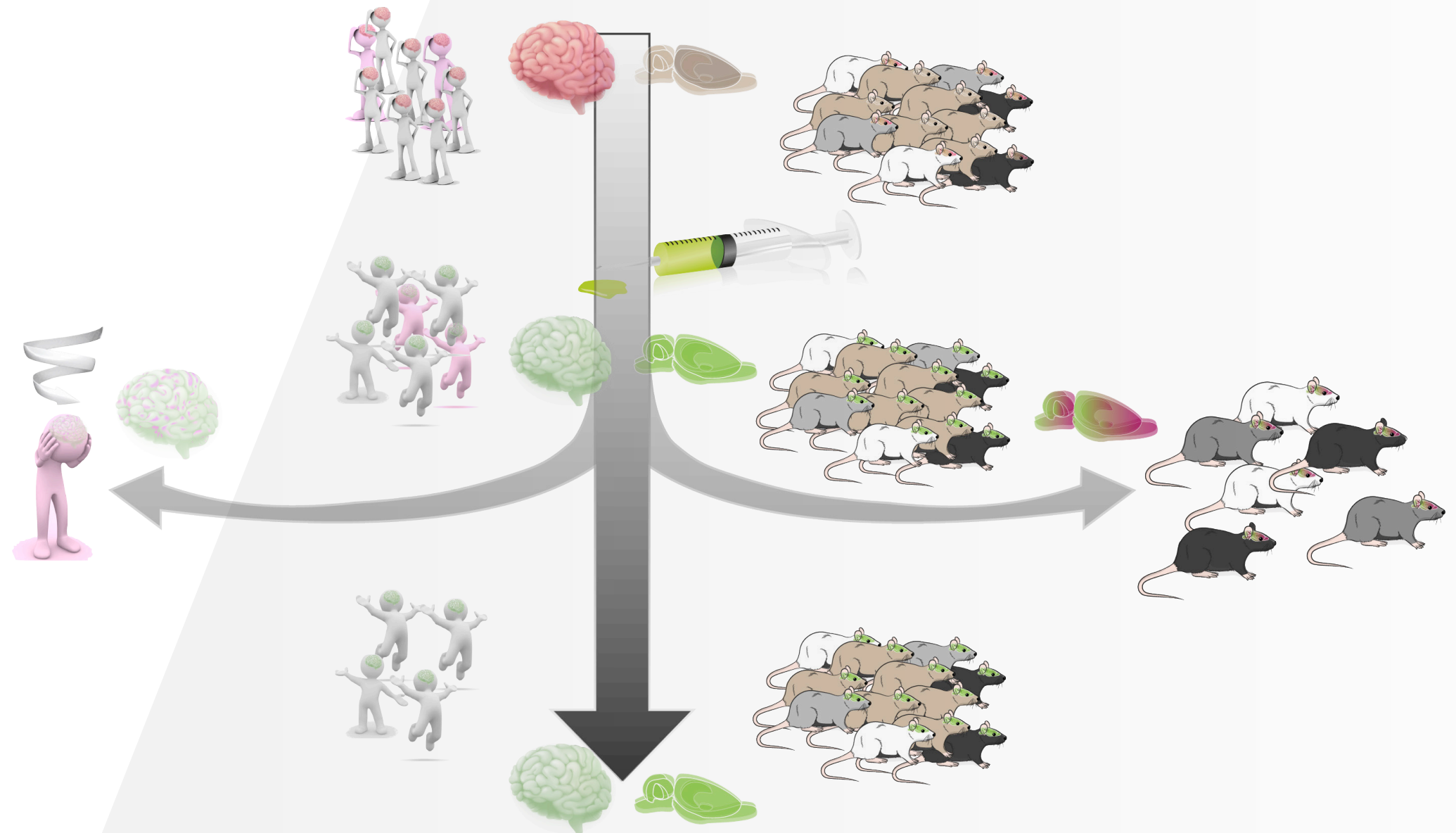


His favorite personal example concerns his own routine. Monday through Friday, he leaves his home in Cambridge, United Kingdom, and walks to his lab. He unlocks the door, turns on his computer, checks his email, and gets to work. On Saturdays and Sundays, he leaves home and walks along the same route to pick up a newspaper at a shop just around the corner. But sometimes without a second thought, he finds himself on the weekend in his office at his lab computer instead of at the newspaper shop. To an observer he may have looked goal-directed, but he wasn't. Everitt's brain kicked into autopilot—his body was just along for the ride. Everitt thinks the same type of automatic behavior is elicited in people who have repeatedly used drugs.

"Barry Everitt's conceptualization is fascinating. If you boil it down, what he's saying is that objects in the environment that can become associated with the drug, and these objects can gain control over your behavior," says Paul Kenny, professor of neuroscience and director of the Drug Discovery Institute at the Icahn School of Medicine at Mount Sinai. "Essentially, you become almost robotic, because these programs of behavior are so intrinsically, inextricably intertwined into who you are as a drug user, that the behavior moves beyond your conscious control and is evoked simply by being exposed to stimuli in the environment."

In humans, drug-seeking behaviors entail actions more complex than pressing a lever. "That behavior might look purposeful, but it has become automatic. And there's lots of things that we do like that: they look goal-directed, but it's actually because they've been done so often, they're not," Everitt says—like checking your cell phone. "Initially it's to look to see if I've got a message, but in fact it becomes automatic. Even when there's nothing there, it repeats and repeats."

Everitt notes: "But it's important to understand that developing a drug seeking habit does not itself equate with being addicted, at some point the habit becomes extremely difficult to break and emerges as compulsive." For this to happen, another factor must be involved. Everitt and collaborators proposed that an impairment in so-called 'top-down' cognitive control over habits as a consequence of chronic drug use is an important mechanism.



Similar to rats, when a large population of humans take a drug (top), ~80% can stop using the drug or use it in a controlled way (bottom). The remaining ~20% can lose control and become addicted (left, right).



To study compulsive drug seeking, Everitt and his team developed a new and now increasingly adopted method in which rats would learn to press a lever to “take” cocaine, but then learn to press another lever—the “seeking lever”—in order to gain access to the “taking lever” and a cocaine infusion. An unpredictable mild footshock punishment is then introduced as the outcome of seeking responses instead of the taking lever, so that rats must run the risk of punishment in order to take cocaine. The important result of these experiments was that after a short history of cocaine seeking, all rats stopped seeking and abstained in the face of punishment. However, after a long history of cocaine, 20% or so of rats continued to seeking cocaine despite punishment; they became compulsive.

### *The Fingerprint of Addiction*

This now much-replicated finding of a sub-population of individuals that are vulnerable to developing compulsive cocaine seeking has its clear parallel among humans who initially experiment with drugs—since only about 20% go on to become addicted. Understanding the neural and psychological basis of this vulnerability is a major topic of research at Cambridge and in other labs around the world.

There is a shift in the neural circuitries involved, including that from the ventral to the dorsal striatum as habits emerge. Functional activity of areas of the **prefrontal cortex** that underlie top-down control over behavior are also decreased after chronic cocaine use. Compulsive drug seeking may result, therefore, from impaired control over the goal-directed system, or enhanced activity of the habit system, or a combination of both as a result of prefrontal hypoactivity. There is emerging evidence for both in animal and human studies.

“It’s important now to know whether such propensities for brain-behavior changes exist before, rather than only being a consequence of, drug use,” Everitt says. In other words, are there pre-existing brain signatures of vulnerability, or ‘neuroendophenotypes’, of addiction? “Our current research strongly indicates that there are, and this resonates with findings from human imaging studies.”

### *A New Wave of Treatments*

Everitt says, “despite the great increase in our understanding of brain mechanisms of addiction, new treatments have been slow to emerge, and this is frustrating.” Diminishing the ability of drug cues to elicit craving and relapse is perhaps one way to help people who have stopped using drugs to remain abstinent. There are drugs that do this in experimental models, but it requires big pharma to engage with this challenge for treatments to be developed—and this hasn’t yet happened.

Another promising approach is to weaken drug memories elicited by drug-associated stimuli. “This may sound odd,” Everitt says, “but it is well established that briefly reactivating a drug memory by presenting drug cues in animals, or drug taking videos in humans, makes drug memories unstable in the brain.”

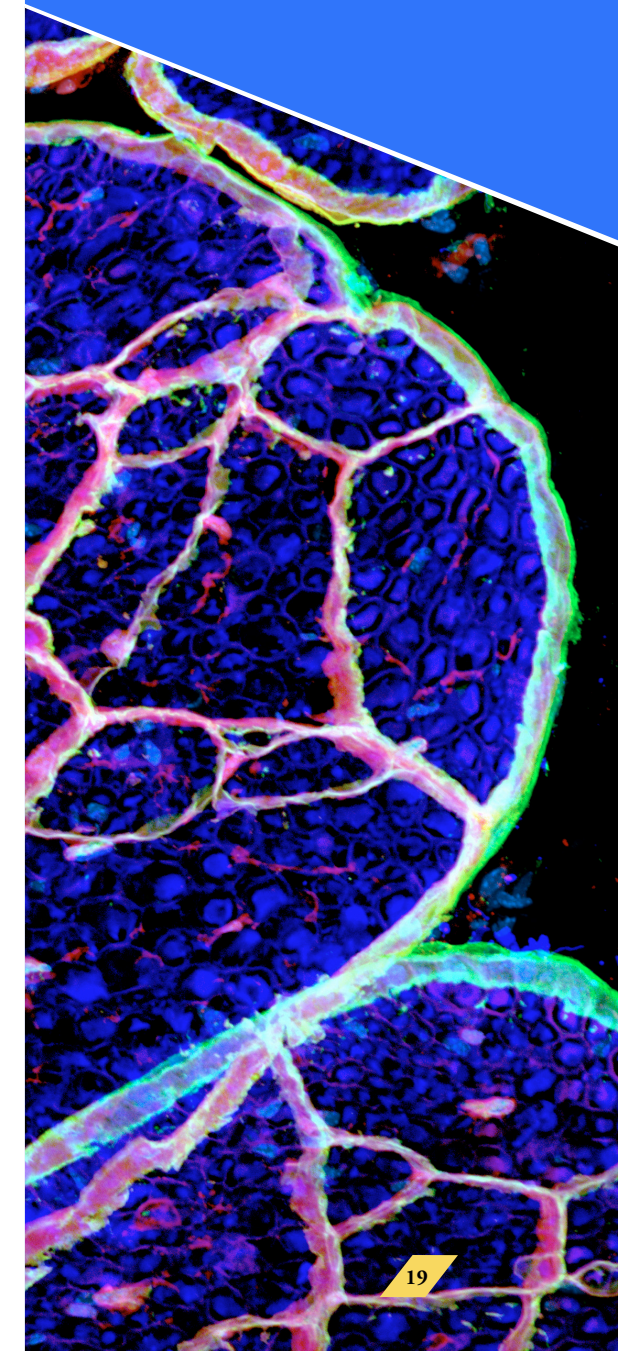
“We showed that amnestic treatments given in a four-hour window after retrieval in rats can prevent the restabilization of the memory and so greatly weaken the ability of those cues to elicit drug seeking subsequently.” This finding has been translated successfully in the treatment of nicotine and heroin addiction but, Everitt notes, “it’s early days and advances will require a much greater understanding of how to achieve this in people with long and varied histories of drug use.”

An alternative is instead to try to increase the activity of the prefrontal cortex that has been decreased by cocaine drug use in animals and humans, with the intention of increasing top-down inhibitory control over maladaptive drug seeking and use. Initial clinical studies have demonstrated that transcranial magnetic stimulation (TMS) of the prefrontal cortex can significantly enhance abstinence in people long addicted to stimulants. “These results are highly promising but require replication in more extensive clinical trials,” says Everitt.

Everitt’s work illuminates some of the ways that addictive drugs can hijack or alter the brain’s natural programming, leading to potent changes in drug seeking behavior in vulnerable individuals. Everitt says: “we are unlikely to stop people becoming addicted to drugs, but when they want to stop drug use, animal experimental data have given us very strong indications as to the neural and psychological mechanisms that might be targeted to develop much needed new treatments to help them do so.”

“...new treatments have been slow to emerge, and this is frustrating.”

Barry Everitt

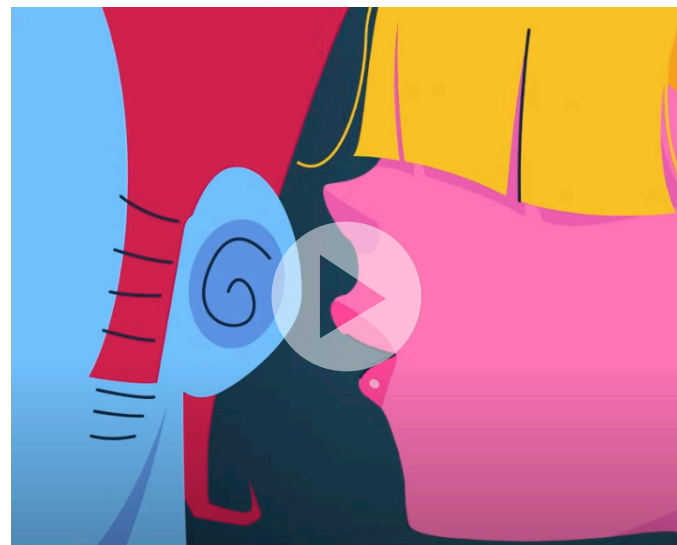




Mission Pillar: Educating and Engaging the Public

## Brain Science On Screen

*BrainFacts.org* extended its delivery of timely and breaking news by providing lay-friendly takes on several high-profile events and relevant research progress in the neuroscience community.



Watch *What Happens in the Brain During ASMR?*

### Delivering Neuroscience to the Science Curious

Cognizant of the 2021 Nobel Prize announcements in early October, the *BrainFacts.org* team created an **interactive timeline** highlighting the most prestigious prizes in neuroscience. The launch of the timeline coincided with the announcement awarding neuroscientists David Julius and Ardem Patapoutian the 2021 Nobel Prize in Physiology or Medicine for their work on touch and temperature receptors. The timeline was paired with a story exploring **the importance and reach of neuroscience prizes** and what they mean for the public. In November, *BrainFacts.org* articles quickly reflected content coming out of Neuroscience 2021's press conferences. And, in March as the Brain Prize was announced, *BrainFacts.org* provided access to the live feed of the award and then published **an interview with two of the winners** about their work and the neuroscience of movement. *BrainFacts.org* became more interactive with the launch of several online quizzes and animations. For example, the animation explaining autonomous sensory meridian response (ASMR) helped people **understand the brain sensation**. In addition, the **Brain Awareness Video Contest** had robust participation from the people eager to explain brain science in short, engaging videos. First place was awarded to Tanja Fuchsberger, a research associate at the University of Cambridge, for *What Memories Are Made Of*, and the People's Choice was awarded to Eesha Surapaneni, student at the Dulles High School Math and Science Academy, for *The Debatable Dress*.



BAW Moderators Left to right: Audrey Chen Lew, Bill Griesar, Chanel Matney, Andrea Nicholas

### Brain Science in Online Classrooms

As the pandemic accelerated the shift toward education enriched with online resources, *BrainFacts.org* attracted a large audience via education sites and platforms. With in-person events still limited by pandemic concerns, *BrainFacts.org* delivered neuroscience to its curious audience via interactive online events. For Brain Awareness Week (BAW), *BrainFacts.org* hosted three live interactive quizzes about the brain, with each webinar hosted by a different neuroscientist as the moderator.

*BrainFacts.org* also joined the renowned science learning platform LabXchange. Built off the EdX platform developed by Harvard University and MIT, **LabXchange** is an online community for learning, sharing, and collaboration. *BrainFacts.org* is featured alongside other organizations such as HHMI, KenHub, and the Khan Academy.

### Meeting the Needs of Authors

*BrainFacts.org* is scientifically anchored by its **volunteer editorial board** of respected neuroscientists from across the globe. The board is led by *BrainFacts.org* Editor-in-Chief Richard Wingate and Associate Editor Charles Yokoyama. New to the board in 2022 are Susana Martinez-Conde of Downstate Health Science University, and Rebecca Shansky of Northeastern University.

The Founding Partners financially supporting the website's work, The Kavli Foundation, the Gatsby Charitable Foundation, and SfN, continued through 2021. In 2022, The Kavli Foundation and The Gatsby Charitable Foundation will phase out their support after a generous **10-year commitment**. Two Supporting Partners, The Dana Foundation and The Lundbeck Foundation – The Brain Prize, continued their funding of *BrainFacts.org*'s efforts.

“Participating in events like SfN's Brain Awareness Week Brain Trivia Quiz is hugely fun and rewarding. I hope to expose my undergraduate students to opportunities that provide that same sense of reward, fostering a strong culture of community service.”

**Andrea Nicholas**  
associate teaching  
professor of neurobiology  
and behavior, University  
of California, Irvine



## Science in Progress

*A Face for Discovery*

*She was the perfect subject to be in an fMRI scanner: she wouldn't move around, wouldn't fall asleep, wouldn't complain, but most importantly she was motivated.*

In 1995, neuroscientist Nancy Kanwisher was placed in an fMRI scanner at Massachusetts General Hospital in Charlestown by her research team comprised of then-undergraduate Josh McDermott and then-postdoc Marvin Chun. Before this moment, her research focused on how objects and shapes are perceived in the brain, but it would be faces that delivered her 'Eureka' moment.

Functional magnetic resonance imaging (fMRI) relies on a person lying perfectly still while performing a cognitive task—like watching a video. The machine measures and records the changes in blood flow arising from brain activity. Kanwisher and her team deployed fMRI to understand how the brain produces the images of the objects and the environment in your field of vision. While the photoreceptors dotting the retina in the back of your eye translate the intake of light into electrical signals to relay to your brain's primary visual cortex, it's not a simple system. There are layers to this network of cells and tissues all over the brain, informing what you see. While the visual system helps us detect and identify objects, a debate simmered over whether a specific face-detecting area of the brain even existed in humans. Kanwisher's study, and others, tipped the scales in a growing amount of evidence from various parts of the field.

*There It Is*

"After I got out of the scanner, the three of us went in there [the control room] and typed away into the basic data analysis," said Kanwisher, the Walter A. Rosenblith Professor of Cognitive Neuroscience at Massachusetts Institute of Technology (MIT). "And it was pretty fast, like a pop—this image of my brain, a whole bunch of [image] slices through my brain with this one little pink dot." The 'little pink dot' highlighted an area in the brain's inferior temporal cortex (IT). Named the right fusiform gyrus, it processes places, objects, people, and memory.

In these initial, pre-study scans, McDermott, Chun, and Kanwisher saw her response to faces, observing that the signals from particular volumes of the brain, or voxels, were higher when she viewed faces than other objects. Kanwisher's team repeated this five-minute experiment over and over, noting the same voxels in the exact same space of the brain every time a face was viewed. "You could just see big peaks during the face periods, little peaks for the objects, [then] big peaks for the face. You just see it in the data. It's like, 'there it is,'" said Kanwisher of the face-selective patch.

In their 1997 [study](#), 12 of the 15 participants demonstrated increased activity within this little patch in the fusiform gyrus when they viewed gray-scale images of faces, as compared to other images shown, like houses, telephones, and animals. Their findings supported the earlier work of many researchers who found single cells specialized for perceiving hands and faces in the IT cortex. For example, in 1972 the late Charles Gross demonstrated as much with macroelectrode recordings in macaques.

*"You could just see big peaks during the face periods, little peaks for the objects, [then] big peaks for the face. You just see it in the data. It's like, 'there it is.'"*



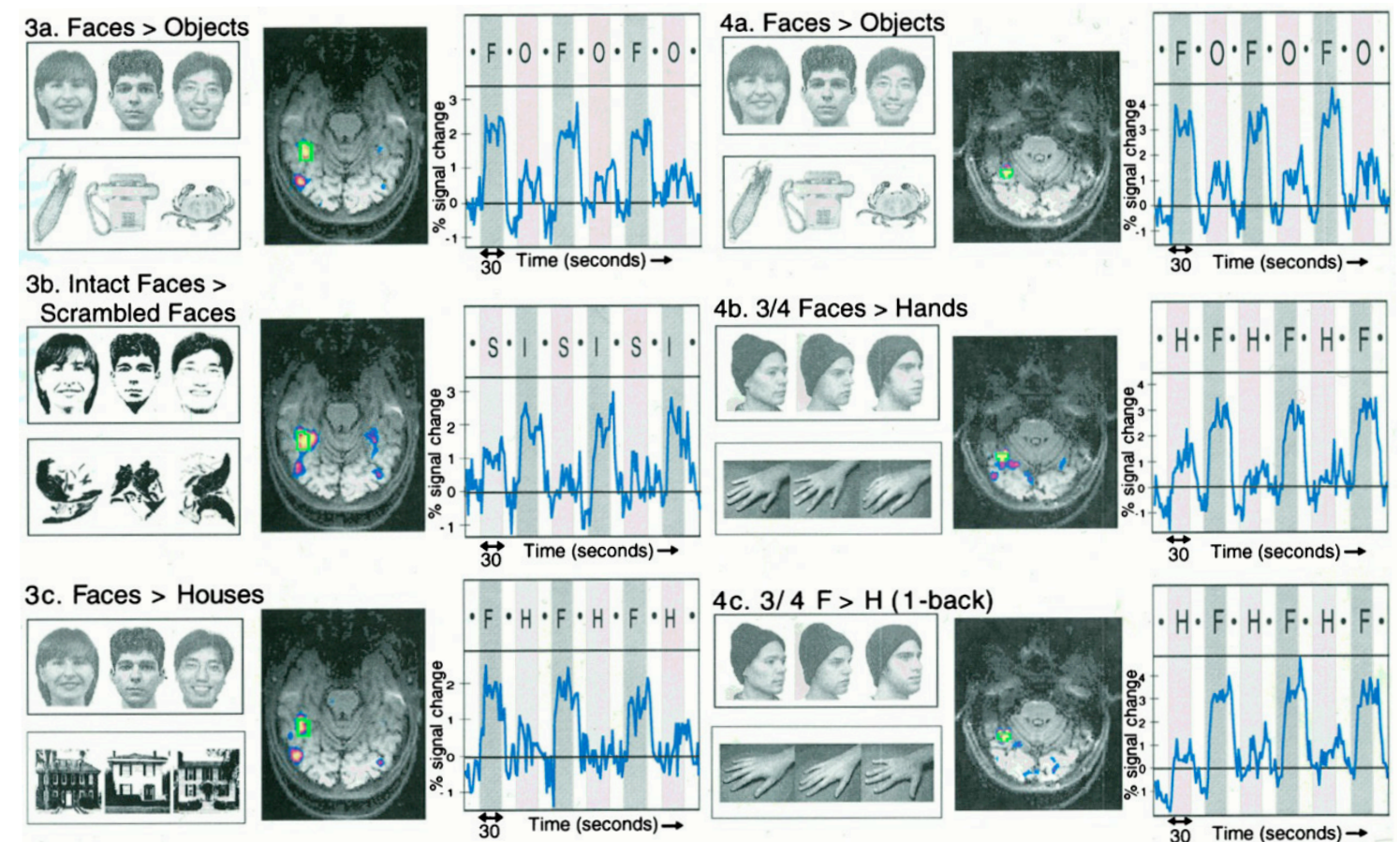
Notably, the late Justine Sergent observed in a 1992 positron emission tomography (PET) [study](#), a distinct difference in how the brain recognizes faces versus other objects—describing an indication of blood flow to the same location Kanwisher and team would later coin as the fusiform face area (FFA). The culmination of this work, and other transformative studies turned the dial from animal model to human model. “Every mental process requires many different brain regions, and face recognition is no exception,” says Kanwisher. “The thing about the FFA is not that it’s the only thing we need for face recognition, but rather all it seems to do is face recognition.”

### *This Little Patch*

More than 25 years after the FFA discovery, Kanwisher was able to pick at this particular thread. Working with 15 congenitally blind participants, Kanwisher and colleagues aimed to determine if visual experience was required to have this same activity in the FFA, just as she did when she first laid in the fMRI scanner in the 90s. But this time, the team prepared to work with study participants who had to move around slightly. To [study](#) the brains of blind people who never had a visual experience, the team created 3D printed objects to feel at random while in the fMRI—the tactile experience of her earlier work.

The team found the FFA responded to faces despite the patient’s having no prior visual experience of faces, showing activity in the same location as sighted patients who also handled the 3D objects. “The question of nature versus nurture—what you have already built inside your brain versus what you gain during the course of development—is a fundamental question that people have thought about in many different ways.” says N. Apurva Ratan Murty, lead author of the study and a cognitive computational research scientist working with Kanwisher and Jim DiCarlo at MIT. “In our small way, we are providing evidence that there is a part of the brain that comes online without any particular visual experience.”

The study was supported by National Institutes of Health (NIH), the National Eye Institutes (NEI), and the National Science Foundation (NSF), among others. Using experimental data from studies, Ratan Murty, who is supported by NIH’s



[K99/R00 Pathway to Independence Award](#) from NEI, builds computational models of the developing human and non-human primate visual system. Knowing how much ready-made architecture should be provided in computer simulation, as opposed to how much experience, or learning, should be provided in that architecture, helps neuroscientists identify how objects are represented in the brain.

“I think it was [Richard] Feynman who very famously said, ‘What I cannot create, I do not understand,’” says Ratan Murty quoting the 1965 Nobel-winning physicist. Murty says that building a computational model of the visual system helps to eliminate human bias and bridge established theories of visual perception to more predictive models, potentially opening up new understandings into human cognition.

“What I cannot create, I do not understand.”

Richard Feynman



Mission Pillar: Advocating for the Field

# NeuroAdvocates Earn High-Visibility Wins

Ensuring the needs of the neuroscience community are heard, SfN and NeuroAdvocates raised a unified voice supporting research budgets and responsible use of animals in research.

## Federal Engagement Yields Dividends

Federal research agencies once again saw meaningful increases to their budgets in FY 22 thanks to advocacy efforts by SfN and its many partners. The NIH budget reached \$45.2 billion. As part of the NIH budget, \$620 million was allocated for the BRAIN Initiative. NSF received a boost to \$8.8 billion and the Veterans Affairs Medical and Prosthetic Research program saw funding increase to \$882 million.

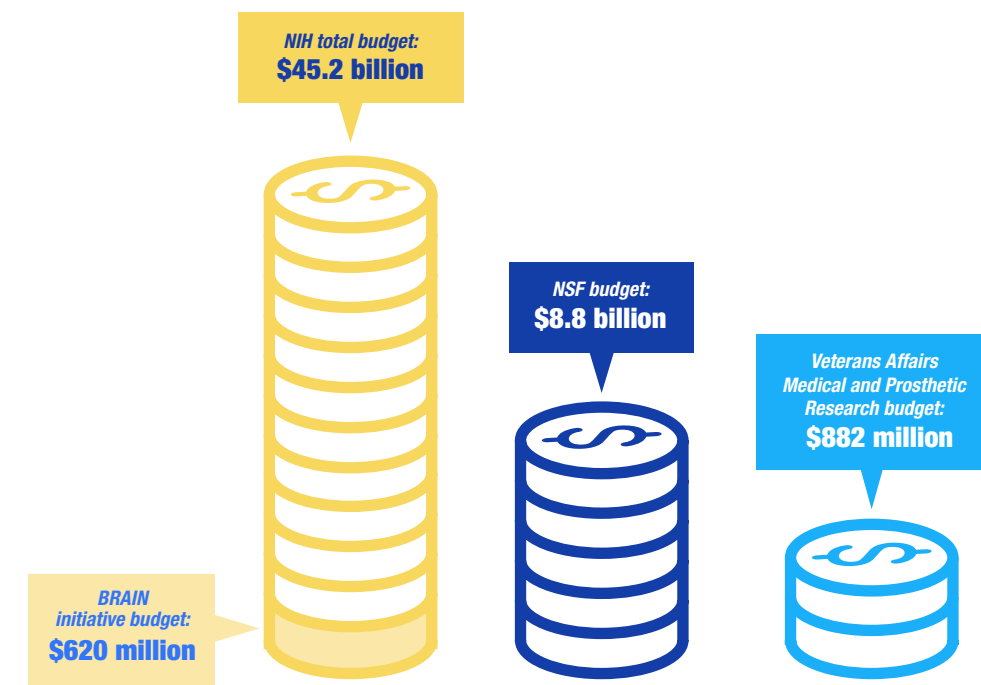
FY 22 saw creation of Advanced Research Projects Agency for Health (ARPA-H), a high-risk, high-reward research agency modeled after the successful Defense Advanced Research Projects Agency (DARPA). Founded with a \$1 billion budget, the agency will be part of NIH and attempt to accelerate the pace at which basic biomedical research discoveries advance to the clinic. In addition, Senate report language in the NIH appropriations bill emphasized the value of non-human primate research in COVID-19 vaccine research. The Biden administration's budget proposal also mentioned the National Primate Research Centers.

## NeuroAdvocates Spread Their Message

SfN's engaged and growing roster of NeuroAdvocates articulated the needs of the neuroscience community to policymakers and public. Sixty-five participants joined in SfN's second all-virtual Hill Day to share funding and animal research-related priorities with members of Congress and their staff. These participants included the 15 members of the 2022 class of **Early Career Policy Ambassadors** (ECPAs), most of whom also visited their representatives in August during ECPA Congressional Hill Days.

*“The Early Career Policy Ambassador program was really helpful to expand my network and explore advocacy as a career. It also taught me I need to be an advocate for science so that it continues to be funded.”*

**Christin Godale**  
ECPA and graduate student,  
University of Cincinnati



NeuroAdvocates also had the opportunity to engage mental health leaders, including the director of the National Institute of Mental Health, on how to push back against the stigma and misinformation surrounding mental health issues in SfN's first virtual **Advocacy Forum**.

## Animal Research Outreach

Several high-profile events helped elevate the message of SfN's animal research advocates.

- The Committee on Animals in Research (CAR) Chair Katalin Gothard **published a strong response** to *Washington Post* columnist Kathleen Parker's anti-animal research article.

- Peter Strick and Eliza Bliss-Moreau, past and present CAR members, respectively, have been appointed to serve on an ad hoc committee of the National Academies of Sciences, Engineering, and Medicine (NASEM), the **Committee on the State of the Science and Future Needs for Nonhuman Primate Model Systems**. The committee is tasked with examining the current and future role of non-human primates in NIH-funded research to report back to Congress.
- SfN's January webinar **How to Prepare for, Defend Against, and Recover from Animal Rights Oppositional Efforts** featured two researchers, Eric Nestler and Sharon Juliano, targeted by animal rights groups, and the steps they and their institutions took to combat those efforts.



**Financial and Organizational Highlights**

# A Steady Course

*While the loss of the in-person portion of Neuroscience 2021 had significant impact on the Society’s finances, SfN was able to navigate the disruption with minimal disturbance to programming.*

SfN adopted a cost-conscious approach to expense management across all program areas to counterbalance the loss of revenue from the elimination of Neuroscience 2021’s Chicago-based in-person programming. This was accomplished by: limiting the use of external support; contract review including negotiation with several Chicago hotels to minimize the financial penalties due to canceling hotel room blocks; and delaying implementation of some new projects. Additionally, through the continued diligence of obtaining appropriate insurance coverage, SfN will seek to recover some of the lost revenue from the past two years through continued negotiations with its insurance carriers for both the 2020 annual meeting and Neuroscience 2021.

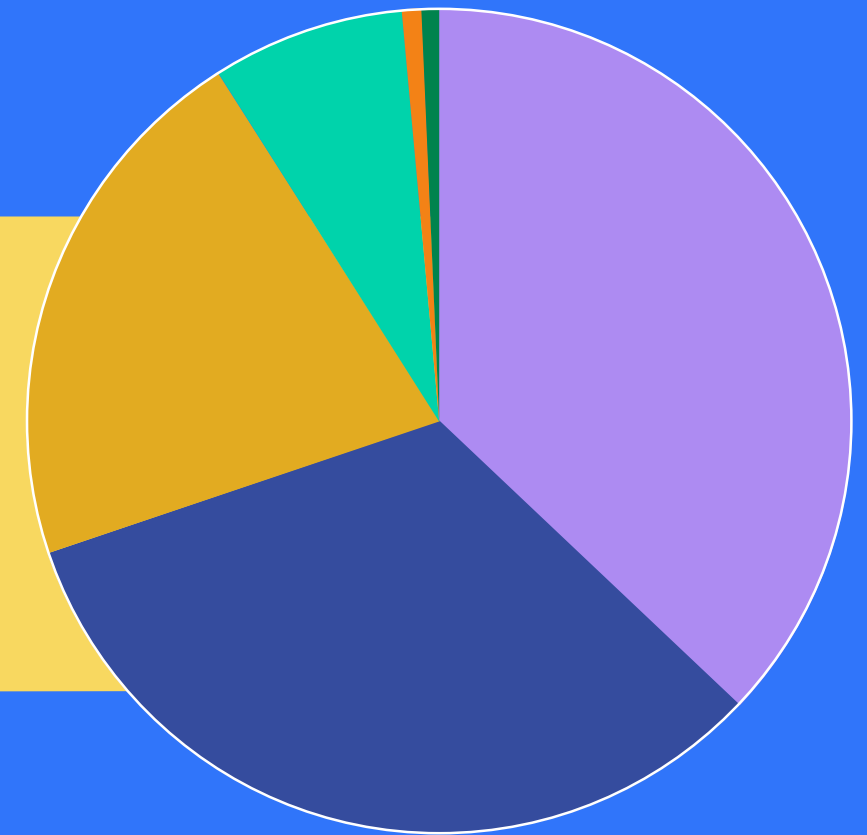
SfN’s non-meeting revenue sources were largely stable. While there is a trend toward membership revenues beginning to climb back toward pre-pandemic levels, the SfN journals, *JNeurosci* and *eNeuro*, continue to see consistent submissions and remained profitable in FY 2022. Revenue and expenses from SfN’s headquarters building in Washington, D.C., decreased due to many organizations, including SfN, remaining in a fully remote environment, and the building operating at a reduced capacity.

SfN’s Strategic Reserve Fund continued to perform well despite market fluctuations thanks to a strong investment policy and diversity of its holdings, which allowed SfN to continue its annual \$2 million draw to support programming and operations. SfN continues to utilize its lines of credit, to balance organizational cash needs.

Following the staff cuts and hiring freeze implemented in FY 2021, hiring was re-initiated to prepare for Neuroscience 2021. And for the first time since 2019, SfN Council met in person in April 2022 for their spring meeting at the SfN headquarters.

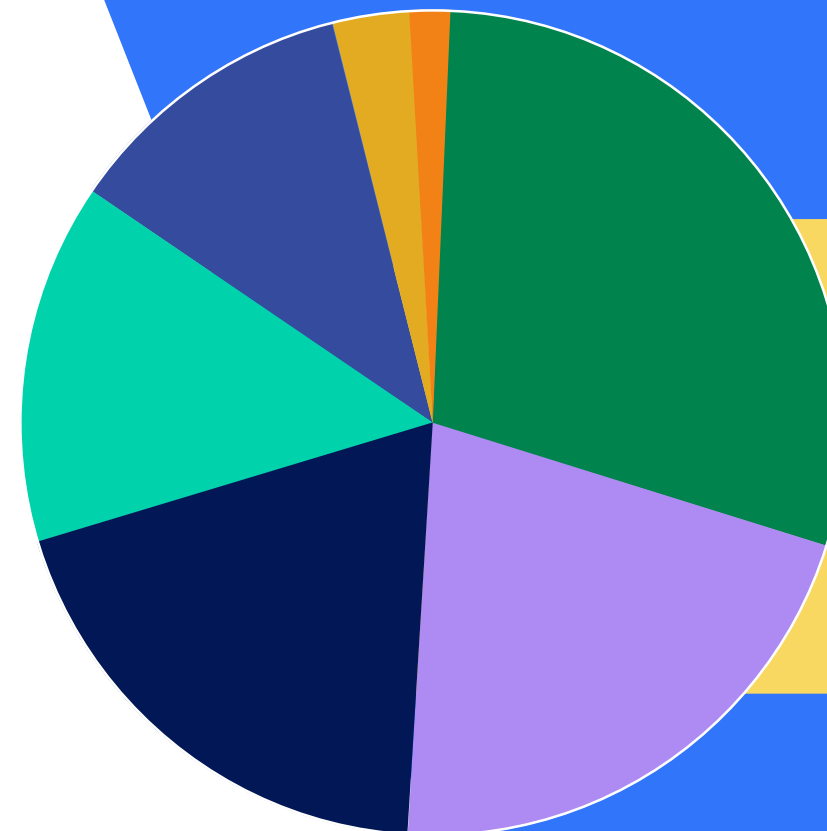
**REVENUE**

- Annual Meeting—37%
- Scientific Publications—33%
- Membership Operations—21%
- 1121 Properties, LLC—8%
- Federal Grants—1%
- General Programs—1%



**EXPENSES**

- General Programs—29%
- Annual Meeting—21%
- Management and General—19%
- 1121 Properties, LLC—14%
- Scientific Publications—12%
- Membership Development—3%
- Federal Grants—2%





## SfN Donors

SfN gratefully acknowledges the generous contributions from the following organizations and individuals in FY 2022 (July 1, 2021–June 30, 2022).

Donations to the Friends of SfN Fund support the Society's mission of advancing the understanding of the brain and nervous system. Visit <https://www.sfn.org/Support-SfN> or contact [development@sfn.org](mailto:development@sfn.org) to learn more about the Fund and becoming a donor.

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The SfN Council gratefully acknowledges the following donors and contributors to the Friends of SfN Fund and to memorial funds in FY 2022. Contributions to the Friends of SfN Fund enabled SfN to support TPDAs and education and outreach initiatives.

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## CONSOLIDATED FINANCIAL STATEMENTS



**FOR THE YEAR ENDED JUNE 30, 2022  
WITH SUMMARIZED FINANCIAL  
INFORMATION FOR 2021**

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## INDEPENDENT AUDITOR'S REPORT

To the Council  
Society for Neuroscience, 1121 Properties, LLC and SfN Asset Holdings, LLC  
Washington, D.C.

### Opinion

We have audited the accompanying consolidated financial statements of the Society for Neuroscience (SfN), 1121 Properties, LLC (the LLC) and SfN Asset Holdings, LLC, collectively (the Society), which comprise the consolidated statement of financial position as of June 30, 2022, and the related consolidated statements of activities and change in net assets, functional expenses and cash flows for the year then ended, and the related notes to the consolidated financial statements.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Society as of June 30, 2022, and the consolidated change in its net assets and its cash flows for the year then ended in accordance with accounting principles generally accepted in the United States of America.

### Basis for Opinion

We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Consolidated Financial Statements section of our report. We are required to be independent of the Society and to meet our other ethical responsibilities in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

### Responsibilities of Management for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with accounting principles generally accepted in the United States of America, and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the Society's ability to continue as a going concern within one year after the date that the consolidated financial statements are available to be issued.

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### Auditor's Responsibilities for the Audit of the Consolidated Financial Statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with generally accepted auditing standards will always detect a material misstatement when it exists.

The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements, including omissions, are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the consolidated financial statements.

In performing an audit in accordance with generally accepted auditing standards, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Society's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the consolidated financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the Society's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control related matters that we identified during the audit.

### Report on Summarized Comparative Information

We have previously audited the Society's 2021 consolidated financial statements, and we expressed an unmodified audit opinion on those audited consolidated financial statements in our report dated October 22, 2021. In our opinion, the summarized comparative information presented herein as of and for the year ended June 30, 2021, is consistent, in all material respects, with the audited consolidated financial statements from which it has been derived.

October 12, 2022



## SOCIETY FOR NEUROSCIENCE

**CONSOLIDATED STATEMENT OF FINANCIAL POSITION  
AS OF JUNE 30, 2022  
WITH SUMMARIZED FINANCIAL INFORMATION FOR 2021**

## ASSETS

	<u>2022</u>	<u>2021</u>
<b>CURRENT ASSETS</b>		
Cash and cash equivalents	\$ 6,184,256	\$ 3,201,471
Pledges receivable	-	3,213,750
Grants receivable, net of allowance for doubtful accounts of \$75,000	105,000	320,000
Accounts receivable	303,789	292,969
Prepaid expenses	<u>865,313</u>	<u>830,209</u>
Total current assets	<u>7,458,358</u>	<u>7,858,399</u>
<b>FIXED ASSETS</b>		
Fixed assets, net of accumulated depreciation and amortization of \$21,272,112 and \$19,428,239	<u>24,163,548</u>	<u>25,891,371</u>
<b>NON-CURRENT ASSETS</b>		
Investments	78,290,372	89,007,683
Grants receivable, net of current portion	261,690	369,049
Deferred compensation investments	842,751	994,754
Deferred rent receivable	744,999	790,445
Investment in RHYTHMQ INC	<u>1,500,000</u>	<u>1,500,000</u>
Total non-current assets	<u>81,639,812</u>	<u>92,661,931</u>
<b>TOTAL ASSETS</b>	<b><u>\$ 113,261,718</u></b>	<b><u>\$ 126,411,701</u></b>
<b>LIABILITIES AND NET ASSETS</b>		
<b>CURRENT LIABILITIES</b>		
Lines of credit	\$ 15,393,424	\$ 13,525,382
Current portion of Federal loans payable	2,000,000	2,529,113
Current portion of note payable	1,342,676	1,288,278
Accounts payable and accrued liabilities	2,948,820	2,301,990
Deferred revenue	<u>6,959,560</u>	<u>6,612,017</u>
Total current liabilities	<u>28,644,480</u>	<u>26,256,780</u>
<b>NON-CURRENT LIABILITIES</b>		
Federal loans payable, net of current portion	-	1,779,063
Note payable, net of current portion	12,396,868	13,756,521
Bonds payable, net of current portion	12,000,000	12,000,000
Deferred compensation	842,751	994,754
Tenants deposits	<u>173,229</u>	<u>173,229</u>
Total non-current liabilities	<u>25,412,848</u>	<u>28,703,567</u>
Total liabilities	<u>54,057,328</u>	<u>54,960,347</u>
<b>NET ASSETS</b>		
Without donor restrictions	50,643,421	62,230,798
With donor restrictions	<u>8,560,969</u>	<u>9,220,556</u>
Total net assets	<u>59,204,390</u>	<u>71,451,354</u>
<b>TOTAL LIABILITIES AND NET ASSETS</b>	<b><u>\$ 113,261,718</u></b>	<b><u>\$ 126,411,701</u></b>

See accompanying notes to consolidated financial statements.

## SOCIETY FOR NEUROSCIENCE

**CONSOLIDATED STATEMENT OF ACTIVITIES AND CHANGE IN NET ASSETS  
FOR THE YEAR ENDED JUNE 30, 2022  
WITH SUMMARIZED FINANCIAL INFORMATION FOR 2021**

	<u>2022</u>			<u>2021</u>
	<u>Without Donor Restrictions</u>	<u>With Donor Restrictions</u>	<u>Total</u>	<u>Total</u>
<b>REVENUE</b>				
Membership dues	\$ 4,396,943	\$ -	\$ 4,396,943	\$ 2,855,953
Scientific publications	6,809,168	-	6,809,168	6,950,917
Annual meeting	7,692,377	26,527	7,718,904	4,844,540
Investment (loss) income, net	(10,912,013)	(214,072)	(11,126,085)	18,646,137
Property management revenue	1,569,300	-	1,569,300	1,618,831
General program revenue	304,284	1,115	305,399	65,607
Net assets released from donor restrictions	<u>473,157</u>	<u>(473,157)</u>	<u>-</u>	<u>-</u>
Total revenue	<u>10,333,216</u>	<u>(659,587)</u>	<u>9,673,629</u>	<u>34,981,985</u>
<b>EXPENSES</b>				
Program Services:				
General Programs	7,033,681	-	7,033,681	8,010,874
Annual Meeting	5,096,729	-	5,096,729	3,543,964
Scientific Publications	2,786,866	-	2,786,866	2,977,513
Grants	<u>383,845</u>	<u>-</u>	<u>383,845</u>	<u>369,319</u>
Total program services	<u>15,301,121</u>	<u>-</u>	<u>15,301,121</u>	<u>14,901,670</u>
Supporting Services:				
Management and General	4,667,818	-	4,667,818	4,964,093
Property Management Expenses	3,411,897	-	3,411,897	3,935,889
Membership Development	<u>731,505</u>	<u>-</u>	<u>731,505</u>	<u>68,615</u>
Total supporting services	<u>8,811,220</u>	<u>-</u>	<u>8,811,220</u>	<u>8,968,597</u>
Total expenses	<u>24,112,341</u>	<u>-</u>	<u>24,112,341</u>	<u>23,870,267</u>
Change in net assets before other item	(13,779,125)	(659,587)	(14,438,712)	11,111,718
<b>OTHER ITEM</b>				
Extinguishment of debt	<u>2,191,748</u>	<u>-</u>	<u>2,191,748</u>	<u>-</u>
Change in net assets	(11,587,377)	(659,587)	(12,246,964)	11,111,718
Net assets at beginning of year	<u>62,230,798</u>	<u>9,220,556</u>	<u>71,451,354</u>	<u>60,339,636</u>
<b>NET ASSETS AT END OF YEAR</b>	<b><u>\$ 50,643,421</u></b>	<b><u>\$ 8,560,969</u></b>	<b><u>\$ 59,204,390</u></b>	<b><u>\$ 71,451,354</u></b>

See accompanying notes to consolidated financial statements.



## SOCIETY FOR NEUROSCIENCE

**CONSOLIDATED STATEMENT OF FUNCTIONAL EXPENSES  
FOR THE YEAR ENDED JUNE 30, 2022  
WITH SUMMARIZED FINANCIAL INFORMATION FOR 2021**

	2022				
	Program Services				Total
	General Programs	Annual Meeting	Scientific Publications	Grants	Program Services
Salaries	\$ 3,635,963	\$ 1,786,013	\$ 612,482	\$ 176,337	\$ 6,210,795
Fringe benefits	936,883	498,422	156,497	46,923	1,638,725
Professional fees	192,329	182,259	42,242	-	416,830
Property management expense	-	-	-	-	-
Casual labor and consulting fees	687,882	106,808	131,955	51,331	977,976
Addressing, mailing and shipping	6,663	8,087	-	-	14,750
Printing and composition	48,128	9,110	844,982	8,250	910,470
Audio visual	-	10,880	-	-	10,880
Computer and web page production	335,069	688,842	101,342	12,600	1,137,853
Insurance	-	38,982	-	-	38,982
Professional dues and subscriptions	30,829	29,221	56,974	2,463	119,487
Electronic publishing (journal)	-	-	265,000	-	265,000
Meeting management	1,932	280,000	-	-	281,932
Telephone and fax	39,059	17,752	13,192	-	70,003
Utilities	-	-	-	-	-
Cleaning	-	-	-	-	-
Hospitality and meetings	19,267	321,655	-	933	341,855
Hotel and travel	55,117	14,264	4,762	146	74,289
Honoraria, stipend, travel awards	2,480	-	324,485	80,564	407,529
Equipment, rental, repair and maintenance	-	-	-	-	-
Contributions	309,999	6,637	2,509	-	319,145
Depreciation and amortization	619,215	6,933	118,455	-	744,603
Bank processing fees	95,758	209,300	44,594	-	349,652
Interest expense	-	-	-	-	-
Real estate taxes	-	-	-	-	-
Security and transportation	-	13,125	-	-	13,125
Training and seminars	12,169	1,173	4,642	-	17,984
Other direct costs	4,939	867,266	62,753	4,298	939,256
Change in grant receivable allowance	-	-	-	-	-
<b>TOTAL</b>	<b>\$ 7,033,681</b>	<b>\$ 5,096,729</b>	<b>\$ 2,786,866</b>	<b>\$ 383,845</b>	<b>\$ 15,301,121</b>

See accompanying notes to consolidated financial statements.



SOCIETY FOR NEUROSCIENCE

CONSOLIDATED STATEMENT OF FUNCTIONAL EXPENSES  
FOR THE YEAR ENDED JUNE 30, 2022  
WITH SUMMARIZED FINANCIAL INFORMATION FOR 2021

	2022 (Continued)				2021	
	Supporting Services			Total Expenses	Total Expenses	
	Management and General	Property Management Expenses	Membership Development			Total Supporting Services
Salaries	\$ 2,014,941	\$ -	\$ 507,985	\$ 2,522,926	\$ 8,733,721	\$ 9,167,090
Fringe benefits	614,280	-	147,509	761,789	2,400,514	2,529,433
Professional fees	396,402	38,284	-	434,686	851,516	1,464,267
Property management expense	-	105,303	-	105,303	105,303	103,570
Casual labor and consulting fees	486,283	-	75,996	562,279	1,540,255	1,232,552
Addressing, mailing and shipping	2,128	-	-	2,128	16,878	8,850
Printing and composition	394	-	-	394	910,864	907,797
Audio visual	-	-	-	-	10,880	19,661
Computer and web page production	166,430	-	-	166,430	1,304,283	1,429,872
Insurance	100,746	34,453	-	135,199	174,181	171,144
Professional dues and subscriptions	23,609	-	-	23,609	143,096	164,622
Electronic publishing (journal)	-	-	-	-	265,000	258,049
Meeting management	4,190	-	-	4,190	286,122	57,405
Telephone and fax	19,578	11,118	-	30,696	100,699	127,951
Utilities	-	86,275	-	86,275	86,275	71,447
Cleaning	-	195,437	-	195,437	195,437	175,679
Hospitality and meetings	141	-	-	141	341,996	216,250
Hotel and travel	3	-	15	18	74,307	10,884
Honoraria, stipend, travel awards	-	-	-	-	407,529	544,794
Equipment, rental, repair and maintenance	5,817	370,964	-	376,781	376,781	302,083
Contributions	6,461	-	-	6,461	325,606	327,845
Depreciation and amortization	360,143	929,567	-	1,289,710	2,034,313	2,208,487
Bank processing fees	121,873	-	-	121,873	471,525	396,011
Interest expense	140,720	978,584	-	1,119,304	1,119,304	1,024,090
Real estate taxes	-	500,573	-	500,573	500,573	578,613
Security and transportation	17,648	159,685	-	177,333	190,458	161,118
Training and seminars	7,222	-	-	7,222	25,206	28,336
Other direct costs	103,809	1,654	-	105,463	1,044,719	182,367
Change in grant receivable allowance	75,000	-	-	75,000	75,000	-
<b>TOTAL</b>	<b>\$ 4,667,818</b>	<b>\$ 3,411,897</b>	<b>\$ 731,505</b>	<b>\$ 8,811,220</b>	<b>\$ 24,112,341</b>	<b>\$ 23,870,267</b>

See accompanying notes to consolidated financial statements.



## SOCIETY FOR NEUROSCIENCE

**CONSOLIDATED STATEMENT OF CASH FLOWS  
FOR THE YEAR ENDED JUNE 30, 2022  
WITH SUMMARIZED FINANCIAL INFORMATION FOR 2021**

	<u>2022</u>	<u>2021</u>
<b>CASH FLOWS FROM OPERATING ACTIVITIES</b>		
Change in net assets	\$ (12,246,964)	\$ 11,111,718
Adjustments to reconcile change in net assets to net cash provided (used) by operating activities:		
Depreciation and amortization	2,034,313	2,236,937
Realized gain on investments	(1,634,502)	(6,818,689)
Unrealized loss (gain) on investments	13,845,672	(11,049,841)
Perpetual with donor contributions	-	(3,213,750)
Change in discount	(2,641)	(31,612)
Loss on disposal of fixed assets	56,733	28,449
Bad debt expense	75,000	-
Extinguishment of debt	(2,191,748)	-
Decrease (increase) in:		
Pledges receivable	3,213,750	(3,213,750)
Grants receivable	250,000	555,000
Accounts receivable	(10,820)	(73,811)
Prepaid expenses	(35,104)	2,729
Deferred rent receivable	45,446	(317,366)
Decrease (increase) in:		
Accounts payable and accrued liabilities	646,830	(51,773)
Deferred revenue	347,543	(541,992)
Tenants deposits	-	125,279
Net cash provided (used) by operating activities	<u>4,393,508</u>	<u>(11,252,472)</u>
<b>CASH FLOWS FROM INVESTING ACTIVITIES</b>		
Purchase of investments	(26,338,164)	(39,909,280)
Proceeds from sale of investments	24,844,305	41,129,641
Purchase of property, furniture, equipment and improvements	<u>(363,223)</u>	<u>(601,539)</u>
Net cash (used) provided by investing activities	<u>(1,857,082)</u>	<u>618,822</u>
<b>CASH FLOWS FROM FINANCING ACTIVITIES</b>		
Proceeds from Federal loan payable	-	2,000,000
Proceeds from line of credit	4,618,363	11,689,018
Payments on line of credit	(2,750,321)	(3,739,288)
Payments on note payable	(1,305,255)	(1,258,648)
Payments on Federal loan payable	(116,428)	-
Perpetual with donor contributions	<u>-</u>	<u>3,213,750</u>
Net cash provided by financing activities	<u>446,359</u>	<u>11,904,832</u>
Net increase in cash and cash equivalents	2,982,785	1,271,182
Cash and cash equivalents at beginning of year	<u>3,201,471</u>	<u>1,930,289</u>
<b>CASH AND CASH EQUIVALENTS AT END OF YEAR</b>	<b><u>\$ 6,184,256</u></b>	<b><u>\$ 3,201,471</u></b>
<b>SUPPLEMENTAL INFORMATION:</b>		
Interest Paid	<b><u>\$ 1,119,304</u></b>	<b><u>\$ 1,024,090</u></b>

See accompanying notes to consolidated financial statements.

## SOCIETY FOR NEUROSCIENCE

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS  
JUNE 30, 2022**

**1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES AND GENERAL INFORMATION**

## Organizations -

The Society for Neuroscience (SfN) is a non-profit organization, incorporated in the District of Columbia. The primary purposes of SfN are to advance the understanding of the brain and nervous system, including the part it plays in determining behavior, by bringing together scientists of various backgrounds and by facilitating the integration of research directed at all levels of biological organization; to promote education in the field of neuroscience; and to inform the general public on the results and implications of current research in this area.

1121 Properties, LLC (the LLC) is a limited liability company, incorporated in the District of Columbia on July 7, 2005. The primary purpose of the LLC is to engage in the business of performing services as directed by SfN for leasing and maintaining the leases of offices and other retail space in the premises known as 1121 14<sup>th</sup> Street, NW, Washington, D.C. 20005.

SfN Asset Holdings, LLC (SAH) is a limited liability company, incorporated in the District of Columbia on March 26, 2020. The primary purpose of the LLC is to engage in the business of performing professional services as directed by SfN.

The accompanying consolidated financial statements reflect the activity of the Society for Neuroscience, 1121 Properties, LLC and SfN Asset Holdings, LLC (collectively, the Society) as of June 30, 2022. The financial statements of the two LLCs have been consolidated in accordance with FASB ASC 958-810, Not-for-Profit Entities, Consolidation because they are under common control, and SfN has an economic interest in the LLCs. All intercompany transactions have been eliminated during consolidation.

## Basis of presentation -

The accompanying consolidated financial statements are presented on the accrual basis of accounting, and in accordance with Financial Accounting Standards Board (FASB) Accounting Standards Update (ASU) 2016-14, *Presentation of Financial Statements of Not-for-Profit Entities*. As such, net assets are reported within two net asset classifications: without donor restrictions and with donor restrictions.

Descriptions of the two net asset categories are as follows:

- **Net Assets Without Donor Restrictions** - Net assets available for use in general operations and not subject to donor restrictions are recorded as "net assets without donor restrictions". Assets restricted solely through the actions of the Board are referred to as Board designated and are also reported as net assets without donor restrictions.
- **Net Assets With Donor Restrictions** - Net assets may be subject to donor-imposed stipulations that are more restrictive than the Society's mission and purpose. Some donor imposed restrictions are temporary in nature, such as those that will be met by the passage of time or other events specified by the donor. Donor imposed restrictions are released when the restriction expires, that is, when the stipulated time has elapsed, when the stipulated purpose for which the resource was restricted has been fulfilled, or both. Other donor imposed restrictions are perpetual in nature, where the donor stipulates that resources be maintained in perpetuity. Gifts of long-lived assets and gifts of cash restricted for the acquisition of long-lived assets are recognized as revenue without donor restrictions when the assets are placed in service.



**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS  
JUNE 30, 2022**

**1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES AND GENERAL INFORMATION  
(Continued)**

Basis of presentation (continued) -

The consolidated financial statements include certain prior year summarized comparative information in total but not by net asset class; such information does not include sufficient detail to constitute a presentation in conformity with generally accepted accounting principles. Accordingly, such information should be read in conjunction with the Society's consolidated financial statements for the year ended June 30, 2021, from which the summarized information was derived.

Cash and cash equivalents -

The Society considers all cash and other highly liquid investments with maturities of three months or less to be cash equivalents, excluding money market funds held by investment managers in the amount of \$1,595,195 for the year ended June 30, 2022.

Bank deposit accounts are insured by the Federal Deposit Insurance Corporation ("FDIC") up to a limit of \$250,000. At times during the year, the Society maintains cash balances in excess of the FDIC insurance limits. Management believes the risk in these situations to be minimal.

Investments -

The Society invests in shares of individual securities or shares held in investment funds, which include bonds, stocks, money market funds held for investment purposes, and limited partnerships. Investment fund managers trade in various domestic and foreign financial markets, which carry a certain amount of risk of loss.

Investments are stated at their readily determinable fair value, based on quoted market prices at the reporting date, or in absence of such quoted market price, a reasonable estimate of fair value as approved by management.

Realized and unrealized gains and losses are included in investment income, which is presented net of investment expenses paid by external investment advisors in the Consolidated Statement of Activities and Change in Net Assets.

The fair value of financial instruments is determined by reference to various market data and other valuation techniques as appropriate. Credit risk from financial instruments relate to the possibility that invested assets within a particular industry segment may experience loss due to market conditions. The Society has diversified its financial instruments to help ensure that no one industry segment represents a significant concentration of risk.

Although management uses its best judgment at estimating fair value of the underlying assets for its investments, there are inherent limitations in any valuation technique. Therefore, the value is not necessarily indicative of the amount that could be realized in a current transaction. Future events will also affect the estimates of fair value, and the effect of such events on the estimates of fair value could be material.

Pledges receivable -

Pledges receivable are recorded at their net realizable value, which approximates fair value.

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS  
JUNE 30, 2022**

**1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES AND GENERAL INFORMATION  
(Continued)**

Pledges receivable (continued) -

Conditional promises to give are not included as support until the conditions are substantially met. All pledges are considered by management to be fully collectable. Accordingly, an allowance for doubtful accounts has not been established.

Grants and accounts receivable -

Grants receivable that are expected to be collected in future years are recorded at fair value, measured as the present value of their future cash flows. The discounts on these amounts are computed using risk-adjusted interest rates applicable to the years in which the promises are received. Amortization of the discounts is included in grants and contribution revenue. Accounts receivable are recorded at their net realizable value, which approximates fair value. The allowance for doubtful accounts is determined based upon an annual review of account balances, including the age of the balance and the historical experience with the customer and donor.

Fixed assets -

Fixed assets includes property, furniture, equipment and improvements which are stated at cost. Furniture and equipment are depreciated on a straight-line basis over the estimated useful lives of the related assets, generally three to ten years.

Building and building costs are recorded at cost and are depreciated over thirty-nine years, while leasehold and tenant improvements are amortized over fifteen years and the life of the tenant lease, respectively.

Expenditures for major repairs and improvements with useful lives greater than one-year and in excess of \$3,000 are capitalized, and expenditures of lesser amounts for minor and maintenance costs are expensed when incurred. Depreciation and amortization expense was in the amount of \$2,034,313 as of June 30, 2022.

Income taxes -

The Society is exempt from Federal income taxes under Section 501(c)(3) of the Internal Revenue Code. In addition, the Society qualifies for the charitable contribution deduction under Section 170(b)(1)(A) and has been classified as an organization that is not a private foundation under Section 509(a)(2) of the Code. Accordingly, no provision for income taxes has been made in the accompanying consolidated financial statements.

The Society is required to report unrelated business income to the Internal Revenue Service and the appropriate state taxing authorities. Unrelated business income consists primarily of debt financed rental income, advertising in the Journal, and a jobs board.

The Society leases office space to several unaffiliated tenants. The activity is considered to be unrelated business activity under Internal Revenue Service regulations. Defined net income from the operations is taxable. To date, there has been a loss from unrelated business activities.



SOCIETY FOR NEUROSCIENCE

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS  
JUNE 30, 2022

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES AND GENERAL INFORMATION  
(Continued)

Income taxes (continued) -

As of June 30, 2022, there were net operating loss (NOL) carryforwards of approximately \$2,293,972. No deferred tax asset has been recognized due to uncertainty of realization. \$770,156 of the NOL is from fiscal year June 30, 2018 and prior.

Net operating losses for fiscal years ending June 30, 2012 and 2013 totaling approximately \$557,882, will expire in 2032 and 2033. NOL from June 30, 2019 forward are siloed and can only be used against the same source that generated NOL. At June 30, 2021, the Society has NOL of \$183,927 related to the Journal, \$1,339,889 related to debt financing, and \$0 related to the web. The Society can use 80% of these NOLs against future income with no expiration date.

For the year ended June 30, 2022, the Society has documented its consideration of FASB ASC 740-10, *Income Taxes*, that provides guidance for reporting uncertainty in income taxes and has determined that no material uncertain tax positions qualify for either recognition or disclosure in the consolidated financial statements.

For the purpose of corporate tax reporting for the LLCs, all financial transactions are reported under the Society's filing status.

Revenue -

Grants and contracts classified as exchange transactions follow ASU 2014-09, *Revenue from Contracts With Customers*, and record revenue when the performance obligations are met. The Society has elected to opt out of all (or certain) disclosures not required for nonpublic entities. The revenue is recorded directly to without donor restrictions and the transaction price is based on expenses incurred in compliance with the criteria stipulated in the grant or contract agreements. Grants and contracts receivable represents amounts due from funding organizations for reimbursable expenses incurred in accordance with the grant and contract agreements.

Membership dues -

Membership dues includes general member benefits that are a series of distinct obligations. The revenue is recognized ratably over the membership period. There are several benefits received that are individual distinct obligations such as discounted rates to conferences and meetings; however, they are immaterial in nature to the contract and thus are included with the general member benefits.

Scientific publications -

The Society distributes various journals throughout the year. Included in Scientific publications are subscriptions, advertising, and royalty revenue for the publications. Revenue for these journals are recognized when the performance obligations are met, typically at the time of publication. The transaction price is determined based on the cost or sales price. Any amounts received in advance are recorded as deferred revenue within the Consolidated Statement of Financial Position.

SOCIETY FOR NEUROSCIENCE

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS  
JUNE 30, 2022

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES AND GENERAL INFORMATION  
(Continued)

Revenue (continued) -

Annual meeting -

Annual meeting revenue includes registration fees, booth revenue, and sponsorships, which are recorded as revenue when the performance obligation is met which is when the related event has occurred. The transaction price is determined based on the cost or sales price. Any amounts received in advance are recorded as deferred revenue within the Consolidated Statement of Financial Position. Funding received in advance of incurring the related expenses is recorded as deferred revenue.

Deferred revenue consisted of the following as of June 30, 2022:

Annual Meeting	\$ 2,880,309
Publications	2,192,840
Member dues	1,824,106
Other	<u>62,305</u>
<b>TOTAL DEFERRED REVENUE</b>	<b><u>\$ 6,959,560</u></b>

General program revenue -

General program revenue includes contributions and grants and are recognized in the appropriate category of net assets in the period received in accordance with ASU 2018-08, *Not-for-Profit Entities (Topic 958): Clarifying the Scope and Accounting Guidance for Contributions Received and Contributions Made*.

The Society performs an analysis of the individual contribution and grant to determine if the revenue streams follow the contribution rules or if they should be recorded as an exchange transaction depending upon whether the transactions are deemed reciprocal or nonreciprocal. For contributions and grants qualifying under the contribution rules, revenue is recognized upon notification of the award and satisfaction of all conditions, if applicable. Conditional promises to give are not recognized until the conditions on which they depend are substantially met.

Contributions and grants qualifying as contributions that are unconditional that have donor restrictions are recognized as "without donor restrictions" only to the extent of actual expenses incurred in compliance with the donor-imposed restrictions and satisfaction of time restrictions; such funds in excess of expenses incurred are shown as net assets with donor restrictions in the accompanying consolidated financial statements. Grant agreements qualifying as conditional contributions contain a right of return and a barrier. Revenue is recognized when the condition or conditions are satisfied. These transactions are nonreciprocal and recognized as contributions when the revenue becomes unconditional.

Funds received in advance of the incurrence of qualifying expenditures are recorded as deferred revenue unless they are from the United States Government which is then recorded as a refundable advance. For contributions and grants treated as contributions, the Society had does not have any unrecognized conditional awards as of June 30, 2022.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS  
JUNE 30, 20221. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES AND GENERAL INFORMATION  
(Continued)

## Revenue (continued) -

## Property management revenue -

Property management revenue is recognized on a straight-line basis. The leases call for rent abatement and/or annual rental payment escalations. The difference between rental income received and rental income recognized on the straight-line basis is recorded as deferred rents receivable in the accompanying Consolidated Statement of Financial Position. Deferred revenue is recognized for rental payments received in advance of the period earned.

## Use of estimates -

The preparation of consolidated financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenue and expenses during the reporting period. Accordingly, actual results could differ from those estimates.

## Functional allocation of expenses -

The costs of providing the various programs and other activities have been summarized on a functional basis in the Consolidated Statement of Activities and Change in Net Assets. Accordingly, certain costs have been allocated among the programs and supporting services benefited. Expenses directly attributed to a specific functional area of the Society are reported as direct expenses to the programmatic area and those expenses that benefit more than one function are allocated on a basis of estimated time and effort or other reasonable basis.

## Risks and uncertainties -

The Society invests in various investment securities. Investment securities are exposed to various risks such as interest rates, market and credit risks. Due to the level of risk associated with certain investment securities, it is at least reasonably possible that changes in the values of investment securities will occur in the near term and that such changes could materially affect the amounts reported in the accompanying consolidated financial statements.

## Fair value measurement -

The Society adopted the provisions of FASB ASC 820, *Fair Value Measurement*. FASB ASC 820 defines fair value, establishes a framework for measuring fair value, establishes a fair value hierarchy based on the quality of inputs (assumptions that market participants would use in pricing assets and liabilities, including assumptions about risk) used to measure fair value, and enhances disclosure requirements for fair value measurements. The Society accounts for a significant portion of its financial instruments at fair value or considers fair value in their measurement.

The Society follows the disclosure provisions of accounting Standards Update (ASU) No. 2015-07, *Fair Value Measurement* (Topic 820): Disclosure for Investment in Certain Entities that Calculate Net Asset Value Per Share (or Its Equivalent). The ASU removes the requirement to categorize within the fair value hierarchy all investments for which fair value is measured using the net asset value per share practical expedient.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS  
JUNE 30, 20221. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES AND GENERAL INFORMATION  
(Continued)

## New accounting pronouncement not yet adopted -

FASB issued ASU 2019-01, *Leases* (Topic 842). The ASU changes the accounting treatment for operating leases by recognizing a lease asset and lease liability at the present value of the lease payments in the Consolidated Statement of Financial Position and disclosing key information about leasing arrangements. During 2020, the FASB issued ASU 2020-05 and delayed the implementation date by one year. The ASU is effective for non-public entities beginning after December 15, 2021. The ASU can be applied at the beginning of the earliest period presented using a modified retrospective approach or applied at the beginning of the period of adoption recognizing a cumulative-effect adjustment. The Society plans to adopt the new ASU at the required implementation dates and management is currently in the process of evaluating the adoption method and the impact of the new standard on its accompanying consolidated financial statements.

## 2. INVESTMENTS

Investments consisted of the following at June 30, 2022:

	<u>Fair Value</u>
Money Market Funds	\$ 1,595,195
Corporate Fixed Income	1,521,555
Exchange Traded Funds and Closed-end Funds (ETF and CEFs)	8,265,660
U.S. Government Obligations	4,148,276
Mutual Funds	12,969,566
Equities	29,016,784
Alternative Investments	<u>20,773,336</u>
<b>TOTAL LONG-TERM INVESTMENTS</b>	<b><u>\$ 78,290,372</u></b>
<b>Deferred Compensation Investments:</b>	
Equities	\$ 420,269
Corporate Fixed Income	414,745
Short-Term Mutual Funds	<u>7,737</u>
<b>TOTAL DEFERRED COMPENSATION INVESTMENTS</b>	<b><u>\$ 842,751</u></b>
Included in investment loss are the following at June 30, 2022:	
Interest and dividends	\$ 1,487,060
Realized gain on investments	1,634,502
Unrealized loss on investments	(13,845,672)
Management fees	<u>(401,975)</u>
<b>TOTAL INVESTMENT LOSS, NET</b>	<b><u>\$ (11,126,085)</u></b>

The Society has resolved to use available funds and future earnings thereon to establish a strategic reserve pool that represents at least one year of operating expense budget plus liabilities. Based upon the intent of the Society, assets of the strategic reserve pool are classified as long-term.



**SOCIETY FOR NEUROSCIENCE**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS  
JUNE 30, 2022**

**3. INVESTMENT IN RHYTHMQ INC.**

On April 21, 2021, the Society purchased 1,000 Class A Preferred Shares of RHYTHMQ INC. (RQ) for \$1,500,000. RQ was formed June 9, 2011 in Ontario, Canada as a technology and marketing company that provides management for online form submission programs and helps build brand or program awareness. At the time of the purchase, the Society had all of the Class A Preferred Shares in RQ. RQ had 2,500 common shares issued and outstanding at the time of the Society's purchase of its shares. The Class A Preferred Shares accrue dividends at a rate of 8% of the original issue price. Both types of shares have equal voting rights. The Society records their investment in RQ using the equity method. The Society's basis in RQ at June 30, 2022 was \$1,500,000.

**4. GRANTS RECEIVABLE**

As of June 30, 2022, the Society has received promises to give totaling \$450,000. Grants due in more than one year have been recorded at the present value of the estimated cash flows, using a discount rates ranging from 1.37% and 2.97%.

Grants are due as follows at June 30, 2022:

Less than one year	\$ 180,000
One to five years	<u>270,000</u>
 Total	 450,000
Less: Reserve for uncollectible grants	(75,000)
Less: Allowance to discount balance to present value	<u>(8,310)</u>
 <b>GRANTS RECEIVABLE, NET</b>	 <b><u>\$ 366,690</u></b>

**5. FIXED ASSETS**

At June 30, 2022, fixed assets consisted of the following:

Building	\$ 23,268,377
Land	7,150,400
Building improvements	6,858,155
Computer equipment	5,431,724
Furniture	1,564,651
Leasing commissions	868,653
Other	<u>293,700</u>
	45,435,660
Less: Accumulated depreciation and amortization	<u>(21,272,112)</u>
 <b>PROPERTY, FURNITURE, EQUIPMENT AND IMPROVEMENTS, NET</b>	 <b><u>\$ 24,163,548</u></b>

Depreciation and amortization expense totaled \$2,034,313 for the year ended June 30, 2022.

**6. LINES OF CREDIT**

The Society has a line of credit in the amount of \$20,000,000, with a variable interest rate based on the applicable floating rate, which was 2.1% at June 30, 2022. The outstanding balance on the line of credit as of June 30, 2022 was \$12,354,412, with interest expense totaling \$118,063. The line of credit is collateralized by investments held by Morgan Stanley.

The Society signed an additional line of credit agreement with Truist in the amount of \$5,000,000 with a maturity date of December 31, 2022. The interest rate on the line of credit at June 30, 2022 was 1.78%. The outstanding balance on the line of credit as of June 30, 2022 was \$3,039,012, with interest expense totaling \$54,094.

**7. FEDERAL LOANS PAYABLE**

On May 5, 2020, the Society entered into a two-year promissory note agreement in the amount of \$2,308,176 with a 1% fixed interest rate under the Paycheck Protection Program (PPP Loan 1). The promissory note calls for monthly principal and interest payments amortized over the term of the promissory note, unless otherwise forgiven. During the fiscal year ending June 30, 2022, the Society applied for forgiveness after completing the 24 week period, and \$2,191,748 of the note was forgiven, the Society repaid the remainder of the unforgiven note.

On March 8, 2021, the Society also entered into a five-year promissory note agreement in the amount of \$2,000,000 under the Paycheck Protection Program (PPP Loan 2). The promissory note calls for monthly principal and interest payments amortized over the five-year term of the promissory note. Under the Coronavirus Aid, Relief, and Economic Security Act (CARES Act), the promissory note qualifies for forgiveness by the Small Business Administration in whole or in part. Subsequent to the fiscal year ending June 30, 2022, the Society applied for forgiveness, and believes that its use of the loan proceeds will meet the conditions for forgiveness of the loan. As of the date of this report. At such time once forgiveness and notification is received, the forgiven amount will be recorded as revenue from the debt extinguishment.

**8. NOTE PAYABLE**

On February 1, 2006, the Society entered into an agreement to purchase the property at 1121 14<sup>th</sup> Street, N.W., Washington, D.C. The original purchase was financed through a \$20,000,000 note payable from Bank of America, N/A. To minimize the effect of changes in the variable rate, the Society had entered into an interest rate swap agreement. On August 1, 2011, the Society entered into an agreement to refinance the notes payable, resulting in a \$17,949,167 note payable from PNC Bank. In addition, the Society refinanced the swap agreement with PNC Bank to artificially fix the interest rate and was to mature on February 1, 2019.

On November 15, 2018, the Society entered into an agreement to refinance the note payable, resulting in an \$18,498,204 note payable from Truist Bank (formerly known as BB&T). At the time of refinancing, the swap which was valued at \$4,307,601 was terminated and included within principal value of the note. The interest rate on the note payable as of June 30, 2022 was 3.24%. The agreement, among other provisions, require the Society to meet certain financial covenants. The Society was out of compliance on two covenants and received a waiver for the covenants through December 31, 2022.

SOCIETY FOR NEUROSCIENCE

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS  
JUNE 30, 2022

8. NOTE PAYABLE (Continued)

Financing costs related to the refinancing of the note in the amount of \$275,400, were capitalized and are being amortized over the life of the note. At June 30, 2022, accumulated amortization for the financing costs totaled \$86,770. As of June 30, 2022, the outstanding balance of the note payable is as follows:

Note principal payable	\$ 13,928,174
Less: Deferred financing costs, net of accumulated amortization	<u>(188,630)</u>
<b>NET NOTE PAYABLE</b>	<b><u>\$ 13,739,544</u></b>

Future minimum principal payments are as follows at June 30, 2022:

<u>Year Ending June 30,</u>	
2023	\$ 1,365,312
2024	1,420,645
2025	1,480,803
2026	1,542,131
2027	1,605,961
Thereafter	<u>6,324,692</u>
	13,739,544
Less: Current portion	<u>(1,365,312)</u>
<b>NON-CURRENT PORTION</b>	<b><u>\$ 12,374,232</u></b>

Total interest expense for the year ending June 30, 2022 was \$599,278.

9. BONDS PAYABLE

On February 1, 2006, the District of Columbia agreed to issue its Variable Rate Revenue Bonds (Society for Neuroscience Issue) Series 2006 in the aggregate principal amount of \$12,000,000, for the benefit of the Society through Bank of America, N.A., in order to finance a portion of the costs of acquiring, constructing and furnishing the office building, including parking garage, located at 1121 14<sup>th</sup> Street, N.W., Washington, D.C. as well as entered into an interest rate swap agreement to minimize the effect of changes in the variable rate.

The Society agreed to defer the payment of the principal and pay the interest on the bonds. The bonds carried a fluctuating rate of interest per annum that approximates the BMA index (a national index of seven-day floating tax-exempt rates).

On August 1, 2011, the Society signed an agreement to transfer the District of Columbia Variable Rate Revenue Bonds to PNC Bank and terminated the interest rate swap agreement.

On November 15, 2018, the Society signed an agreement to transfer the District of Columbia Variable Rate Revenue Bonds to Truist Bank (formerly known as BB&T). As of June 30, 2022, the interest rate was 0.67%. Principal payments shall begin February 1, 2030. The bond agreement, among other provisions, require the Society to meet certain financial ratio tests. The Society was out of compliance on two covenants and received a waiver for the covenants through December 31, 2022.

Total interest expense for the year ending June 30, 2022 was \$401,959.

SOCIETY FOR NEUROSCIENCE

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS  
JUNE 30, 2022

10. NET ASSETS WITH DONOR RESTRICTIONS

Net assets with donor restrictions consist of the following at June 30, 2022:

Subject to expenditure for specified purpose:	
Brain Ultrastructure	\$ 43,580
BrainFacts.org	545,971
David Kopf Lecture on Neuroethics	73,657
Elsevier Dialogues Series Support	49,329
Latin American Training Program	105,009
Leadership Development Program	85,530
Meet the Expert Series Support	5,000
Neuroscience Scholars Program	10,000
Peter and Patricia Gruber Award	80,000
Trubatch Career Development Awards	31,017
Accumulated investment earnings	1,088,126
Endowment to be invested in perpetuity	<u>6,443,750</u>
<b>TOTAL NET ASSETS WITH DONOR RESTRICTIONS</b>	<b><u>\$ 8,560,969</u></b>

11. NET ASSETS RELEASED FROM RESTRICTIONS

The following temporarily restricted net assets were released from donor restrictions by incurring expenses, which satisfied the restricted purposes specified by the donors:

Purpose restrictions accomplished:	
Brain Ultrastructure	\$ 5,000
BrainFacts.org	119,455
Elsevier Dialogues Series Support	25,000
Leadership Development Program	2,480
Peter and Patricia Gruber Award	50,000
Science Educator Award	10,000
Appropriations from Endowment	<u>261,222</u>
<b>TOTAL NET ASSETS RELEASED FROM RESTRICTIONS</b>	<b><u>\$ 473,157</u></b>

12. LIQUIDITY AND AVAILABILITY

Financial assets available for use for general expenditures within one year of the Consolidated Statement of Financial Position date comprise the following:

Cash and cash equivalents	\$ 6,184,256
Accounts receivable	303,789
Grants receivable	<u>105,000</u>
<b>FINANCIAL ASSETS AVAILABLE TO MEET CASH NEEDS FOR GENERAL EXPENDITURES WITHIN ONE YEAR</b>	<b><u>\$ 6,593,045</u></b>



NOTES TO CONSOLIDATED FINANCIAL STATEMENTS  
JUNE 30, 2022

12. LIQUIDITY AND AVAILABILITY (Continued)

The Society is supported by restricted contributions. Because a donor's restriction requires resources to be used in a particular manner or in a future period, the Society must maintain sufficient resources to meet those responsibilities to its donors. Thus, financial assets may not be available for general expenditure within one year. As part of the Society's liquidity management, it has a policy to structure its financial assets to be available as its general expenditures, liabilities, and other obligations come due.

As of June 30, 2022, the Society has financial assets totaling approximately two months of operating expenses. In addition, the Society invests cash in excess of daily requirements in short-term investments. Of the Society's investment portfolio, approximately \$53,000,000 is in active markets and are not restricted in perpetuity in which could be drawn upon in the event of an unanticipated liquidity need. The Society also could draw upon the approximately \$10,000,000 of availability on the lines of credit (as further discussed in Note 6).

13. RENTAL INCOME

The LLC currently has a total of six tenants leasing office space within its premises. The periods of the leases range from January 24, 2008 to November 30, 2031. Rental income from these leases totaled \$1,543,922 for the year ended June 30, 2022, and is included in the accompanying Consolidated Statement of Activities and Change in Net Assets in property management revenue. Property management revenue totaled \$1,569,300 for the year ended June 30, 2022, and includes income for garage and storage leasing fees and operating expense recoverables. Rental income is recognized on a straight-line basis.

The difference between rental income received and rental income recognized on the straight-line basis is recorded as deferred rent receivable in the accompanying Consolidated Statement of Financial Position. As of June 30, 2022, the deferred rent receivable totaled \$744,999. The following is a schedule of future minimum rental payments to be received by the LLC:

<u>Year Ending June 30,</u>	<u>Tenants</u>
2023	\$ 1,881,575
2024	1,867,344
2025	1,913,782
2026	1,866,028
2027	1,409,525
Thereafter	<u>3,084,402</u>
	<b><u>\$ 12,022,656</u></b>

14. RETIREMENT PLANS

The Society maintains two defined contribution plans for employees meeting certain eligibility requirements. The 403(b) Retirement Plan allows for eligible employees to contribute a percentage of their salary, subject to the maximum contribution as per the applicable IRS regulation. For the 403(b) Retirement Plan, the Society will match up to 4% of a participating employee's salary, depending upon the percentage of contribution made by the employees.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS  
JUNE 30, 2022

14. RETIREMENT PLANS (Continued)

The 401(a) Retirement Plan provides a non-matching employer contribution of 4% to all eligible employees (members of senior management receive a 8% nonmatching contribution).

The Society's contributions to the Plan for the year ended June 30, 2022 totaled \$737,829, with contributions to the 403(b) plan totaling \$290,474 and contributions to the 401(a) plan totaling \$447,355. The Society also has a deferred compensation plan under Section 457 of the Internal Revenue Code for certain executive level employees. Contributions to this plan totaled \$24,000 for the year ended June 30, 2022.

15. COMMITMENTS

The Society has executed lease agreements for conference space in 2023, and 2025. Letters of intent have been executed for the 2024, 2026 – 2035 and 2037 annual meetings. The total commitment under the agreements is not determinable, as it depends upon attendance and other unknown factors. There is a cancellation penalty that would be due if the agreement was canceled prior to the event date. The amount of the cancellation penalty increases as the event dates become closer.

16. FAIR VALUE MEASUREMENT

In accordance with FASB ASC 820, *Fair Value Measurement*, the Society has categorized its financial instruments, based on the priority of the inputs to the valuation technique, into a three-level fair value hierarchy. The fair value hierarchy gives the highest priority to quoted prices in active markets for identical assets or liabilities (Level 1) and the lowest priority to unobservable inputs (Level 3). If the inputs used to measure the financial instruments fall within different levels of hierarchy, the categorization is based on the lowest level input that is significant to the fair value measurement of the instrument. Investments recorded in the Consolidated Statement of Financial Position are categorized based on the inputs to valuation techniques as follows:

**Level 1.** These are financial instruments where values are based on unadjusted quoted prices for identical assets in an active market the Society has the ability to access.

**Level 2.** These are financial instruments where values are based on quoted prices in markets that are not active or model inputs that are observable either directly or indirectly for substantially the full-term of the investments.

**Level 3.** These are financial instruments where values are based on prices or valuation techniques that require inputs that are both unobservable and significant to the overall fair value measurement. These inputs reflect assumptions of management about assumptions market participants would use in pricing the investments. These investments include non-readily marketable securities that do not have an active market.

Following is a description of the valuation methodology used for investments measured at fair value. There have been no changes in the methodologies and there were no transfers between levels in the fair value hierarchy during the year ended June 30, 2022. Transfers between levels are recorded at the end of the reporting period, if applicable.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS  
JUNE 30, 2022

## 16. FAIR VALUE MEASUREMENT (Continued)

- *Money Market Funds* - The money market fund is an open-end fund that is registered with the Securities and Exchange Commission (SEC) and is deemed to be actively traded.
- *Fixed Income, U.S. Government Obligations* - Fair value is based upon current yields available on comparable securities of issuers with similar ratings, the security's terms and conditions, and interest rate and credit risk
- *Mutual Funds* - Valued at the daily closing price as reported by the fund. Mutual funds held by the Society are open-end mutual funds that are registered with the SEC. These funds are required to publish their daily value and to transact at that price. Mutual funds held by the Society are deemed to be actively traded.
- *Equities, Exchange Traded Funds and Closed-end Funds (ETF and CEFs)* - Valued at the closing price reported on the active market in which the individual securities are traded.
- *Alternative Investments - Interests in Hedge Funds and Private Equity Funds* - The Society follows the disclosure provisions of accounting Standards Update (ASU) No. 2015-07, *Fair Value Measurement* (Topic 820): Disclosure for Investment in Certain Entities that Calculate Net Asset Value (NAV) Per Share (or Its Equivalent). The NAV is used as a practical expedient to estimate fair value. The NAV is based on the fair value of the underlying investments held by the fund less its liability. This practical expedient is not used when it is determined to be probable that the fund will sell the investment for an amount different than the reported NAV. The ASU removes the requirement to categorize within the fair value hierarchy all investments for which fair value is measured using the net asset value per share practical expedient; however, the fair value amounts presented in the tables are intended to permit reconciliation of the fair value hierarchy to the amounts presented in the Consolidated Statement of Financial Position.

The table below summarizes, the investments measured at fair value on a recurring basis, by level within the fair value hierarchy and those invested and measured at NAV as a practical expedient as of June 30, 2022.

	<u>Level 1</u>	<u>Level 2</u>	<u>Level 3</u>	<u>Total</u>
<b>Asset Class - Investments:</b>				
Money Market Funds	\$ 1,595,195	\$ -	\$ -	\$ 1,595,195
Corporate Fixed Income	1,521,555	-	-	1,521,555
Exchange Traded Funds and Closed-end Funds (ETF and CEFs)	8,265,660	-	-	8,265,660
U.S. Government Obligations	4,148,276	-	-	4,148,276
Mutual Funds	12,969,566	-	-	12,969,566
Equities	29,016,784	-	-	29,016,784
<b>Deferred Compensation</b>				
Equities	420,269	-	-	420,269
Corporate Fixed Income	414,745	-	-	414,745
Short-Term Mutual Funds	<u>7,737</u>	<u>-</u>	<u>-</u>	<u>7,737</u>
<b>Sub-total</b>	<b><u>\$ 58,359,787</u></b>	<b><u>\$ -</u></b>	<b><u>\$ -</u></b>	<b>58,359,787</b>
Alternative investments measured at NAV, per practical expedient				<u>20,773,336</u>
<b>TOTAL INVESTMENTS</b>				<b><u>\$ 79,133,123</u></b>

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS  
JUNE 30, 2022

## 16. FAIR VALUE MEASUREMENT (Continued)

The following is a summary of the investments valued using NAV as a practical expedient and the related unfunded commitments and redemption restrictions associated with each major category at June 30, 2022:

<u>Investment Type</u>	<u>Net Asset Value</u>	<u>Uncalled Commitments</u>	<u>Liquidity</u>
Multi-Strategy Hedge Funds (a)	\$ 6,319,405	\$ 1,127,784	Quarterly with 90 days prior notice
Private Equity Funds (b)	9,324,593	5,924,646	None until dissolution or transfer to another party
Private Equity Funds (b)	<u>5,129,338</u>	<u>4,180,561</u>	No liquidity with out prior consent of feeder fund general partner
	<b><u>\$ 20,773,336</u></b>	<b><u>\$ 11,232,991</u></b>	

**(a) Multi-Strategy Hedge Funds** - This category includes direct investments in multi-strategy hedge funds that invest in both fixed income and equity investments. The managers of these funds have the flexibility to adjust their allocations between fixed income and equity investments based on their particular strategy (event-drive, relative value, directional) and view of the market. These funds have various redemption and notice of redemption requirements that generally limit the ability to liquidate them in a short period of time.

**(b) Private Equity Funds** - This category includes investments in private equity funds, generally through limited partnerships. The funds may invest in private equity, credit, real estate, infrastructure projects, and natural resources. These investments are illiquid and long-term in nature. Distributions from each fund will be received as the underlying investments and fund are liquidated. It is estimated that the underlying assets of the funds will be liquidated over the next one to ten years.

## 17. ENDOWMENT

The Society's endowment consists of donor-restricted endowment funds. As required by GAAP, net assets associated with endowment funds are classified and reported based on the existence or absence of donor-imposed restrictions. The Council is subject to the Uniform Prudent Management of Institutional Funds Act (UPMIFA) and, thus classifies amounts in its donor-restricted endowment funds as net assets with donor restrictions because those assets are time restricted until the governing Council appropriates such amounts for expenditures. Most of those net asset also are subject to purpose restrictions that must be met before reclassifying those net assets to net assets without donor restrictions. The governing Council has interpreted UPMIFA as not requiring the maintenance of purchasing power of the original gift amount contributed to an endowment fund, unless a donor stipulates the contrary. As a result of this interpretation, when reviewing its donor-restricted endowment funds, the Society considers a fund to be underwater if the fair value of the fund is less than the sum the (a) the original value of initial and subsequent gift amounts donated to the fund and (b) any accumulations to the fund that are required to be maintained in perpetuity in accordance with the direction of the applicable donor gift instrument. The Society has interpreted UPMIFA to permit spending from underwater funds in accordance with the prudent measures required under the law.



17. ENDOWMENT (Continued)

Additionally, in accordance with UPMIFA, the Society considers the following factors in making a determination to appropriate or accumulate donor-restricted endowment funds:

- The duration and preservation of the fund;
- The purpose of the organization and the donor-restricted endowment fund;
- General economic conditions and the possible effect of inflation and deflation;
- The expected total return from income and the appreciation of investments; and
- Investment policies of the organization.

Endowment net asset composition by type of fund as of June 30, 2022:

	<u>Without Donor Restrictions</u>	<u>With Donor Restrictions</u>	<u>Total</u>
Donor-Restricted Endowment Funds:			
Original donor-restricted gift amount and amounts required to be maintained in perpetuity by donor	\$ -	\$ 6,443,750	\$ 6,443,750
Accumulated investment earnings	<u>-</u>	<u>1,088,126</u>	<u>1,088,126</u>
<b>TOTAL ENDOWMENT FUNDS</b>	<b><u>\$ -</u></b>	<b><u>\$ 7,531,876</u></b>	<b><u>\$ 7,531,876</u></b>

Changes in endowment net assets for the year ended June 30, 2022:

	<u>Without Donor Restrictions</u>	<u>With Donor Restrictions</u>	<u>Total</u>
Endowment net assets, beginning of year,	\$ -	\$ 8,007,169	\$ 8,007,169
Investment loss, net	-	(214,071)	(214,071)
Appropriation of endowment assets for expenditure	<u>-</u>	<u>(261,222)</u>	<u>(261,222)</u>
<b>ENDOWMENT NET ASSETS, END OF YEAR</b>	<b><u>\$ -</u></b>	<b><u>\$ 7,531,876</u></b>	<b><u>\$ 7,531,876</u></b>

Funds with Deficiencies -

From time to time, the fair value of assets associated with individual donor-restricted endowment funds may fall below the level that the donor or UPMIFA requires the organization to retain as fund of perpetual duration. Deficiencies of this nature did not exist as of June 30, 2022. These deficiencies resulted from unfavorable market fluctuations that occurred after the investment of new contributions for donor-restricted endowment funds and continued appropriations for certain programs that was deemed prudent by the Council.

Return Objectives and Risk Parameters -

The Society has adopted investment and spending policies for endowment assets that attempt to provide a predictable stream of funding to programs supported by its endowment while seeking to maintain the purchasing power of the endowment assets. Endowment assets include those assets of donor-restricted funds that the organization must hold in perpetuity or for a donor-specified period(s) as well as Board designated funds.

17. ENDOWMENT (Continued)

Return Objectives and Risk Parameters (continued) -

Under this policy, as approved by the Council, the endowment assets are invested in a manner that is intended to produce results that exceed the price and yield results of the S&P 500 index while assuming a moderate level of investment risk. The Society expects its endowment funds, over time, to provide an average rate of return of approximately 5.0% annually. Actual returns in any given year may vary from this amount.

Strategies Employed for Achieving Objectives -

To satisfy its long-term rate-of-return objectives, the Society relies on a total return strategy in which investment returns are achieved through both capital appreciation (realized and unrealized) and current yield (interest and dividends). The Society targets a diversified asset allocation that places a greater emphasis on equity-based investments to achieve its long-term return objectives within prudent risk constraints.

Spending Policy and How the Investment Objectives Relate to Spending Policy -

The Society has a policy of appropriating for distribution each year a sum equal to the amount required to execute the program supported by the endowment, including an annual prize, as well as travel support for the prize winner and the allocable portion of the awards reception. In establishing this policy, the Society considered the long-term expected return on its endowment. Accordingly, over the long-term, the Society expects the current spending policy to allow its endowment to grow each year. This is consistent with the Society's objective to maintain the purchasing power of the endowment assets held in perpetuity as well as to provide additional real growth through investment returns, such that the amount of the prize can increase at some point in the future.

18. SUBSEQUENT EVENTS

In preparing these consolidated financial statements, the Society has evaluated events and transactions for potential recognition or disclosure through October 12, 2022, the date the consolidated financial statements were issued.

During June 30, 2021, the Society filed an insurance claim to recover its losses as a result of the 2020 annual meeting event cancellation; and the insurance carrier was reviewing the claim before year end. In October 2022, the Society signed an agreement with the insurance companies on the undisputed portion of the insurance claim in the amount of \$9,000,000 and received half of this amount to date.



## Photo Credits

**Cover //** This image shows cultured hippocampal neurons labeled for dendrites (MAP2, blue), and for the axon initial segment (yellow is an overlay of neurofascin-186, green and  $\beta$ 4-spectrin, red). Christophe Letierrier. *Journal of Neuroscience* 28 February 2018, 38 (9) 2135-2145; DOI: <https://doi.org/10.1523/JNEUROSCI.1922-17.2018>.

**Table of Contents //** This image shows a retinal ganglion cell that was biologically labeled in an adult mouse. Cytosolic expression of fluorescent protein tdTomato (blue) reveals cellular morphology, while coexpression of YFP-tagged PSD95 (yellow) labels excitatory postsynaptic sites within the same neuron. The left portion of the image represents the rendered volume of fluorescent signals expressed by the cell, gradually blended with its digitized representation of the dendritic arbor's skeleton (blue lines) and synaptic loci (pink spheres). Yvonne Ou, Rebecca E. Jo, Erik M. Ullian, Rachel O.L. Wong and Luca Della Santina. *Journal of Neuroscience* 31 August 2016, 36 (35) 9240-9252; DOI: <https://doi.org/10.1523/JNEUROSCI.0940-16.2016>.

**Page 05 //** This STORM image shows a rat hippocampal neuron stained for actin 24 h after plating in culture. It is still in the first stage of growth, with a peripheral actin-rich lamellipodium but no neurites. Some of the actin spikes will become neurites. Christophe Letierrier. *Journal of Neuroscience* 6 January 2021, 41 (1) 11-27; DOI: <https://doi.org/10.1523/JNEUROSCI.2872-20.2020>.

**Page 12 //** This image shows the axon (yellow), soma and dendrites (white) of a somatostatin-expressing (cyan) neuron in mouse auditory cortex. A retrograde tracer (magenta) revealed that this neuron sends a long-range projection to the ipsilateral lateral amygdala. Alice Bertero, Paul Luc Caroline Feyen, Hector Zurita and Alfonso junior Apicella. *Journal of Neuroscience* 23 October 2019, 39 (43) 8424-8438; DOI: <https://doi.org/10.1523/JNEUROSCI.1515-19.2019>.

**Pages 14, 15, 17 //** Courtesy of Barry Everitt.

**Page 19 //** Confocal image of a section of sciatic nerve from an adult mouse lacking Gli-1, a transcription factor expressed in the endoneurial compartment of peripheral nerves independent of its canonical activator, the Hedgehog pathway. Fate mapping with Gli1-Cre (red) labels both the perineurium, which surrounds the nerve exterior, and cells forming minifascicles, structures that aberrantly subdivide these knockout peripheral nerves into multiple small compartments. The nerve is additionally stained for axonal neurofilament (blue) and the glucose transporter Glut-1 (green). Brendan Zotter, Or Dagan, Jacob Brady, Hasna Baloui, Jayshree Samanta and James L. Salzer. *Journal of Neuroscience* 12 January 2022, 42 (2) 183-201; DOI: <https://doi.org/10.1523/JNEUROSCI.3096-20.2021>.

**Pages 22, 23 //** Courtesy of N. ApurvaRatan Murty

**Pages 24 //** This pseudo-colored photomicrograph depicts mitochondrial (MitoTracker, red) distribution in a primary cultured mouse cortical astrocyte immunostained for GFAP (blue) and nuclei (white). Matthew P. Baier, Raghavendra Y. Nagaraja, Hannah P. Yarbrough, Daniel B. Owen, Anthony M. Masingale, Rojina Ranjit, Megan A. Stiles, Ashley Murphy, Martin-Paul Agbaga, Mohiuddin Ahmad, David M. Sherry, Michael T. Kinter, Holly Van Remmen and Sreemathi Logan. *Journal of Neuroscience* 3 August 2022, 42 (31) 5992-6006; DOI: <https://doi.org/10.1523/JNEUROSCI.2543-21.2022>.

**Page 25 //** Courtesy, with permission: Kanwisher et al., 1997, *JNeurosci*, 17 (11) 4302-4311.

**Page 26 //** This image shows mature cochlear heminodes beneath hair cells and nodes of Ranvier within osseous spiral lamina in adult mouse auditory nerve. The nodes and their flanking paranodes were immunolabeled for neuronal cell adhesion molecule (NrcAM, green) and contactin 1 (Cntn1, red), respectively. Myelin of the auditory nerve (following the heminodes) was detected by immunolabeling for myelin basic protein (MBP, blue; nuclei were counterstained with DAPI also in blue). The integrity of myelin and nodal structures in the cochlea is needed for fast transfer of sound information from the hair cells to the brain. Clarisse H. Panganiban, Jeremy L. Barth, Lama Darbelli, Yazhi Xing, Jianning Zhang, Hui Li, Kenyaria V. Noble, Ting Liu, LaShardai N. Brown, Bradley A. Schulte, Stéphane Richard and Hainan Lang. *Journal of Neuroscience* 7 March 2018, 38 (10) 2551-2568; DOI: <https://doi.org/10.1523/JNEUROSCI.2487-17.2018>.

**Page 30 //** This confocal image of a sagittal section of the mouse cerebellum shows mossy fiber terminals (red, green, yellow) from Clarke's column neurons in the spinal cord, which synapse onto granule cells (blue) in the cerebellum. Sparse labeling of lower thoracic to lumbar Clarke's column neurons (green or yellow) reveals that Clarke's column neurons extensively expand and distribute proprioceptive information across several discrete lobules, allowing parallel processing across several domains. Iliodora V. Pop, Felipe Espinosa, Cheasequah J. Blevins, Portia C. Okafor, Osita W. Ogujiofor, Megan Goyal, Bishakha Mona, Mark A. Landy, Kevin M. Dean, Channabasavaiah B. Gurumurthy and Helen C. Lai. *Journal of Neuroscience* 26 January 2022, 42 (4) 581-600; DOI: <https://doi.org/10.1523/JNEUROSCI.2157-20.2021>.

**Page 35 //** Confocal immunofluorescent image of two hippocampal neurons labeled for HA-tagged Nedd4-1, with and without AMPA treatment. In basal conditions (left), the E3 ubiquitin ligase Nedd4-1 is diffusely localized throughout the soma and dendrites. Upon activation of AMPA receptors (right), Nedd4-1 is rapidly recruited to excitatory synapses within dendritic spines, where it is able to ubiquitinate surface AMPA receptors and manipulate synaptic strength. Samantha L. Scudder, Marisa S. Goo, Anna E. Cartier, Alice Molteni, Lindsay A. Schwarz, Rebecca Wright and Gentry N. Patrick. *Journal of Neuroscience* 10 December 2014, 34 (50) 16637-16649; DOI: <https://doi.org/10.1523/JNEUROSCI.2452-14.2014>.

**Photo Credits //** This image shows the axonal projections of R7 photoreceptors in the *Drosophila* medulla (axons in blue, axonal terminals in green). The stereotypy of these axonal projections makes them a useful model system for acquiring quantitative data on sporadic and progressive axonal degeneration of photoreceptor cells. Mélisande Richard, Karolína Doubková, Yohei Nitta, Hiroki Kawai, Atsushi Sugie and Gaia Tavasani. *Journal of Neuroscience* 15 June 2022, 42 (24) 4937-4952; DOI: <https://doi.org/10.1523/JNEUROSCI.2115-21.2022>.

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