



Evaluation Survey of Klingenstein/Klingenstein-Simons Fellows

Final Report

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Table of Contents

Executive Summary	3
Introduction	6
Description of evaluation project.....	6
Evaluation Questions.....	6
Methodology.....	7
Evaluation Survey Findings	9
Respondent Demographics & Response Rate.....	9
FIGURE 1. SURVEY RESPONDENTS BY COHORT	9
TABLE 1. SURVEY RESPONSE RATE BY COHORT.....	9
FIGURE 2. CURRENT APPOINTMENTS OF FELLOWS	10
Fellowship Award	11
FIGURE 3. GREATEST BENEFITS OF FELLOWSHIP	11
FIGURE 4. MOST IMPORTANT BENEFIT OF FELLOWSHIP.....	14
Additional Funding Supports.....	14
FIGURE 5. OTHER GRANTS AT TIME OF KLINGENSTEIN AWARD	15
FIGURE 6. OTHER GRANTS PRIOR TO KLINGENSTEIN AWARD	16
FIGURE 7. OTHER GRANTS FOLLOWING KLINGENSTEIN AWARD	17
Contributions to the Field.....	17
FIGURE 8. PRIMARY FOCUS OF WORK	17
FIGURE 9. NATURE OF WORK.....	18
FIGURE 10. FELLOWS WITH WORK LEADING TO INSIGHTS REGARDING THE NERVOUS SYSTEM	19
TABLE 2. TYPES OF CONTRIBUTIONS TO NEUROSCIENCE.....	20
FIGURE 11. CHANGES IN NUMBER OF INSIGHTS OVER TIME	21
Accomplishments	22
FIGURE 12. NUMBER OF PUBLICATIONS	22
FIGURE 13. PERCENTAGE OF FELLOWS WITH PUBLICATIONS IN MOST RIGOROUS JOURNALS.....	23
FIGURE 14. DISTRIBUTION OF FELLOWS’ H-INDEX BY COHORT	26
FIGURE 15. EXAMPLES OF FELLOWS’ SIGNIFICANT PUBLICATIONS	27
FIGURE 16. NUMBER OF HONORS AND AWARDS.....	29
TABLE 3. TYPES OF HONORS AND AWARDS.....	30
FIGURE 17. NUMBER OF LEADERSHIP POSITIONS.....	32

FIGURE 18. TYPES OF LEADERSHIP POSITIONS.....	32
Fellowship Conferences.....	33
FIGURE 19. SATISFACTION WITH FELLOWSHIP CONFERENCES	33
TABLE 4. POSITIVE ASPECTS OF FELLOWSHIP CONFERENCES	35
Program Feedback.....	37
TABLE 5. SUGGESTED IMPROVEMENTS TO THE KLINGENSTEIN-SIMONS FELLOWSHIP PROGRAM	38
Conclusion	44
Appendix A: Survey of Klingenstein/Klingenstein-Simons Fellows	47

Executive Summary

Klingenstein Philanthropies contracted with Dr. Judy Lee in February 2021 to conduct an evaluation of the Klingenstein/Klingenstein-Simons Neuroscience Fellowship Program. In collaboration with the leadership of Klingenstein Philanthropies and members of the Neuroscience Advisory Committee, Judy finalized the purpose, goals, and structure of the online survey that would be administered to all fellows who ever received an award. Quantitative and qualitative data from the survey would answer three questions (listed in italics below).

After pilot testing the survey and receiving feedback from fellows who participated in the program across four decades (1981-2021), the evaluation survey was administered to 336 fellows between August 10 and 27, 2021. The survey received an exceptional response rate of 75%, with at least two-thirds representation of fellows from each cohort (cohort 1: 1981-1990; cohort 2 1991-2000; cohort 3 2001-2010; cohort 4 2011-2021).

How important was the fellowship in advancing fellows' careers (what was the impact of the fellowship)?

Nearly all survey respondents (98%) hold some type of professorship, and over two-thirds have tenure. Only 5% of respondents changed fields or disciplines, moving from academia, to industry, research, or government work.

Across cohorts, the majority of fellows indicated that financial support for research (89%) and prestige (69%) were the greatest benefits they derived from receipt of the Klingenstein or Klingenstein-Simons Fellowship. Using their own words, 100% of respondents provided heartfelt illustrations regarding the most important benefit of the Fellowship, often noting more than one benefit. Aligned with the forced rating options, respondents described the financial support and prestige, but they also described in depth the flexibility and freedom, confidence and validation, network and community connections, and overall significant impact on their careers.

Questions regarding additional funding supports also indicate the importance of the fellowship. Prior to the Klingenstein award, only 52% of respondents had received another grant, and analysis by cohort revealed that the number of fellows *not* having other grants prior to receipt of their Klingenstein award has increased over time. At the time of their Klingenstein award, a consistent 24-31% of respondents in each cohort did not have any other grants. However, among those who held other grants, recent cohorts were more likely to have three or more grants at the time of the award. In the five years following their fellowship award, 95% of respondents received other grants, and over time, the number of fellows receiving five or six grants post-Klingenstein award has steadily increased (from 3% of cohort 1 to 50% of cohort 4).

What are fellows' contributions to the field of neuroscience?

Despite the limitations of any one set of data that inform fellows' accomplishments, together they offer a clear representation of the numerous ways that Klingenstein/Klingenstein-Simons Fellows contribute to, and impact, the field of neuroscience.

The majority of fellows (79%) seldom work with humans. More than half (58%) work in Cellular Neuroscience, followed closely by those who work in Molecular Neuroscience (49%) and in Systems Neuroscience (43%). Fewer work in Developmental Neuroscience and Computational Neuroscience. Four areas have increased in popularity: Systems Neuroscience, Molecular Neuroscience, Computational Neuroscience, and Cellular Neuroscience.

Nearly three-quarters of respondents indicated that their work—including basic research—led to insights into the cause or treatment of a disorder of the nervous system. Analysis of qualitative data reveals that the majority of fellows' contributions to the field are foundational, with greatest insights into Neuro-psychiatric diseases, followed by insights into Neuronal excitability, and then an equal number of insights into Special senses and Motor systems. Over time, the number of fellows with insights into neuronal excitability has decreased, while the number of fellows with insights into neuro-psychiatric diseases and motor systems has increased.

Fellows are well published, with 89% listing seven or more publications that best highlight their accomplishments. Across the five highly esteemed journals in neuroscience (Nature, Science, Cell, Nature Neuroscience, and Neuron), fellows published at rates four to eight times greater than average acceptance rates. The h-index ratings of fellows mirror expected patterns across career stages (i.e., ratings increase over time) and match or exceed h-indices of “typical” highly successful neuroscientists. Exemplary publications further illustrate the transformative, important contributions of fellows to the field of neuroscience.

More than two-thirds of fellows listed at least four honors and awards. Notable foundations, universities, and organizations have recognized Klingenstein fellows' accomplishments. Sixteen fellows have been elected to the prestigious National Academy of Sciences, and thirteen have been elected to the National Academy of Medicine. They have received several lucrative prizes that are awarded to the most distinguished scientists in the field. These include the Society for Neuroscience Young Investigator Award, the Gruber Prize in Neuroscience, the Pradel Research Award of the National Academy of Sciences, The Brain Prize, and the Champalimaud Vision Award.

Nearly half of all respondents listed up to four leadership positions such as Director, Chair, Chief, Editor, University Provost and Dean, Founder, and President. Several organizations have been served by fellows including National Institutes, universities, and foundations.

What works well in the fellowship program, and what may be improved?

Survey questions solicited feedback on the Klingenstein-Simons Neuroscience Fellowship Conference and Klingenstein/Klingenstein-Simons Fellowship Program.

Among the 104 respondents who attended a Fellowship Conference, one-third reported that the meeting led to scientific collaborations. Satisfaction among attendees of fellowship conferences was high: 84% found Klingenstein-Simons Neuroscience Fellowship Conferences more satisfying than similar events. Nearly all respondents who attended a conference appreciated several aspects including the small size which facilitates close interactions and networking; the rigorous, high-quality, and exciting content of presentations and discussions; overall execution of a scientifically and socially balanced program; mix of attendees; and specific focus on neuroscience.

Nearly one-quarter of respondents who had attended Fellowship Conferences suggested ways to strengthen them. These included allowing for more interactions with current and former fellows, advisors, and scholars; offering more opportunities to attend; and facilitating new collaborations.

When invited to draw on their experience with the Klingenstein or Klingenstein-Simons Fellowship Program, as well as on experiences they may have had with other fellowship programs, and to suggest improvements to the Klingenstein-Simons Fellowship Program, nearly all survey respondents (98%) answered this open-ended question. Nearly one-quarter expressed satisfaction with the program as is, describing it as “outstanding” and “excellent.” They appreciated the focus on early-stage investigators and expressed gratitude for the support.

Three quarters of survey respondents offered suggestions to improve the fellowship program. They emphasized the importance of in-person annual conferences and ways to strengthen them; encouraged more frequent interactions and broader connections to build and sustain community; recommended increases to, or considerations to enhance, funding; advised formal mentoring; and advocated for additional professional development and publicity.

Recommendations

Although the ratings and comments solicited in the survey were very positive overall, they offer the Esther A. and Joseph Klingenstein Fund Trustees and the Neuroscience Advisory Committee the opportunity to enhance its program for current fellows as well as alumni. Recommendations include: *Review data regarding receipt of grants* at the time of, prior to, and following the Klingenstein or Klingenstein-Simons award; *Review the areas and nature of work*, as well as the types of contributions that fellows have made to the field, for alignment with program expectations; *Consider fellows’ recommendations to enhance Fellowship Conferences and the Program* overall; *Continue to assess, as needed, survey data from this report along with CVs* shared by respondents for deeper understanding of accomplishments and contributions to the field; *Investigate the meaningful contributions and accomplishments of survey non-respondents.*

Introduction

Description of evaluation project

Klingenstein Philanthropies contracted with Dr. Judy Lee in February 2021 to conduct an evaluation of the Klingenstein/Klingenstein-Simons Neuroscience Fellowship Program. The primary strategy to inform this evaluation would be an online survey administered to all fellows who ever received an award through the program.

For four months, Judy collaborated with leadership of Klingenstein Philanthropies and members of the Neuroscience Advisory Committee¹ to refine and finalize the purpose, goals, and structure of the survey. In addition to frequent email communications and smaller meetings (with leadership only or one-on-one with Neuroscience Advisory Committee members), there were two large team² meetings on April 8 and May 27 of 2021. All activities helped crystallize the purpose of the evaluation survey, as well as the value and intended use of findings. Team decisions were instrumental in developing communications to fellows about the survey, writing survey items and answer choices with proper technical language, and planning data analytic strategies.

From June through August 2021, the survey was finalized, uploaded, pilot-tested, and administered to fellows. Between September and November 2021, data were downloaded, cleaned, and analyzed. Similar to the planning phase, there were ongoing communications through email, smaller meetings with leadership of Klingenstein Philanthropies, and a large team meeting on November 8, 2021. Please see below for details about administration methodology and the remainder of this report for survey findings, analyses, and recommendations.

Evaluation Questions

The evaluation survey of Klingenstein/Klingenstein Simons Fellows collected data to answer three questions:

- 1) How important was the fellowship in advancing fellows' careers (what was the impact of the fellowship)?
- 2) What are fellows' contributions to the field of neuroscience?

¹ Throughout the project, members of the Neuroscience Advisory Committee who provided scientific guidance via email and small team meetings included Jim McNamara, Jeremy Nathans, and Josh Sanes.

² Attendees of large team meetings included Klingenstein Philanthropies leaders (Andy Klingenstein, Eliot Brenner, and Kathleen Pomerantz) and Neuroscience Advisory Committee members (Charles Gilbert, Jim McNamara, Jeremy Nathans, and Josh Sanes).

- 3) What works well in the fellowship program (including the conference), and what may be improved?

Methodology

The survey was designed to be retrospective and include questions that could be answered by all fellows across a 40-year range; in instances where questions were not relevant or data were unlikely to be easily recalled, ‘skip’ and ‘not sure’ options were employed. The survey collected both quantitative and qualitative data; closed-ended and rating items were followed by open-ended questions that provided fellows the opportunity to explain and clarify multiple and force-choice items in their own words.

Throughout the survey design and analysis phases, the team acknowledged that some items were the best available proxies to answer complicated questions for which answers are of necessity subjective. Although commonly used in academia, these proxies nevertheless have limitations, all of which are explained below. Secondly, the team recognized that enlisting the guidance of the Neuroscience Advisory Committee was implicitly biased since they are the consumers of this survey data and serve on the selection committee of incoming fellows; as such, analysis of fellows’ accomplishments could be viewed as a direct reflection of the effectiveness of their process.

While accepting these caveats, the team worked collaboratively to plan a survey that would solicit data to answer the three evaluation questions above. The variety of items, indeed, allowed for the descriptive reporting here that together would provide a comprehensive picture of the breadth and depth of accomplishments achieved by fellows.

After thirteen survey revisions in Stage 1 (March—June 2021), Judy uploaded the survey to the user-friendly, well-respected online platform *Survey Monkey*. Stage 2 (July—August 2021) involved survey administration, which would take place in two steps.

Pilot Testing

To ensure the accuracy, relevance, and feasibility of survey items, a small group of fellows across cohorts were selected by Klingenstein Philanthropies Chief of Operations and Director of Fellowship Programs to pilot test the survey. In total, eleven fellows were identified: two from Cohort 1 (1981-1990), three from Cohort 2 (1991-2000), three from Cohort 3 (2001-2010), and three from Cohort 4 (2011-2021). Andy Klingenstein, Chairman and CEO of Klingenstein Philanthropies, sent an alert email to pilot testers on July 15, 2021 which was followed on July 20 by an email containing a link to the survey. After three reminders, the survey for pilot testers closed on July 30, 2021.

Ninety-one percent of pilot testers (10 of 11 fellows) completed the survey and were invited to provide feedback about items that were confusing or difficult to answer. Fellows were cooperative and eager to provide input. Overall feedback about the integrity of the survey was positive; fellows described the survey as “straightforward” and “as expected,” noting that “all critical points had been covered.” One wrote that the survey is “comprehensive and will provide Klingenstein leadership with a good purview of the program.”

Four important lessons were learned from pilot testing: 1) over one-third of the sample, or 36%, had different emails than initially identified, 2) time to complete the survey varied from 11 minutes to 90 minutes (in these cases, the survey was left open and completed after meetings), 3) fellows would have appreciated an explicit recommendation to have their CV available for reference, and 4) questions regarding grant dollars were tedious. Consequently, prior to full survey administration, key changes were made. Communication about time to complete the survey was adjusted from ten minutes to fifteen minutes. In addition, survey respondents were advised to have their CV on hand when answering questions. Questions about grants received at the time of, prior to, and following the Klingenstein Fellowship were revised. No longer would respondents be asked to estimate the dollar amounts of each grant; the rules around these items were relaxed to allow respondents to skip these questions.

Please see Appendix A for the final version of the survey.

Full Survey Administration

Prior to full survey administration, Klingenstein Philanthropies Administration and Program Assistant updated the initial respondent list with all fellows. In some cases, email addresses were updated, whereas in others, additional emails were found and used when necessary to reach respondents (e.g., if respondents opted out of Survey Monkey, if their emails bounced back from alert or full survey communications).

On August 9, 2021, Andy Klingenstein sent an alert email to 336 fellows who had received a Klingenstein/Klingenstein-Simons Fellowship award. This included current fellows but did not include the eleven pilot testers who already completed the survey (i.e., original list had 347 fellows). The alert email was followed on August 10 by an email containing a link to the survey. After four reminders to non- and partial respondents, the survey closed on August 27, 2021.

Evaluation Survey Findings

Respondent Demographics & Response Rate

All four cohorts of fellows were well represented among survey respondents. As indicated in Figure 1, and as expected, the largest percentage of respondents were from the most recent cohort, with decreasing representation by previous cohorts.

FIGURE 1. SURVEY RESPONDENTS BY COHORT
(N=251)

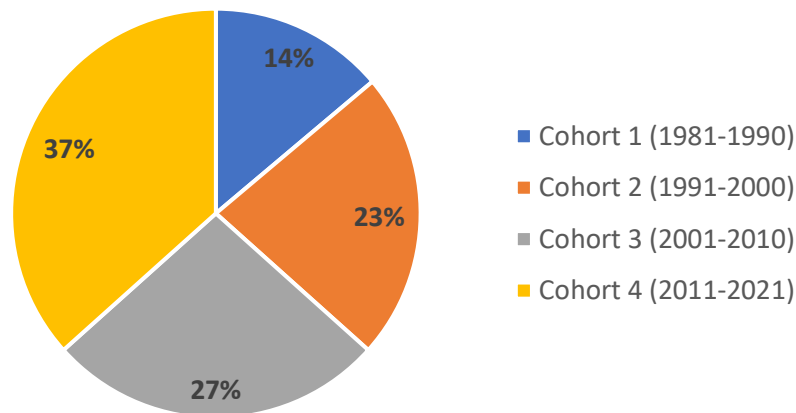


Table 1 displays the response rate by cohort, revealing the highest response rate among the most recent cohort, followed by the previous cohort, and trailed closely by the first two. According to best practices in survey administration, response rates of 50% or higher are considered excellent, and as shown below, this was achieved across all four cohorts.

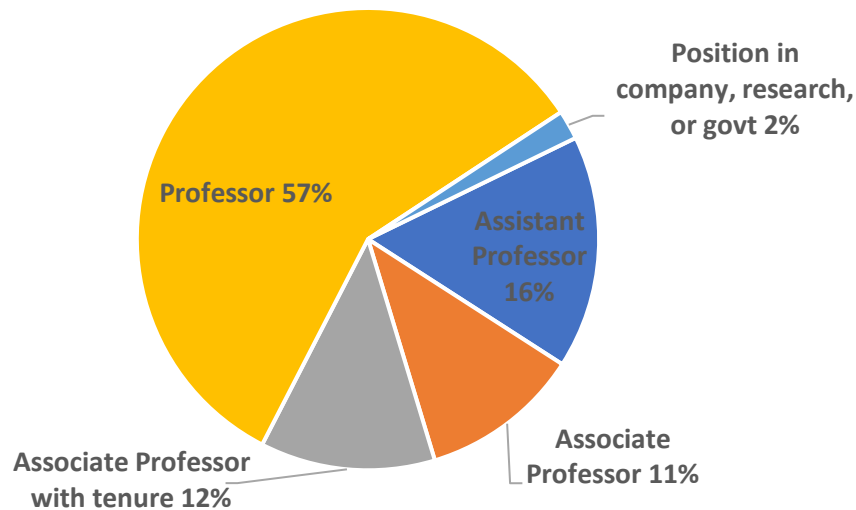
TABLE 1. SURVEY RESPONSE RATE BY COHORT

Cohort	Number of Potential Respondents ³	Number of Respondents	Response Rate
Cohort 1 (1981-1990)	48	34	71%
Cohort 2 (1991-2000)	89	58	65%
Cohort 3 (2001-2010)	85	66	78%
Cohort 4 (2011-2021)	114	93	82%
TOTAL	336	251	75%

³ Numbers of potential respondents reflect those who received the survey. The original list had 347 fellows. One was the wrong individual. Eight had incorrect emails (email was undeliverable because address was “not found” or “unknown”). Two were “out of office” during survey administration.

Respondents identified their current level of appointment. As shown in Figure 2, nearly all fellows (98%) hold a faculty position (full, associate, or assistant professor)⁴. Five respondents (2%) hold positions in a pharmaceutical or biotechnology company, a research institute, or government (centers and institutes at the National Institutes of Health).

FIGURE 2. CURRENT APPOINTMENTS OF FELLOWS
(N=251)



Across all professorial ranks, over two-thirds (68%) had tenure. Over one-third (37%) were Endowed Professors, and 12% were Distinguished Professors. Less common titles were Chair, Department Head or Scientific Director (3%), Emeritus Professor (2%), or other (2%) which included Dean of a graduate school of biomedical sciences, University President, and Investigator at a medical institute.

Ninety-five percent (95%) of respondents had not changed fields or disciplines. Among those who had switched, four percent (4%) had been a professor (i.e., an assistant professor; associate or full professor with tenure; endowed or distinguished professor; professor emeritus). Others (1%) had been in academic administration or a Vice President in a pharmaceutical or biotechnology company.

⁴ This is as expected since fellowship applicants are required to be on a tenure track.

Fellowship Award

Respondents selected from a pre-determined list the three greatest benefits they derived from receipt of the Klingenstein or Klingenstein-Simons Fellowship. As shown in Figure 3, the top two benefits were financial support for research (89%) and prestige (69%); the order and importance of these remained constant across cohorts. Benefits cited by one-third of respondents included a network of connections in the field (37%) and credibility (31%). Less common among the most valuable benefits cited were advanced career prospects and development, additional funding opportunities, new ideas for research, increased knowledge or understanding of the field, collaborative partnerships on scientific projects, and mentoring.

FIGURE 3. GREATEST BENEFITS OF FELLOWSHIP
(N=251)



Respondents were invited to expand on this multiple, limited-choice item and explain in their own words the single, most important benefit of their Fellowship, relative to any other support received at the time.⁵ Through heartfelt, multifaceted, and at times extensive descriptions of the importance of the award, 100% of respondents used this opportunity to express the magnitude and depth of its impact. As displayed in Figure 4, the numerous and interrelated benefits included six key areas⁶ that are described here:

⁵ Current fellows were asked to describe the most important, anticipated benefit of their Fellowship.

⁶ Many respondents described more than one benefit of their fellowship.

- 1) *Financial Support* was “critical” during early stages of fellows’ research. For many, this initial funding helped fellows “lay the groundwork,” “jump-start labs,” purchase equipment, cover salaries, and “generate preliminary data” that led to RO1 and other federal funds. Respondents expressed appreciation and honor in receiving “crucial” and “essential” support for their “independent,” “nascent,” “promising,” and “bold, high-risk” research.
- 2) *Flexibility and Freedom* were possible through unrestricted funds. Fellows appreciated the “complete discretionary” and “relatively unencumbered use of funds to pursue research objectives” and “conduct risky, new research” with “unrestricted ability” and “latitude.” Such financial freedom allowed innovation and exploration of “novel,” “cutting-edge” and “creative” directions in neuroscience research.
- 3) *Prestige* associated with a Klingenstein or Klingenstein-Simons fellowship has “impact that goes far beyond the research support,” enabling “new opportunities for scientific collaboration,” subsequent funding, and speaking opportunities. Fellows described the award as highly esteemed and broadly recognized, contributing to the “credibility,” “recognition,” and “visibility” of early-stage neuroscientists.
- 4) *Careers* were “advanced,” “launched,” “boosted,” and “saved” by the fellowship. Respondents explained how “extremely important” it was and how it “paved the way” to their first NIH grant or additional awards. Expressions of gratitude acknowledge the significant impact on fellows’ careers: “I am deeply grateful,” “Humbled to have received this incredible honor,” “Really a career changer!” and “It was absolutely essential in enabling me to advance my research at a critical stage in my career.”
- 5) *Confidence and Validation* were both cited as intrinsic, significant benefits of the award. The fellowship “helped validate my research,” “boosted my confidence in my ability to be a scientist,” provided “endorsement,” “external validation,” “stamp of approval,” and “an immensely

Most Important Benefit

Klingenstein-Simons was the first that believed in me and my work, and it gave me a tremendous boost in terms of my career and my confidence.

This award saved my career. It supported my promotion and paved the way to my first NIH grant. I am deeply grateful.

It was my only support. It was a message that I could do this.

The Klingenstein Fellowship was the first award I received after starting my own lab. I had doubts as to whether I could be successful, bring in funding, bring new ideas to the field. The award addressed these concerns by giving me a huge confidence boost. No other funding I've received since has given me the emotional boost that this award provided.

I could pursue research that was risky with confidence that it would not end my career. It has been the single most important funding resource in my career.

I benefitted from the incredible community of other awardees my year and the years afterwards, as well as the networking and mentoring from the larger Klingenstein-Simons community.

respected vote of confidence.” Receipt was described as “a strong indication that my work was considered highly meritorious,” “that my research and ideas were important and fundable,” and “helped me feel that what I was doing was really worthwhile.”

- 6) *Network and Connection to Community* facilitated fellows’ “learning about colleagues’ research” and “collaborating with members of the Klingenstein community.” “Interactions with other fellows,” “networking with a distinguished peer group,” and forming “friendships and informal mentoring relationships” allowed award recipients to “build a network of connections” while stimulating new ideas for research. The annual meetings were the main source of these benefits, described as “excellent,” the “single most important” and “most exciting” part of the fellowship, “a wonderful opportunity,” and “instrumental in generating new ideas and for networking.”

Most Important Benefit

It provided ample and discretionary funding to pursue riskier projects that proved decisive in my research direction.

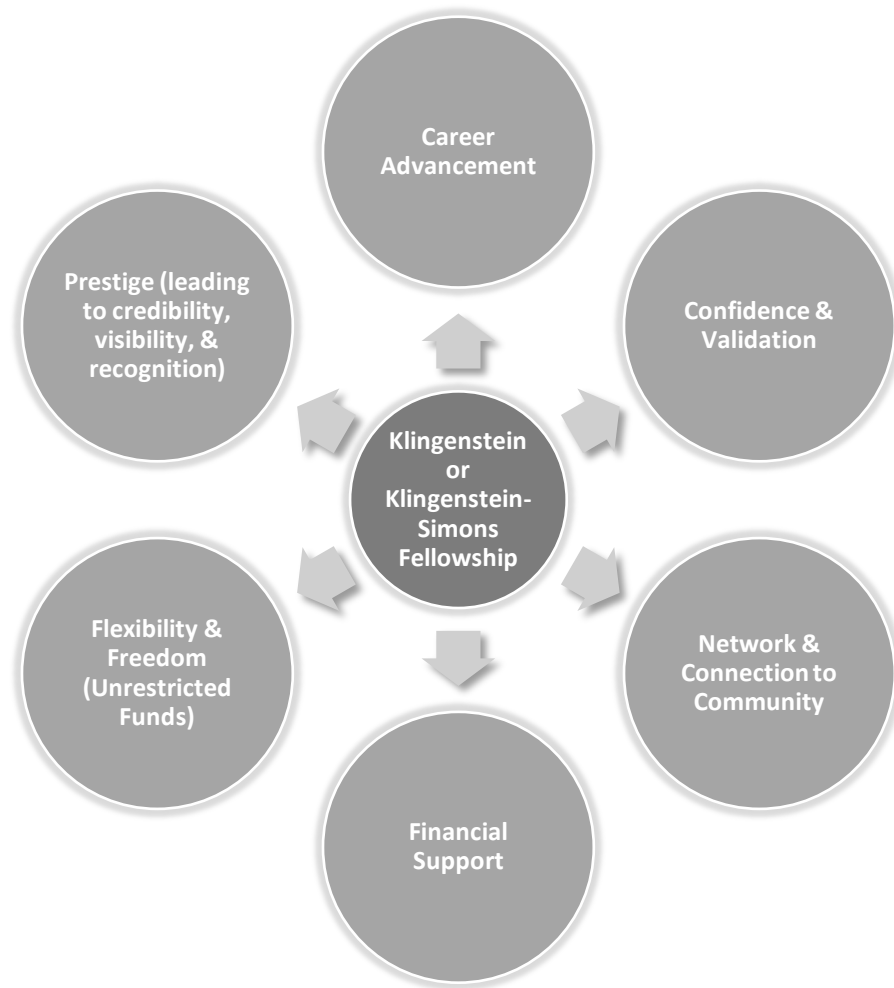
The most important benefit for me came from attending the annual meetings. These put me in informal discussions with a cadre of the most impressive young investigators, plus a selection of the senior leadership. These connections were immeasurably helpful to me in keeping me focused on high impact problems in neuroscience, and the friends/contacts I made have boosted confidence and streamlined my career development.

The most important element of the Fellowship was the complete discretionary nature of the funds.

The Klingenstein-Simons Fellowship is very prestigious, and so the impact goes far beyond the research support of the actual fellowship as it enables new opportunities for scientific collaboration as well as funding.

The money helped push the line of research I was pursuing (which others at the time were telling me to abandon). The other grants, fellowships, and awards I have won are special in their own way, but Klingenstein-Simons was the first and will always be particularly meaningful to me.

FIGURE 4. MOST IMPORTANT BENEFIT OF FELLOWSHIP
(N=251)



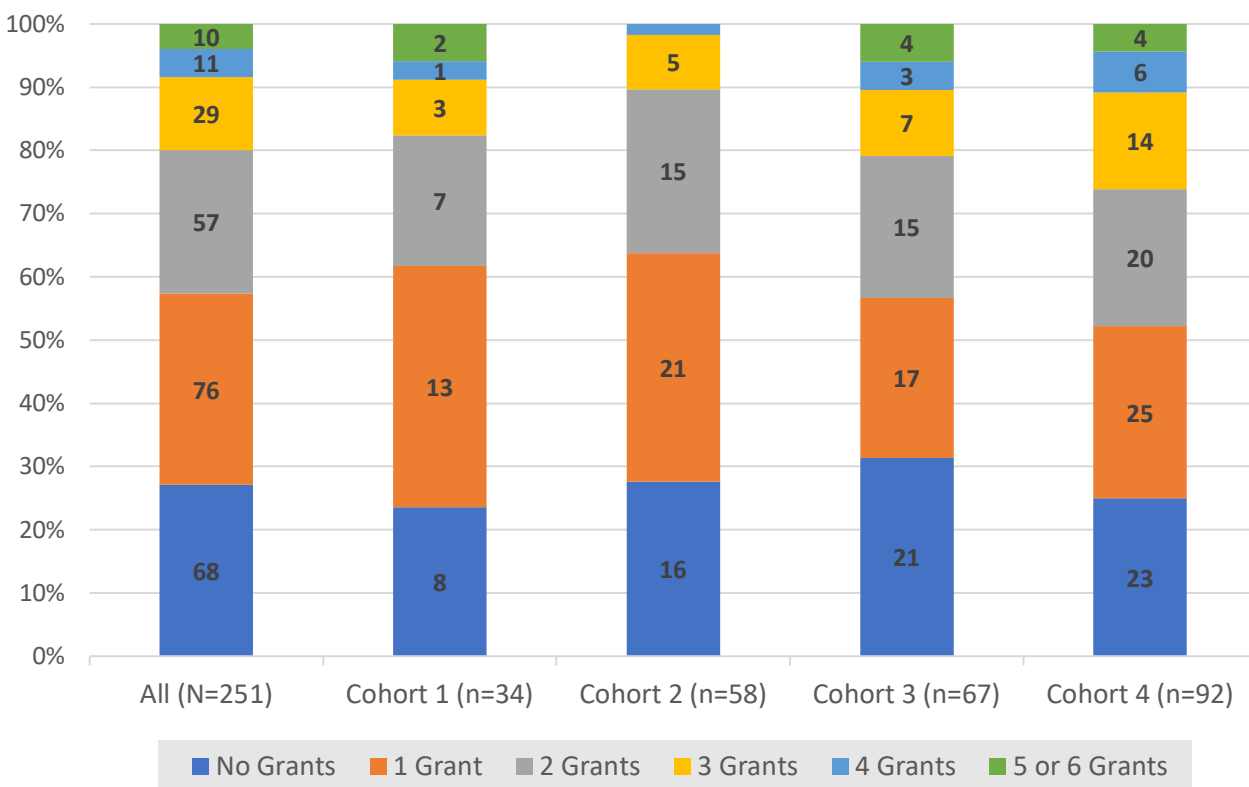
Additional Funding Supports

To understand receipt of other grants aside from their Klingenstein or Klingenstein-Simons Fellowship award, respondents received a series of questions regarding other support.⁷ It is important to note that respondents were offered a “not sure” choice to questions regarding receipt of other grants, thereby increasing confidence in the data reported (i.e., if a respondent was not sure, could not remember, or cared not to answer, he or she could select ‘not sure’ and skip the subsequent question about how many grants were received).

⁷ ‘Other support’ was defined as grants that did not include start-up funds or salary provided by their institution.

At the time of their Klingenstein or Klingenstein-Simons Fellowship award, 73% of fellows⁸ had received other grants. As indicated in Figure 5, the percentage of fellows *not* having received any other grants at the time of the Klingenstein award remained fairly steady over time, hovering between 24% (cohort 1) and 31% (cohort 3). The percentage of fellows with one grant at the time of the award dropped slightly from 38% (cohort 1) to 27% (cohort 4). Most significant is the increase in three or more grants at time of award: only 10% of cohorts 1 and 2 had three or more grants at time of award in contrast to 21% and 26% of cohorts 3 and 4.

FIGURE 5. OTHER GRANTS AT TIME OF KLINGENSTEIN AWARD

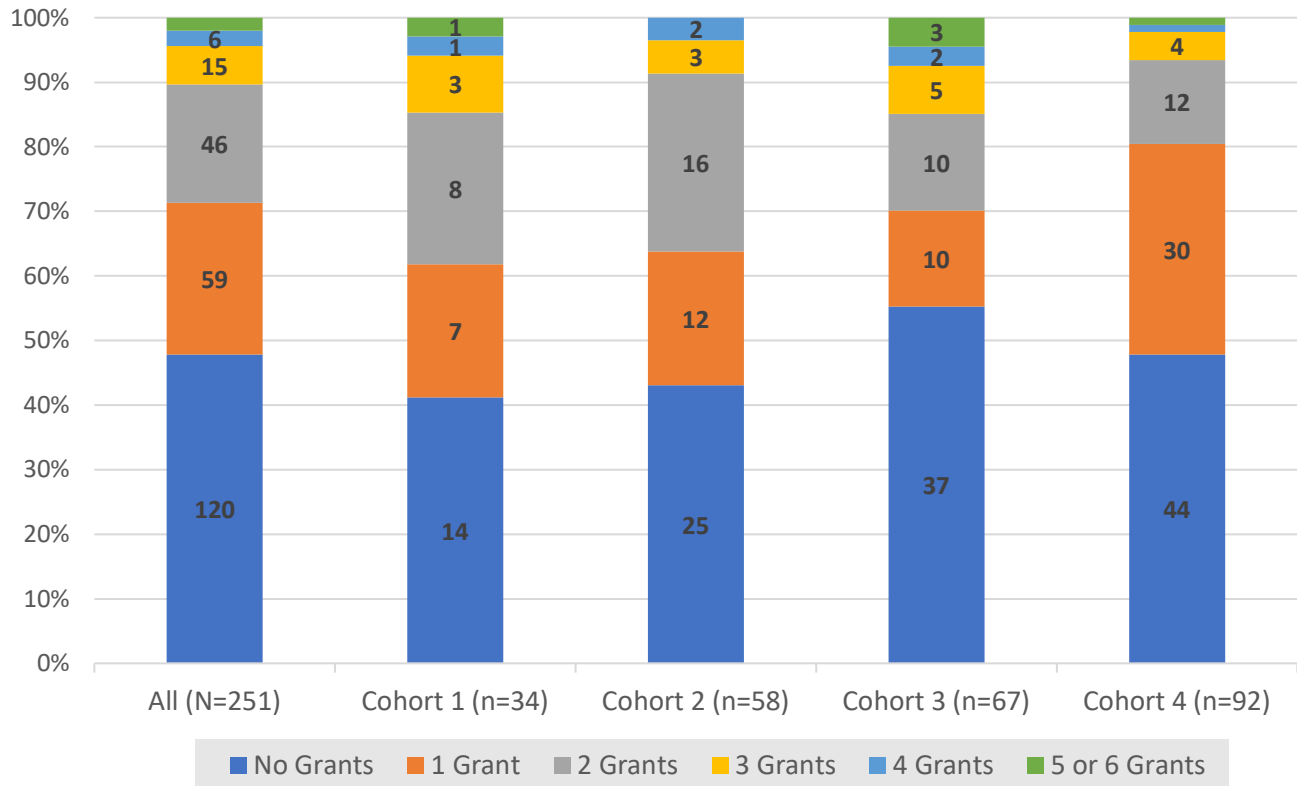


Prior to receipt of their Klingenstein or Klingenstein-Simons Fellowship award, 52% of fellows had received other grants. As indicated in Figure 6, the percentage of fellows *not* having other grants prior to the Klingenstein award increased over time, from 41—43% (cohorts 1 and 2) to 55% of cohort 3 and 48% cohort 4. Also increasing over time was the percentage of fellows who had received only one grant prior to the Klingenstein award: 21% of cohorts 1 and 2 received

⁸ The term “fellows” is used interchangeably with “respondents” although data and insights reported are from survey respondents only. Given the 75% survey response rate, this data represents the majority of fellows.

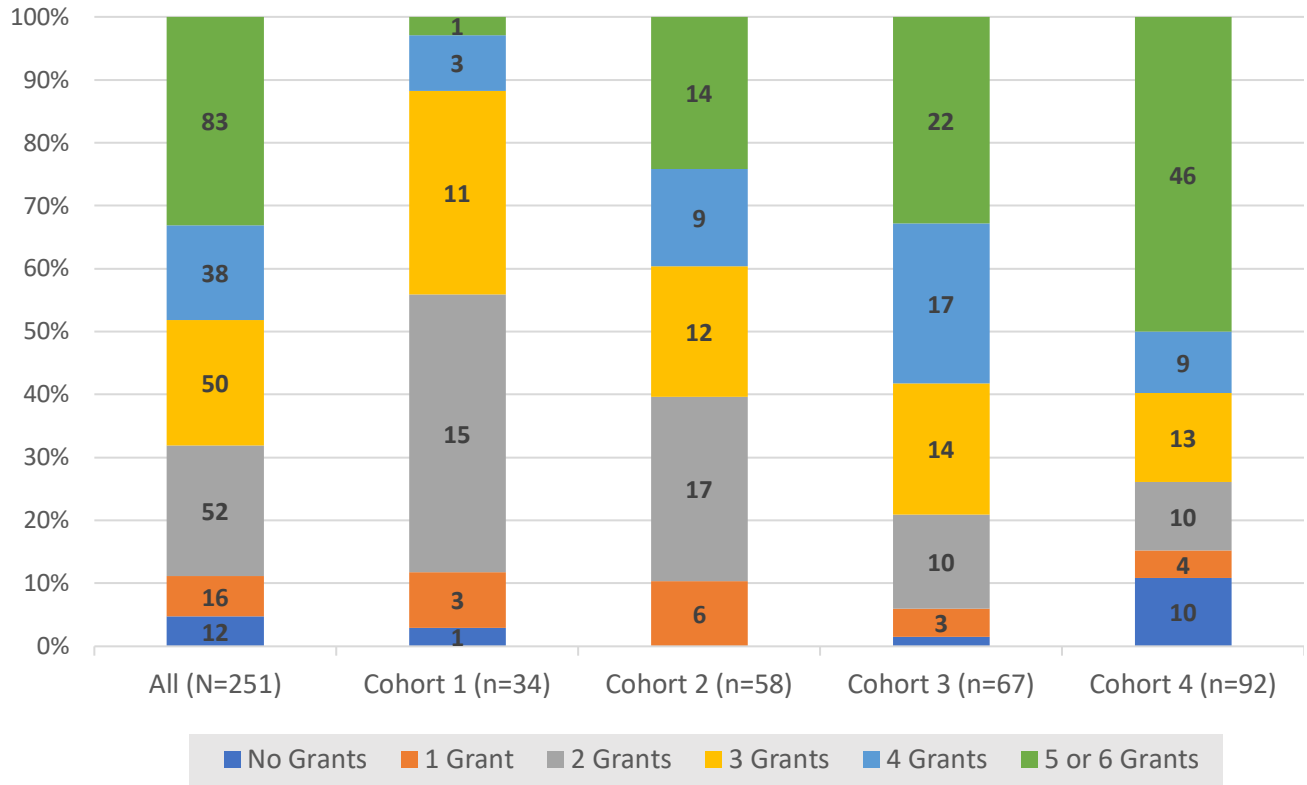
only one grant versus 33% of cohort 4. Alternatively, the percentage of fellows who had received two grants prior to the Klingenstein award decreased by half over time (from 24% of cohort 1 to 13% of cohort 4), as did the percentage of those who had received three grants previously (from 9% of cohort 1 to 4% of cohort 4).

FIGURE 6. OTHER GRANTS PRIOR TO KLINGENSTEIN AWARD



In the five years following their Klingenstein or Klingenstein-Simons Fellowship award, 95% of fellows had received other grants. As indicated in Figure 7, the percentage of fellows receiving grants across Cohorts 1, 2, and 3 remained high (97% or above). It is reasonable that Cohort 4 had a slightly lower percentage (11%) reporting receipt of grants following their award because this cohort includes the most recent grantees. The data reveal a clear trend in more fellows over time receiving five or six grants in the years following their Klingenstein award: whereas 3% of fellows in Cohort 1 received five or six grants post-fellowship, 24% in Cohort 2, 33% in Cohort 3, and 50% in Cohort 4 received at least five grants post-fellowship.

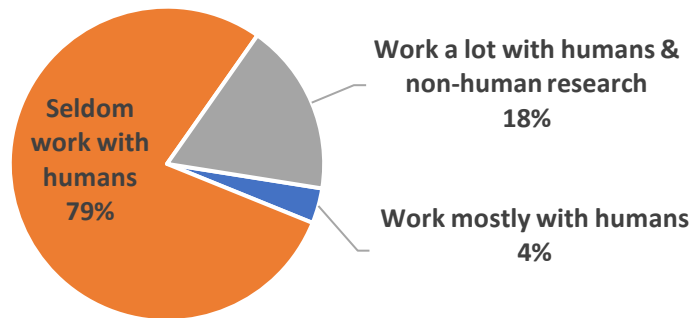
FIGURE 7. OTHER GRANTS FOLLOWING KLINGENSTEIN AWARD



Contributions to the Field

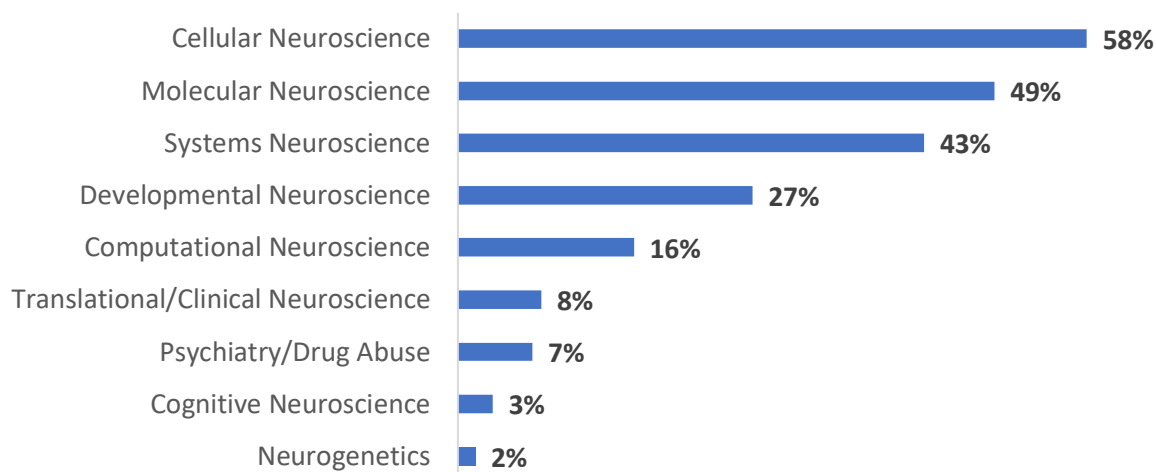
The majority of fellows (79%) seldom work with humans, as shown in Figure 8.

FIGURE 8. PRIMARY FOCUS OF WORK
(N=248)



Respondents selected the category that best describes the nature of their work. As shown in Figure 9, more than half (58%) work in Cellular Neuroscience, followed closely by those who work in Molecular Neuroscience (49%) and in Systems Neuroscience (43%). Fewer work in Developmental Neuroscience (27%) and Computational Neuroscience (16%), and less than 10% indicated work in Translational and Clinical Neuroscience, Psychiatry and Drug Abuse, Cognitive Neuroscience, or Neurogenetics. Not represented in Figure 9 are two categories selected by only 1% of respondents: Other⁹ (which includes Evolutionary Neuroscience and Education) and Technology Development.

FIGURE 9. NATURE OF WORK
(N=248)¹⁰



Analysis by cohort revealed no clear patterns in Developmental Neuroscience, Translational/Clinical Neuroscience, or Psychiatry/Drug Abuse; Cognitive Neuroscience and Neurogenetics had too few fellows to draw meaningful conclusions. However, four areas increased in popularity with each cohort:

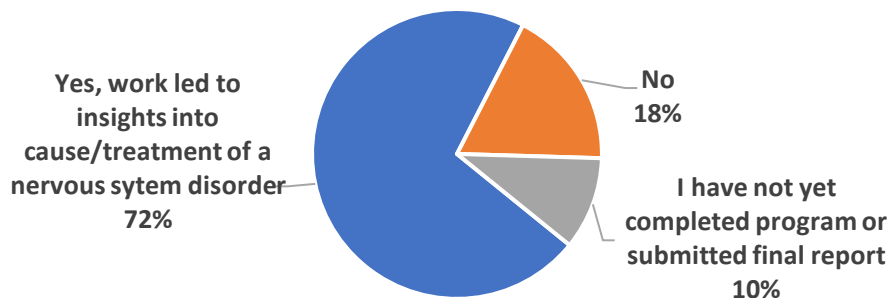
- *Systems Neuroscience*: Greatest, steady increase from 10 fellows in cohort 1→18 in cohort 2→28 in cohort 3→50 in cohort 4.
- *Molecular Neuroscience*: Steady increase in popularity from 16 fellows in cohort 1→30 in cohort 2→42-43 in cohorts 3 and 4.
- *Computational Neuroscience*: Early increase in popularity from 2 fellows in cohort 1→12-14 fellows in cohorts 2, 3, and 4.
- *Cellular Neuroscience*: Single, significant increase in popularity from 28-30 fellows in cohorts 1 and 2→42-43 fellows in cohorts 3 and 4.

⁹ Initially, 35 respondents selected 'Other,' but members of the Neuroscience Advisory Committee assisted with recoding data, thereby reducing the number of 'Other' responses to three.

¹⁰ Respondents could 'select all' categories that apply.

Nearly three-quarters of respondents (72%) indicated that their work—including basic research—led to insights into the cause or treatment of a disorder of the nervous system, as shown in Figure 10.

FIGURE 10. FELLOWS WITH WORK LEADING TO INSIGHTS REGARDING THE NERVOUS SYSTEM (N=251)



Through two open-ended questions, respondents described *the impact of their work leading to insights into the cause or treatment of a disorder of the nervous system* (n=180) and *the most meaningful research accomplishments in their career* (n=247). Members of the Neuroscience Advisory Committee determined the most meaningful strategy for interpreting these data would be to categorize respondents' accomplishments into three categories—foundational, disease mechanism/translational, and therapy—and their insights into the cause or treatment of a disorder by type of disease. The matrix used to analyze respondents' qualitative data is displayed in Table 2, along with the number of fellows contributing to each dimension¹¹. By far, the majority of fellows' contributions to the field are foundational, with the greatest insights into neuro-psychiatric diseases, followed by insights into neuronal excitability, and then an equal number of insights into special senses and motor systems.

¹¹ Some respondents were assigned more than one code, so they are represented (counted) in multiple categories.

TABLE 2. TYPES OF CONTRIBUTIONS TO NEUROSCIENCE
(N=213)¹²

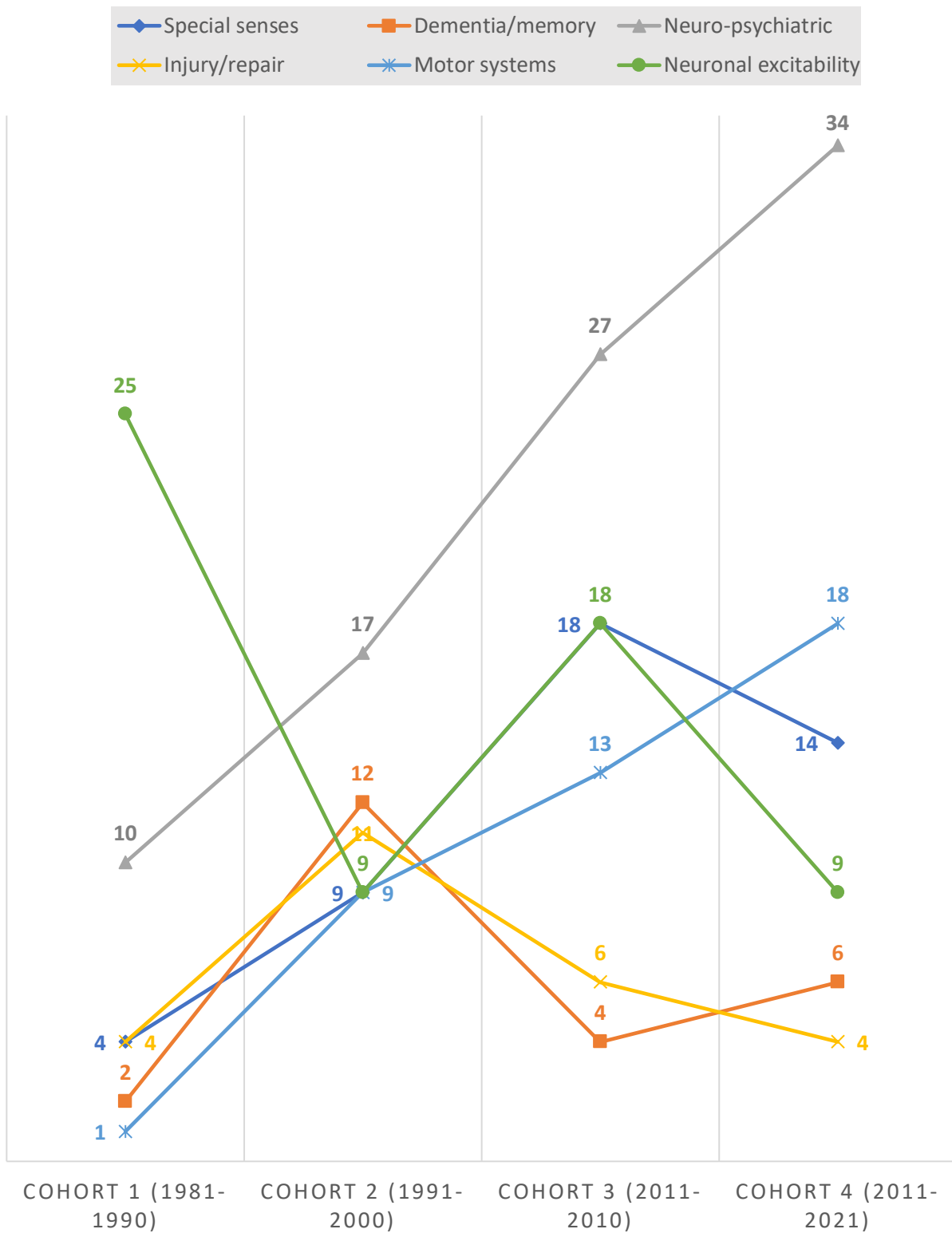
	Foundational	Disease Mechanism	Therapy	TOTAL
Special senses (e.g., vision, hearing, touch)	36	7	2	45
Dementia/memory (e.g., Alzheimer's, Frontotemporal Dementia)	15	6	3	24
Neuro-psychiatric (e.g., depression, anxiety, ASD, schizophrenia, bipolar)	61	17	10	88
Injury/repair (trauma/vascular disease)	17	6	2	25
Motor systems (Parkinson's, ALS, Huntington's, neuromuscular disease)	22	12	7	41
Neuro-oncology	2	2	3	7
Neuro-immune interactions (including infectious diseases of the nervous system)	5	2	0	7
Neuronal excitability (epilepsy, pain)	41	13	7	61
Substance abuse, addiction	8	0	1	9
TOTAL	207	65	35	307

Analysis of how fellows' insights into the cause or treatment of particular diseases over time revealed interesting patterns. As shown in Figure 11¹³, the number of fellows with insights into neuronal excitability has decreased (although unevenly), while the number of fellows with insights into neuro-psychiatric diseases and motor systems has steadily increased. There was a spike in the number of insights into injury/repair and dementia/memory among Cohort 2 fellows, but the numbers declined by Cohort 4 to match (or nearly match) the number of insights among Cohort 1 fellows. Finally, the number of insights into special senses rose steadily across Cohorts 1, 2, and 3, but declined in Cohort 4.

¹² Analysis was conducted on all respondents (n=251), regardless of whether they described qualitatively how their work led to insights into the cause or treatment of a disorder of the nervous system or the most meaningful research accomplishments of their career. However, when there was not enough data in a respondent's answers to either or both questions, the fellow was not coded and therefore not included in analyses.

¹³ Note that Figure 11 does not display changes into categories with fewer than 10 insights (i.e., neuro-oncology, neuro-immune interactions, and substance abuse/addiction).

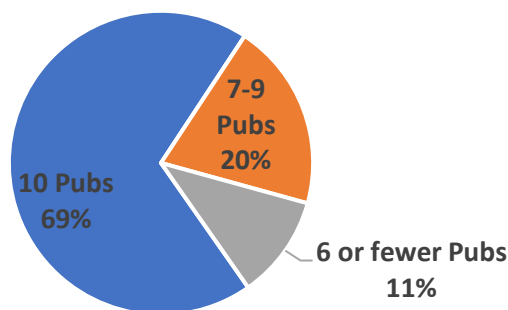
FIGURE 11. CHANGES IN NUMBER OF INSIGHTS OVER TIME
(N=213)



Accomplishments

Many respondents (n=225, 90%) listed up to ten publications or research products that best highlight their accomplishments. As illustrated in Figure 12, more than two-thirds (69%) listed 10 publications, and another 20% listed between seven and nine. In total, they listed 186 unique publications that included journals, books, reviews, and conference proceedings.

FIGURE 12. NUMBER OF PUBLICATIONS
(N=225)



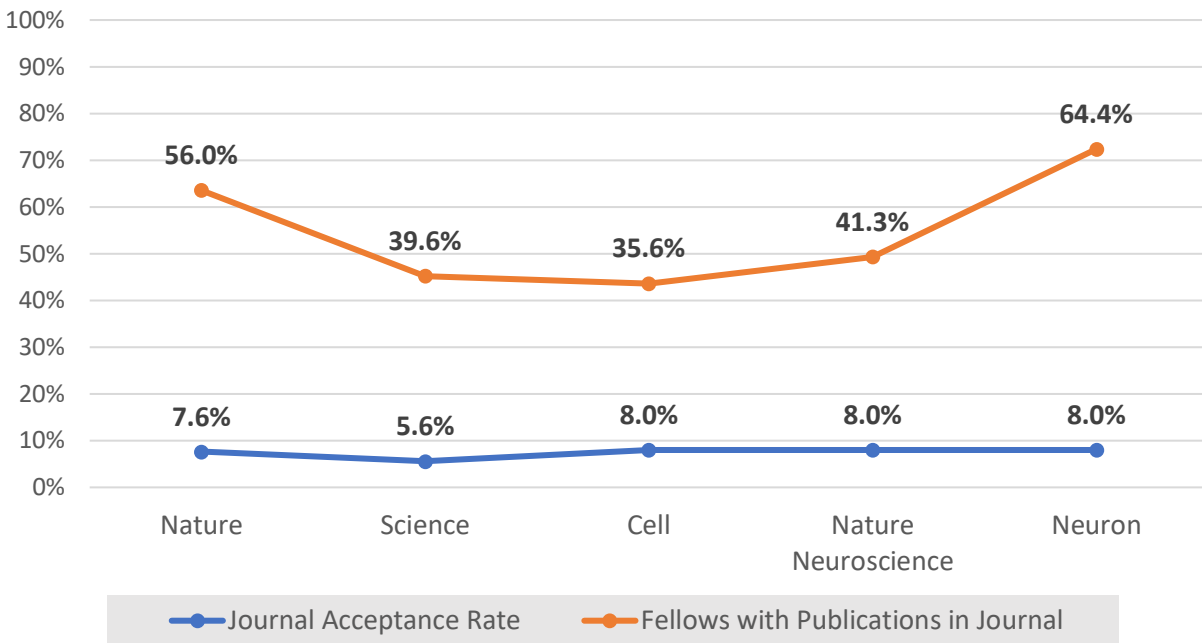
Three strategies were used to evaluate the numerous and varied publications of fellows. First was an *analysis of fellows' publication rates in the most rigorous, peer-reviewed journals* (agreed upon unanimously by members of the Neuroscience Advisory Committee): Nature, Science, Cell, Nature Neuroscience, and Neuron. Figure 13 presents the percentage of respondents who listed at least one publication in these journals against the acceptance rate for publication in that journal¹⁴. Across the five highly esteemed journals in neuroscience, fellows published at rates four to eight times greater than average acceptance rates.

It is important to note the limitations of interpreting accomplishments according to publications generally and compared to journal acceptance rates. First, the method of calculating acceptance/rejection rates varies among journals. Whereas some journals consider all manuscripts submitted as the basis for acceptance rate computation, others may only consider the manuscripts sent for peer review (i.e., selected by the editor). Other parameters to consider include the demand or interest of scientists in publishing in a specific journal, the peer review process and timeline, the mix of solicited and unsolicited submissions, and the variability in accurate record-keeping by editorial departments. In addition, the most prestigious journals receive substantially more submissions than they can accommodate in publication, regardless of

¹⁴ Acceptance rates for Nature, Science, and Nature Neuroscience are posted on each journal's website. None are available online for Cell or Neuron. Via email on 11/18/21, a Senior Media & Communications Manager of Cell Press confirmed that "our journal acceptance rates are not shared externally." Given the comparable prestige of these journals to the other three, a similar, conservative acceptance rate was used for both in Figure 13 (although it is likely that acceptance rates for Cell and Neuron are less than 8%).

merit. New areas of exploration (e.g., Computation Neuroscience) may not be widely accepted or granted opportunities to publish in traditional, prestigious journals. At best, publications should be interpreted as only one, rough estimation of accomplishment.

FIGURE 13. PERCENTAGE OF FELLOWS WITH PUBLICATIONS IN MOST RIGOROUS JOURNALS
(N=225)



A second strategy for interpreting fellows’ publications was the *calculation of an h-index for each survey respondent* (n=251). The h-index is a sophisticated metric of productivity because it reflects not only the number of papers or the number of citations but takes both into account. From the Web of Science website¹⁵, “The h-index is based on a list of publications ranked in descending order by the Times Cited. The value of h is equal to the number of papers (N) in the list that have N or more citations. This metric is useful because it discounts the disproportionate weight of highly cited papers or papers that have not yet been cited. It has some indication of the number of well-cited papers...and provides an interesting complement to other performance metrics, since it is not influenced by a single highly cited paper.” Other online sources note the increasing significance and use of the h-index to assess the quantity and quality of a scientist’s contributions and predict future productivity and influence.¹⁶

¹⁵ https://support.clarivate.com/ScientificandAcademicResearch/s/article/Web-of-Science-h-index-information?language=en_US

¹⁶ <https://www.journal-publishing.com/blog/good-h-index-required-academic-position/>

Like all citation-based metrics, the h-index is not without biases and limitations. It can only be calculated on papers that are published, is based on ‘times cited’ data from a database that does not include citations from non-indexed sources, and is highly dependent on subject area. Thus, a fellow in Translational Neuroscience may have a higher h-index than someone in Computational Neuroscience (a relatively newer field). Similarly, if a neuroscientist conducts research in a small field, or a field where fewer publish, his or her h-index is likely small; for example there are many more Molecular than Computational Neuroscientists. As one advisor explained, “a superstar in a very small field will have a lower h-index than a mediocre investigator in a very large field.” Recognizing that publication and citation patterns differ across disciplines and fields of study is critical when considering the h-index and other publication metrics (e.g., impact factor). Counting the prestige of a journal also diminishes the significant accomplishments of some scientists, particularly if their findings are novel or less readily ‘accepted,’ therefore posing barriers to publication and consequently a higher h-index.

Other limitations are also important to acknowledge.¹⁷ The h-index does not account for publications with citation numbers far above a researcher’s h-index or distinguish any difference between publications with a single author or many. Older publications are counted equally to new ones, such that older scholars benefit regardless of whether they have published anything recently. Finally, the h-index does not account for the length of a publication or the nature of citations (positive or negative). When considered by hiring or funding committees, the h-index is only one of many metrics evaluated.

Despite these caveats, with the recognition that the h-index is commonly considered to be a reliable, enduring, and robust metric¹⁸ commonly included in databases¹⁹ to inform academic appointments, research awards, and membership in academies, members of the Neuroscience Advisory Committee, leadership of Klingenstein Philanthropies, and this evaluator identified the h-index as one proxy for assessing the scholarly achievement of fellows. A Duke University team used the Web of Science to identify an h-index for each survey respondent. Of 251 respondents, they successfully identified an h-index for 245 survey respondents.

Next was the establishment of a benchmark by which to interpret the meaning of these h-indices. A critical component of the h-index is the number of years in the field (i.e., it is strongly career-stage dependent). As one Advisor pointed out: “An outstanding young scientist who has published 20 great papers cannot have an h-index greater than 20.” Interpretation of the h-index is meaningful only when analyzed by cohort since the survey collected data from neuroscientists across four cohorts/four decades.

¹⁷ <https://www.journal-publishing.com/blog/good-h-index-required-academic-position/>

¹⁸ See rationale for study of h-index: <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0253397>

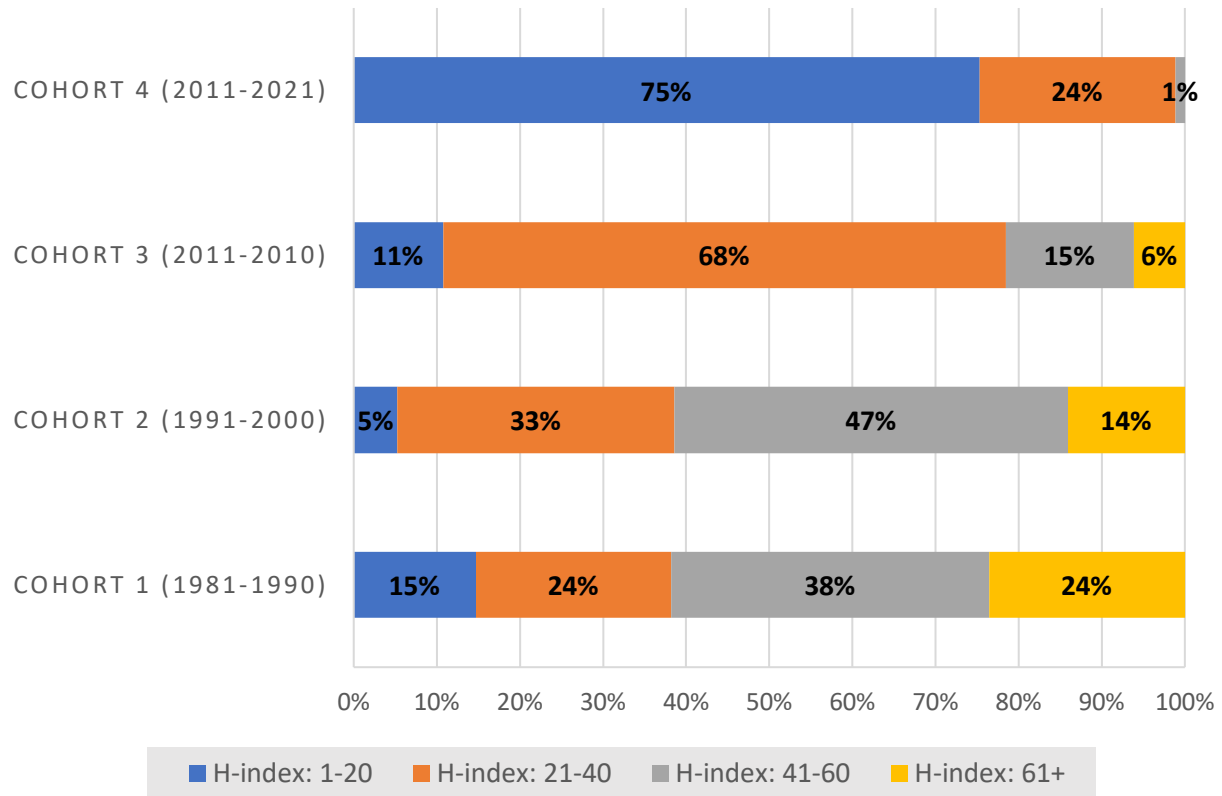
¹⁹ Popular databases include Elsevier’s Scopus, Clarivate Analytics’ Web of Science, and Google Scholar.

Establishing a reliable benchmark proved challenging given the nuances of h-index calculations and the need to define a comparable population of neuroscientists. The Web of Science consulting services team could provide such a benchmark, but for an exorbitant fee of \$10,000. Advisors with a subscription to the Web of Science could determine a benchmark with guidance provided by the consulting services team, but it would require an immense amount of time and staff resources. Ultimately, benchmarks were established through the educated estimates of an Advisor and online research conducted by the evaluator. The ranges for “typical” highly successful neuroscientists, by career stage, are estimated as follows:

- Assistant or associate professor: 1-20
- Full professor, early-career: 20-40
- Full professor, mid-career: 41-60
- Full professor, well-established/late-career: Over 60

As shown on Figure 14, fellows’ h-indices follow expected patterns over time, as indicated by the fellows in Cohort 1 having the greatest percentage with an h-index over 60 (in yellow) and no fellows in Cohort 4 having an h-index in this category. Fellows’ scholarly achievement is also depicted: nearly two-thirds of fellows in Cohorts 1 and 2 have an h-index over 40, over one-fifth of fellows in Cohort 3 have an h-index over 40, and one-quarter of fellows in Cohort 4 (the most recent cohort which includes current fellows) have an h-index over 20. These results suggest that fellows match or exceed the “typical” highly successful neuroscientist. It is significant to note that 13 fellows across Cohorts 1, 2, and 3 have an h-index over 70, ranging from 72-150.

FIGURE 14. DISTRIBUTION OF FELLOWS' H-INDEX BY COHORT
(N=245)



The third strategy employed to interpret fellows' publications and their contribution to the field involved review of respondents' data by members of the Neuroscience Advisory Committee and *identification of exemplars for their significance to the field*. The fifteen publications (with fellows' names in black bold) in Figure 15 represent the kind of quality work and impact of Klingenstein/Klingenstein-Simon grantees, although by no means present an exhaustive list. Rather, they represent the types of transformative discoveries that are key steps and contributors to subsequent investigations²⁰.

²⁰ Descriptions of the meaning of discoveries published were written by Neuroscientists of the Advisory Committee.

FIGURE 15. EXAMPLES OF FELLOWS' SIGNIFICANT PUBLICATIONS

Anthony J. Martorell... Li-Huei Tsai . (2019) Multi-sensory Gamma Stimulation Ameliorates Alzheimer's-Associated Pathology and Improves Cognition. <i>Cell</i> , 4 April 2019; Volume 177, Issue 2, P256-271	• Pioneering a novel, non-invasive therapeutic approach to Alzheimer's. Ongoing clinical trials will reveal efficacy; if it works it would be a major medical advance.
Ben-Zvi, A., Lacoste, B., Kur, E., Andreone, B.J., Mayshar, Y., Yan, H., Gu, C. (2014) Mfsd2a is critical for the formation and function of the blood brain barrier. <i>Nature</i> , 509(7501):507-11	• New views of how the Blood-Brain Barrier is formed and maintained, which may provide new ways to open it, enabling better delivery of drugs for brain disorders.
Papazian, D.M., Schwarz, T.L., Tempel, B.L., Jan, Y.N., and Jan, L.Y. (1987). Cloning of genomic and complementary DNA from Shaker, a putative potassium channel gene from <i>Drosophila</i> . <i>Science</i> 237:749-753. PMID: 2441470	• First molecular cloning of an ion channel.
Cheng, H-J, Nakamoto, M, Bergemann, AD, Flanagan, JG (1995) Complementary gradients in expression and binding of ELF-1 and Mek4 in development of the topographic retinotectal projection map. <i>Cell</i> 82: 371-81	• Discovered a long-sought "specificity molecule" that underlies the orderly mapping of connections among brain areas. (Independently discovered by F. Bonhoeffer)
Qian X, Nguyen HN, Song MM, Hadiono C, (24 authors), Song H* , Ming GL*. (2016). Brain-region-specific organoids using mini-bioreactors for modeling ZIKV exposure. <i>Cell</i> 165(5):1238-1254 (*co-corresponding authors)	• Perhaps the first use of brain organoids to gain insight into pathogenesis of a brain disease.
Svardal H...Howe Kerstin*, Myers EW*, Durbin R*, Phillippy AM*, and Jarvis ED* . Towards complete and error-free genome assemblies of all vertebrate species. (2021) <i>Nature</i> . 592:737-746 (*co-corresponding authors)	• Began by leading a massive genome sequencing effort in support of his studies on brain evolution; now moving to an audacious program of sequencing all vertebrate species.
Cong L, Ran FA, Cox D, Lin S, Barretto R, Habib N, Hsu PD, Wu X, Jiang W, Marraffini L, Zhang F. Multiplex genome engineering using CRISPR/Cas systems. <i>Science</i> (2013)	• Early pioneer in CRISPR-based genome editing technology, who has continued to advance the field. (Viewed as potential third recipient of the Nobel Prize that Doudna and Charpentier won)
Zemelman, B.V., Lee, G.A., Ng, M., and Miesenböck, G. (2002) Selective photostimulation of genetically chARGed neurons. <i>Neuron</i> 33: 15-22.	• First optogenetic probe and then first use of an optogenetic probe to investigate relationship of neural circuits to behavior.
Lee T, and Luo L (1999). Mosaic analysis with a repressible cell marker for studies of gene function in neuronal morphogenesis. <i>Neuron</i> 22: 451-461	• Invention of MARCM method, a major tool for studies of neural development, circuitry and behavior in flies. Later used to make key discoveries about <i>Drosophila</i> circuit development and invented a vertebrate version (MADM).
Serafini, T., Kennedy, T., Galko, M., Mirzayan, C., Jessell, T. and Tessier-Lavigne, M. (1994) The netrins define a family of axon outgrowth-promoting proteins homologous to <i>C. elegans</i> UNC-6. <i>Cell</i> 78: 409-424	• Identified many key axon guidance factors in mammals, beginning with netrins and their receptors. Later looked into roles of these and others in neural injury and neurodegeneration.
Sun F, Park KK, Belin S, Wang D, Lu T, Chen G, Zhang K, Yeung C, Feng G, Yankner BA, and He Z. Sustained axon regeneration induced by co-deletion of PTEN and SOCS3. <i>Nature</i> 2011 480, 372-375, 2011	• Discovered interventions that promote survival and axon regeneration of neurons after injury.
Crystal structure of a bacterial homologue of Na ⁺ /Cl ⁻ -dependent neurotransmitter transporters. Yamashita A, Singh SK, Kawate T, Jin Y, Gouaux E. <i>Nature</i> . 2005 Sep 8;437(7056):215-23	• Determined atomic structures of crucial neuronal ion channels and transporters. His contributions are arguably second only to those of Nobel Laureate Rod McKinnon.
Han L... Dong X. A subpopulation of nociceptors specifically linked to itch. <i>Nature Neuroscience</i> 2013 16:174-182	• Identified the receptors and neurons that mediate the sensation of itch.
Trudeau, M. C., Warmke, J. W. Ganetzky, B. and G. A. Robertson 1995. HERG, a human inward rectifier in the voltage-gated potassium channel family. <i>Science</i> 269:92-95	• Identified and determined the molecular structures of important ion channels, including the hERG channel, a critical determinant of cardiac rhythm.
Nowakowski TJ... Kriegstein AR. (2017) Spatiotemporal gene expression trajectories reveal developmental hierarchies of the human cortex. <i>Science</i> . 358(6368):1318-1323	• Integrated cellular and molecular analyses of the development of the human cerebral cortex.

Most respondents (n=222, 88%) listed up to five honors and awards of which they are most proud. As illustrated in Figure 16, more than two-thirds (67%) listed at least 4 awards. Table 3 displays the broad types of awards received by fellows according to type (e.g., prize, fellowship) or basis for recognition (e.g., teaching, innovation), source (e.g., NIH, National Academy of Science), foundation, and name²¹. Several types of organizations awarded fellows honors and awards. These include *Foundations* (McKnight, Sloan, Whitehall, MacArthur Parkinson's Disease, Helen Hay Whitney, Rita Allen, Brain Research, W.M. Keck, Smith, Gruber, Fulbright, Kavli, Searle, Javits, NARSAD), *Universities*, and *Organizations* (NSF, NAS).

As noted in Table 3, a number of fellows who responded to the survey have been elected to the prestigious *National Academy of Sciences* (n=16) and *National Academy of Medicine* (n=13). Members are elected to the National Academy of Sciences in recognition of their distinguished and continuing achievements in original research. Membership is a widely accepted mark of excellence in science and is considered one of the highest honors that a scientist can receive.²² Similarly, members are elected to the National Academy of Medicine, for recognition of professional achievement and commitment to volunteer service in activities of the National Academies of Sciences, Engineering, and Medicine. For those at the top of their field, membership reflects the height of professional achievement and commitment to service.²³

This data should be interpreted with caution, however, for several reasons. First, many respondents copied and pasted this data from their CV, so it is possible that the honors and awards reported may not be their 'highest,' but their most or least recent (depending on the order of items on their CV). Some included more than five honors and awards or provided a website link where multiple awards were listed; in these instances, the evaluator selected five for inclusion in this report. Others listed awards like the Klingenstein Fellowship or achievement of a Ph.D., which were excluded from analyses. Finally, data represents honors and awards received by all fellows across cohorts, including current fellows who are likely to have received fewer honors and awards.

²¹ Names of select prestigious awards were suggested by members of the Neuroscience Advisory Committee.

²² <http://www.nasonline.org/membership/>

²³ <https://nam.edu/about-the-nam/>

FIGURE 16. NUMBER OF HONORS AND AWARDS
(N=222)

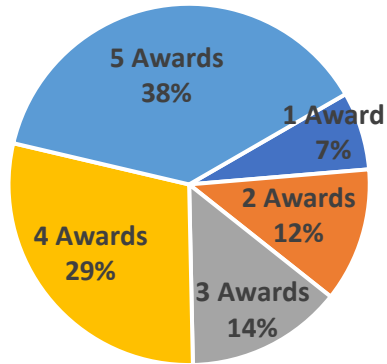


TABLE 3. TYPES OF HONORS AND AWARDS
(N=222)

Honors and Awards	Number of Recipients
<i>By Type (or basis for recognition)</i>	
Science/Scientist Award	156
Fellow/Fellowship (not including Klingenstein)	141
Research Award	101
Scholar Award	80
Investigator/Young Investigator Award	81
Society Award	59
Prize	40
Career or Lifetime Achievement Award (e.g., PECASE)	34
Distinguished Lecturer or Lecture or Lectureship	32
Faculty or Teacher Award	32
Innovation/Innovator	32
Excellence (in Education, Research, Mentoring, Sciences)	20
Outstanding (Mentorship, Alumnus, Paper, Award)	17
<i>By Source</i>	
NIH (e.g., Early Independence, New Innovator, Pioneer)	50
NARSAD	24
Society for Neuroscience (award, prize)	18
NSF (Postdoctoral, Career)	16
National Institute of Neurological Disorders and Stroke (NINDS)	16
American Academy of Arts and Sciences (member, fellow)	16
National Academy of Sciences	16
National Academy of Medicine	13
<i>By Foundation</i>	
Sloan Fellowship	44
McKnight Scholar/Award	40
Kavli Fellow/Award/Scholar	18
Searle Scholar	17
Javits Award	15
Pew Scholar	15
Whitehall Foundation Award/Grant	10
Rita Allen Scholar	7
<i>By Name</i>	
Society for Neuroscience Young Investigator Award	6
Gruber Prize in Neuroscience	3
Pradel Research Award of the National Academy of Sciences	2
Grass Foundation Lecturer	2
The Brain Prize	1
Champalimaud Vision Award	1
Canada Gairdner International Award	1

A high number of respondents (n=192, 76%) listed up to five notable leadership positions held during their career, although slightly fewer answered this question than previous questions regarding publications, honors, and awards. As illustrated in Figure 17, nearly half (41%) listed at least 4 leadership positions. Figure 18 displays the broad types of leadership positions held by fellows: *Director/Co-Director/Associate Director/Deputy Director* (of program, Clinic, Center, Institute, Project, Society, Collaborative); *Chair/Vice-Chair/Co-Chair/Associate Chair/Head/Chief* (of Committee, Department, Division, Graduate Program, Forum, Conference, Council, Project, Advisory Board, Study Section, Society, Department, Laboratory); *Member* (of committee, council, task force, society, study section); *Board Member* (of society, association, foundation, advisory, scientific, editorial); *Leader, Organizer* (of conference, symposium, seminar series, retreat, society meeting, planning group), or *Trustee* of a Society; *Editor* (Senior, Associate, in-Chief/Chief, Reviewing, Section) or Editorial Board; *Study section* (e.g., NIH); *University Provost or Dean*; *Founder/Co-Founder* (of company, extramural series, research or working group, program, center); *President/Vice President* (University, Society, Company).

Several types of organizations have been served by fellows in leadership positions. These include *National Institutes* (NIH, NIMH, NSF), *Universities* (e.g., MIT, Yale, Johns Hopkins, Duke, Stanford, UCLA, SUNY, Columbia, UCSF, NYU, Washington U, USC, U of Pittsburgh, Harvard, Brown, UC Berkeley, UC Davis, U of WA, The Rockefeller U, U of PA, University of MI, UT Southwestern, Tufts, Peking, Northwestern, University of Oxford, Texas A&M, Albert Einstein College of Medicine, U of Chicago, Dartmouth, U of MA, U of Utah, Georgia Tech), and *Foundations* (Carnegie, AnswerALS, Michael J. Fox, Hereditary Disease, Grass, Glaucoma Research, A.P. Giannini, Synapsis F of Alzheimer Research, McKnight, Searle, International OCD, Brain and Behavior Research, Parkinson's).

Many of the same caveats apply to interpretation of this data as those mentioned previously for interpretation of honors and awards. That is, only the leadership positions provided in response to this survey item are reported, even though there may be others that are 'higher' but were not as readily accessible for copying and pasting from respondents' CVs. Some listed more than five leadership positions or provided a website link where multiple positions were listed; in these instances, the evaluator selected five for inclusion in this report. Others listed positions such as professor, assistant professor, associate professor, instructor, investigator, and research associate; these were excluded from analyses because other survey items solicited information on academic positions. Finally, data represents leadership positions held by all fellows across cohorts, including current fellows who may have achieved fewer leadership positions.

FIGURE 17. NUMBER OF LEADERSHIP POSITIONS
(N=222)

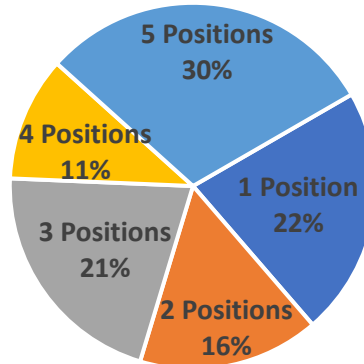
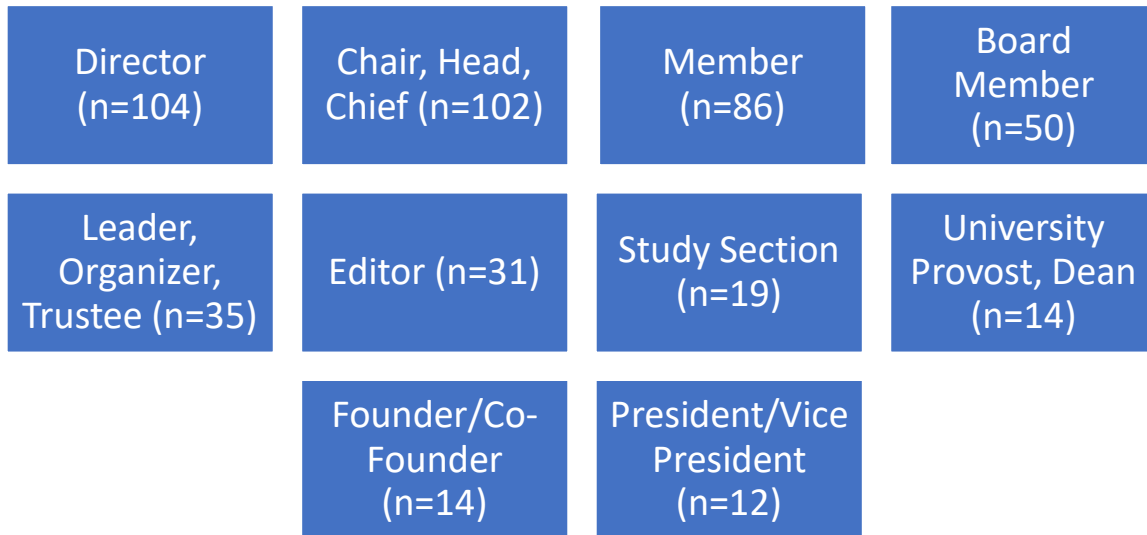


FIGURE 18. TYPES OF LEADERSHIP POSITIONS
(N=222)



A large number of respondents (n=221, 88%) uploaded their current CV to the survey platform. A zip file of these CVs has been provided to Klingenstein Philanthropies.

Fellowship Conferences

In-person Klingenstein-Simons Neuroscience Fellowship conferences were held annually between 2013 and 2019. Recent fellows in Cohort 4 were required to present and a select few, former fellows were invited. Among survey respondents, 42% (n=104) attended or presented at an in-person Klingenstein-Simons Neuroscience Fellowship Conference. Among them, one-third (31%) reported that the meeting(s) led to scientific collaborations.

Satisfaction among attendees of fellowship conferences was high. Using a 5-point Likert scale where 1=much less satisfying than other conferences, 2=somewhat less satisfying, 3=about the same, 4=somewhat more satisfying, and 5=much more satisfying, the mean rating was 4.4. As shown in Figure 19, 84% found Klingenstein-Simons Neuroscience Fellowship Conferences more satisfying than similar events.

FIGURE 19. SATISFACTION WITH FELLOWSHIP CONFERENCES
(N=104)²⁴



Through an open-ended question, respondents explained their satisfaction rating with Klingenstein-Simons Neuroscience Fellowship Conferences, suggesting aspects that should be maintained or improved. As displayed in Table 4, the majority of respondents (90%) appreciated several aspects of the Fellowship Conferences including the small size which facilitates close interactions and networking; the rigorous, high-quality, and exciting content of presentations and discussions; overall execution of a scientifically and socially balanced program (that was the highlight of the fellowship for some); mix of attendees; and specific focus on neuroscience.

Nearly one-quarter of respondents (23%, n=19) suggested ways to strengthen the Conferences. It is important to note, however, that respondents attended in-person conferences at different times between 2013 and 2019, so some suggestions may be less outdated and relevant. The most common suggestion (n=8) was to *allow for more interaction*—with current and former fellows, advisors, and scholars. Specific suggestions included “time to meet and talk to other fellowship

²⁴ Percentages sum to 98% because 2% of respondents indicated they had not attended any comparable events.

recipients, both old and new”; “allocate more time for social interaction that does not involve seating at tables, which greatly restricts who one interacts with during relatively limited time windows”; and “down time” that is not around food like “an outing to Central Park or similar.” One fellow described aspects of a comparable conference, organized by another foundation: “Talks are less densely packed. Meetings also include several social events, including half-day trips. This allows for more meaningful social interactions between scholars and advisors, and I actually started several collaborations with other scholars (something that did not happen at Klingenstein).”

A second common suggestion (n=7) was to *allow more opportunities to attend*. Repeat attendance would provide benefits such as “better career mentoring for the current fellows,” greater potential for “long-term, sustained relationships,” “stronger links with others,” and the “chance of leading to new collaborations.”

Focus on *forging new collaborations*, through Fellowship Conferences or other mechanisms, was described in detail by two respondents. For example, one explained how helpful he found the provision of “funding opportunities to kick start novel collaborations between current and former scholars” by another foundation. Another recommended the program “focus more resources on trying to promote creation of new collaborations between Fellows both during the period of their Fellowship and beyond. This goal would be the single most synergistic improvement that you could implement.”

Two respondents provided *other feedback*. One suggested adding a professional development strand beyond grantsmanship. This fellow cited an NSF workshop that, early in her career, was very helpful in its focus “on skills in negotiation, work-life balance, and other ‘soft’ skills that are important to maintaining a scientific career.” Another expressed disappointment by the “disproportionate number of highly prestigious researchers at high levels who cared little for seeking an actual solution” to a specific problem; this left the fellow “disenchanted” by the few researchers focused on discovering the underpinning of the disease.

TABLE 4. POSITIVE ASPECTS OF FELLOWSHIP CONFERENCES
(N=75)²⁵

Small & Intimate (n=24)	I loved the chance to network and hear about others' research in an intimate format.
	I thought the size of the meeting and opportunities for interaction were excellent. I especially favor meetings that include semi-structured time for informal discussions.
	Small size with many opportunities for interaction.
	There was enough time to get to talk to many participants, so a lot of useful networking, feedback, and advice.
	It was a wonderful avenue to meet and discuss science with colleagues and mentors. Even if not leading to direct collaborations, it led to relationships I have leaned on for scientific advice and discussions. The intimate setting was a major plus.
	It is difficult to compare this meeting to normal conferences. Bringing together 3 cohorts of young scientists and more established past fellows create a dynamic yet intimate atmosphere that is not comparable to regular conferences. I loved everything about it!
	The diversity of presentations makes the event feel like a more intimate, family version of a major neuroscience conference.
Overall Importance (n=20)	This was one of the best parts of receiving a Klingenstein Simons award: to interact with other researchers at the cusp of their research. It has led to fruitful collaborations for me going forward.
	These meetings were the most important aspect of this Award to me.
	The conference meetings were truly amazing. Both science and networking were fantastic.
	This was a rich environment to discuss and form new scientific endeavors. I viewed it as the highlight of the fellowship.
	Having recurring annual meetings provided a sense of community often not found in other programs.
	The meetings were well organized with opportunities to interact both scientifically and socially. The environment was highly supportive and engaging. The hospitality of the Klingenstein family is exceptional.
	I enjoyed all aspects of the meetings I attended. I believe it was a good balance between science, networking, and mentorship.
Rigorous Content (n=18)	Enjoyable and scientifically interesting gathering that provided excellent discussions.
	I appreciate presenting to smart people from a wide range of fields and then discussing with them afterwards.
	The science presented was excellent, and the keynote speakers were outstanding.
	Exceptional quality and scientific rigor.
	The conference was very stimulating. I got an insider view of some of the best, most up-and-coming neuroscience research.
	The science at these meetings was rigorous.
It's one of the most incredible ways to network and hear about diverse, top-level science.	

²⁵ Some respondents provided more than one explanation. Comments are verbatim, except for grammatical corrections or ease-of-understanding edits.

Mix of Attendees (n=16)	The meetings brought talented and creative people together.
	It was a really high quality and diverse group of scientists.
	Fantastic mix of older and younger researchers, which led to many excited discussions about science.
	The meetings were amazing opportunities to meet impactful researchers in the field, at multiple career stages, and ignite new directions/collaborations.
	The inclusion of the recent awardees was important.
	I enjoyed meeting previous and current awardees.
	The opportunity to meet the other fellows to network and learn from each other was spectacular. Coupled with this, meeting and interacting with the senior scientists that make up the advisory board and the invited speakers was a wonderful chance for mentoring and networking opportunities.
Neuroscience Focus (n=7)	One thing I appreciated about the Klingenstein program was the focus on neuroscience (others are general biomedical science).
	The meetings were very focused and exceptional in terms of content.
	The scope of the Klingenstein fellowship conference is narrow, which made the meetings more directly useful.
	The meeting was more satisfying than others because of the high degree of focus (neuroscience rather than all of biology).
	The topics span the entire range of neuroscience.
A fellowship targeted toward neuroscientists led to rich, field-specific interactions at the meeting.	
In-Person (n=4)	These kinds of meetings are always great. In-person is the way to go.
	I very much enjoyed the 2019 meeting. It was great. The 2021 virtual one was good, but I don't love virtual compared to in-person.
	In-person meeting was great for networking and collaboration, which the virtual meeting lacks.
	I only attended one meeting but wasn't able to attend the following two due to the COVID pandemic. Interacting with other fellows is the most important and rewarding experience I have. I hope we will have a chance to meet in person again.

Program Feedback

Respondents were invited to draw on their experience with the Klingenstein or Klingenstein-Simons Fellowship Program, as well as on experiences they may have had with other fellowship programs, and to suggest improvements to the Klingenstein-Simons Fellowship Program. Nearly all respondents (98%, n=246) answered this open-ended question.

Whereas 13% (n=33) were not sure of necessary improvements, citing their experience was outdated or too current, 23% (n=57) expressed *satisfaction with the program as is*. These respondents described it as “wonderful,” “great,” “ideal,” “excellent,” “outstanding,” “awesome,” “superb,” “a fantastic experience,” and “perfect as is.” They indicated that the program runs effectively, explaining how it is “well designed and executed on all levels,” offered an “extremely supportive mentor team, fantastic network, and excellent support,” was “always responsive, always nice, and always accommodating,” and “seems to meet its goals.” *Focus on early-stage investigators* was particularly appreciated: “Klingenstein support was invaluable in allowing me to move into a new area,” “the award means an enormous amount especially to junior investigators,” “it provides a little extra 'rocket fuel' for young PIs at a critical career stage,” and “the program provides an amazing lifeline to new PIs early in their career, allowing them to establish more creative and riskier research programs.” Many expressed *gratitude*: “it was an honor to participate,” “I am grateful to have been able to participate,” “I loved the program and will value it and tout its benefits for the rest of my career,” and “I am deeply grateful for the support—it helped me immensely.”

Nearly three-quarters of respondents²⁶ offered suggestions to improve the fellowship program, emphasizing the importance of in-person annual conferences and ways to strengthen them (28%, n=68); encouraging more frequent interactions and broader connections to build and sustain community (21%, n=51); recommending increases to, or considerations to enhance, funding (15%, n=36); advising formal mentorship (6%, n=14); and advocating for additional professional development (2%, n=5) and publicity (2%, n=5). Analysis of data by cohort revealed no patterns across suggestion categories, even in areas where cohort interactions may be expected (e.g., funding or annual conferences).

Please see Table 5 for specific illustrations of these suggestions.

²⁶ Some respondents provided more than one explanation.

TABLE 5. SUGGESTED IMPROVEMENTS TO THE KLINGENSTEIN-SIMONS FELLOWSHIP PROGRAM
(N=179)²⁷

In-Person Annual Conferences (n=68)	<p>Desire/Advocacy for in-person:</p> <ul style="list-style-type: none"> • Hoping it will be in person! It's really important for networking. • Hard to say, since my experience has been entirely during COVID. I really look forward to meeting everyone in person!! • Recent cohorts were unable to have in-person meetings in 2020 and 2021, which was a huge regret to many of us. • I wish I was able to attend the Klingenstein in-person meetings (my award was prior to these meetings), or at least there could be meetings that bring all former and current fellows together. • When I had the Klingenstein award, there was no meeting. I think this can be really important for junior investigators. • I think annual meetings make the fellowship much more memorable and personal. It becomes an experience instead of just a check (which certainly is absolutely important and appreciated). • The in-person meetings are a great opportunity to meet and mingle with a very diverse set of researchers. • The inclusion of a meeting is fantastic (as well as the location). • In person conferences are a great addition that add substantial value to an awardee far beyond \$\$ received. • I think the meetings added huge value, with the possibility to connect with leading neuroscientists at different career stages. Maintaining some form of meeting(s) can be hugely valuable to the early career scientists, especially ones who may be more isolated in their home institution.
	<p>Extend the invitation to Fellowship Conferences to:</p> <ul style="list-style-type: none"> • More scholars. • Fellows who missed one or two in-person conferences because of the pandemic (even after their tenure is finished). • Alumni, to build lifelong scientific networks. • Past Fellows and invite them to give talks. The set of fellows is a great group, and it would be good to have more meetings for networking. • Past awardees and have more frequent meetings/research symposia.
	<p>Convene a conference with all past fellows:</p> <ul style="list-style-type: none"> • Occasionally (e.g., every 3-5 years), involving alumni too. • Every 3 years or so for both current and past grantees. • Similar to Pew, Klingenstein might think about periodic reunion meetings for former Fellows.

²⁷ Some respondents provided more than one explanation. Comments are verbatim, except for grammatical corrections, ease-of-understanding edits, or broadened statements to preserve anonymity.

	<ul style="list-style-type: none"> • Every 3 years, if possible, to maintain/update relationships. <p>Improve or maintain Conference processes by:</p> <ul style="list-style-type: none"> • Holding these meetings in a venue that would foster more open-ended conversations with the hope of creating more organic opportunities for collaborations. • Keeping a structure that includes a mixture of investigators across levels (including previous awardees)—intellectual exchange and networking opportunities are the most valuable features of these meetings, especially for new investigators. • Including more past awardees. It was fantastic to see their successful career path. Very inspirational. • More unstructured social time with other fellows during the meeting. • Having the Scientific Board that selects new Fellows attend the Symposia and provide guidance and constructive commentary—I do not know if that still occurs, but it provided novel and candid insights from leading thinkers. • I think that the poster sessions at the meetings are less beneficial to the presenters than a short talk would be. • General advice, as I am not aware of the current panel workings: Please try to ensure that your evaluation and award panel is able to recognize talent from diverse individuals and is not clique-ish and monitors and reduces influence of implicit bias. • Yearly conference a la McKnight. • Make the Foundation meetings more visible. • For the previous fellows who are not invited to the in-person meeting, they should be invited to participate online via Zoom. This way, all fellows can take part in the annual meeting should they wish to and have a sense of the larger Klingenstein fellow family. Furthermore, with everyone attending in person or remotely, it would be fun to have an open discussion over a specific "big" neuroscience question.
Interactions, Connections & Community (n=51)²⁸	<p>More networking opportunities for current fellows:</p> <ul style="list-style-type: none"> • Have more meetings during the fellowship time to facilitate interactions • Support collaborative interaction among Klingenstein fellows • Promote more interaction among the awardees (more time for interactions among fellows). • I learned much through this grant. Because the meeting period is short, a few more interaction occasions would be a plus. <p>Establish means for the cohorts of Fellows to continue to connect:</p> <ul style="list-style-type: none"> • Greater focus on fostering and supporting collaboration. • Either in person by attending some Klingenstein-Simons' meetings or an event at SFN, or through some other means. • More opportunities for in person networking. Perhaps at SFN? • Continue to develop and foster meetings among cohorts

²⁸ Answers from multiple respondents, pertaining to the same recommendation regarding interactions, are presented in the same row.

	<ul style="list-style-type: none"> • Perhaps a get together could be organized at the annual Society for Neuroscience meeting. • Additional networking opportunities at other meetings (SFN, Cosyne, GRCs, etc.). • Publish a directory with investigator interests and project descriptions. • A database with contact information of past and present awardees would be helpful for networking purposes. • Provide regular listings and contact information for previous and current fellowship awardees, and list topic areas to improve opportunities for collaborations.
	<p>Organize more meetings to facilitate interaction between scientists including fellows:</p> <ul style="list-style-type: none"> • Other programs involve current fellows and alumni more frequently at meetings, which are often fabulous conferences, and occasionally hold other workshops (e.g., on communicating with the public) in conjunction with other groups. • Bring together fellows and advisory committee annually to increase networking opportunities. • I haven't had a chance for in person meetings due to the pandemic, so it's hard to answer. I think getting to know other researchers would be the most critical benefit of the award. • The PEW fellowships are accompanied by a tremendous networking opportunity. The annual meetings are unparalleled in this regard and are viewed as almost more valuable than the fellowship itself. I think that the Klingenstein-Simons Foundation should focus on this aspect of connectivity - holding meetings that bring successful senior scientists, prior fellows and current fellows together in an attractive and meaningful way. These connections are the foundations for career advancement that is tremendously valuable.
	<p>Involve alumni:</p> <ul style="list-style-type: none"> • Get alumni like me involved in helping and networking with new and past recipients—I would keep this group actively engaged even after their awards are over. I would love to attend an alumni meeting—having grant alumni attend meetings is crucially important to advance the fellowship program. • Involvement with the program after the fellowship ends. It would be good to tell us alums about meetings and events that are open to us. • I have not been much involved with the program since being awarded, but I would be happy to be more involved - perhaps greater involvement of alumni would be helpful. • Keep in contact with former fellows; maintain a network. • Continuous communications from the program. • Make inclusion in the program lifetime, like SFARI or McKnight.
	<p>Continue efforts to build an intellectual community, and create a greater sense of community, among Fellows:</p> <ul style="list-style-type: none"> • Have a slack group for exchanging information. • Find a way to foster interactions between fellows outside of the annual meeting (e.g., establishment of a slack channel). • Develop a past fellows' network system. Use Slack, NSF meetup, or other ways to stay connected after active award.

	<ul style="list-style-type: none"> • Building a community of past and present fellows would be an asset. • Have optional virtual social meetups to connect the fellows. • Have remote network events throughout the years. • The one thing I feel that K-S does less well than some other programs I have been part of is to build the Fellowship community across generations/years. I was invited once at the end of my fellowship, then not again until recently. I would benefit from connecting with other fellows past and present, with the Advisory Board, and with the Foundation members. • One thing that is generally lacking in Foundational Support is long-term, longitudinal networking amongst awardees. The Klingenstein meetings are good for this, but there could be even more opportunities for fostering collaborations, even across generations of awardees. The McKnight Foundation does this very well.
Funding (n=36)²⁹	<p>Use money to</p> <ul style="list-style-type: none"> • Increase amount of funds • Extend funding period (beyond 3 years) • Increase number of awards (“even if it means lowering the grant size for the other fellows. Neuroscience has grown in the last couple decades, and there will be even more deserving candidates out there”)
	<p>Recommendations to</p> <ul style="list-style-type: none"> • Continue focus on cellular, systems and cognitive work • Continue focus on fundamental systems neuroscience • Continue to fund exciting discovery science • Keep supporting basic science • Not narrow focus to support mostly or only translational research • Maintain funding as a gift. Researchers at state universities normally do not have gift accounts. That stability changes careers and encourages risky but highly novel research.
	<p>Make sure you are funding:</p> <ul style="list-style-type: none"> • MD/PhDs who are doing highly translational work in neurological disorders • Promising neurosurgeon-scientists to help jump start their academic careers • Junior faculty pre-tenure, especially pre-R01 • Those who may not have gotten any junior faculty grants yet. Often these awards become an echo chamber of the same new labs but supporting new early PIs will increase the diversity of science at an early stage and allow more researchers to thrive. This will inevitably lead to more, deeper research with the potential to benefit human disease.

²⁹ Answers from multiple respondents, pertaining to the same recommendation regarding funding, are presented in the same row.

	<p>Offer additional funds:</p> <ul style="list-style-type: none"> • To support technical staff • For follow-up funding • To create and fund collaborations between Klingenstein-Simons fellows, with rapid funding turn-around • To create a follow-on funding mechanism where former Fellows can competitively apply for continued funding of their research, particularly if it builds on and creatively extends previously funded studies into new areas and collaborations.
	<p>Increase diversity of fellowship recipients:</p> <ul style="list-style-type: none"> • Make more accessible outside of typical and tight-knit academic circles centered in a handful of prestigious universities. • It would be particularly useful to support under-represented scientists and/or those from less prestigious institutions. • Some thought should be given to whether the award is meant to be a feather in the cap of researchers who will succeed without it, or to provide key funding as an intervention to spur careers that might otherwise flounder.
	<p>Add a postdoctoral fellowship program. Expand eligibility to include senior post-docs.</p>
	<p>Scientists can be creative at all stages in their career, and there is currently no mechanism for fostering creativity in old age (e.g., have a series of awards for senior faculty).</p>
	<p>While I fully appreciate the need to have people of prestige in association with any program reliant on raising outside monies (as I have done), there is also a need to be certain that funds target the research question, and there is a sincere interest in finding the solutions promised to those whose donate their funds.</p>
	<p>I would encourage you to look broadly at your impact when evaluating outcomes. I may not have done as much bench or clinical research as you may have hoped, but I called on the knowledge I gained as a Klingenstein fellow when working outside the country and when training physicians and physician scientists.</p>
Mentorship (n=14)	<p>1-1 mentoring with established neuroscientists would be very useful to discuss career choices and progress.</p>
	<p>Develop specific aspects of the program to cultivate nascent collaborations.</p>
	<p>Invest more in people than in projects.</p>
	<p>It may be helpful to assign a senior buddy for each fellow. This buddy system can provide mentorship and a companion.</p>
	<p>Pairing a researcher with a member of the scientific board for a yearly mentoring session would be very useful.</p>
	<p>I see a need for what one might consider a "booster shot" type of fellowship program for young scientists confronting a bump in the road (e.g., the hardest part in my career was not getting that first job and setting up my lab but dealing with the stress of grant rejections). Bridged funding with mentoring from a prestigious program such as this would have been incredibly helpful.</p>
	<p>Meeting with other fellows and advisory members of the Foundation can be stimulating and promote mentoring of fellows in career advancement strategies.</p>
	<p>Meeting of fellows in which senior researchers provide feedback and mentorship.</p>
	<p>Supporting women fellows and making sure that women leaders are involved in mentoring fellows would be helpful.</p>

Professional Development (n=5)	Mentoring on scientific communication skills. Mentoring in how to best engage in translational research.
	Think of adding some professional skills/career development items to the meeting program or offer them in some other way.
	Given the early stage focus of the program, some explicit attention to how to successfully transition to longer-term federal funding (workshop/panel discussion/Q&A) would be easy to implement and would give lots of bang for the buck.
	Practical events such as writing retreats would build the professional capacity of awardees.
	Offer PD for writing grant proposals (e.g., NIH R01s) and for running a lab (e.g., setting expectations for students, postdocs, technicians, overall management). We never got any insights into management before being let loose to run a lab.
Publicity (n=5)	Compared to other programs, Klingenstein-Simons is not heavily promoted to the neuroscience community and the public. Such promotion helps new labs and PIs, who are relatively unknown.
	Advertise its history and the accomplishments of its Fellows.
	More public awareness of the Klingenstein Fund and the tangible results of the work it funds, will help sustain support and ongoing participation.

Conclusion

Data from the Evaluation Survey of Klingenstein/Klingenstein-Simons Fellows suggest that the experiences of award recipients have been extremely positive, and that their accomplishments and contributions to the field of neuroscience have been substantial. The objective of the evaluation was to address three key questions. Quantitative and qualitative survey findings that address each evaluation question are summarized here.

How important was the fellowship in advancing fellows' careers (what was the impact of the fellowship)?

Nearly all survey respondents (98%) hold some type of professorship, and over two-thirds have tenure. Only 5% of respondents changed fields or disciplines, moving from academia, to industry, research, or government work.

Across cohorts, the majority of fellows indicated that financial support for research (89%) and prestige (69%) were the greatest benefits they derived from receipt of the Klingenstein or Klingenstein-Simons Fellowship. Using their own words, 100% of respondents provided heartfelt illustrations regarding the most important benefit of the Fellowship, often noting more than one benefit. Aligned with the forced rating options, respondents described the financial support and prestige, but they also described in depth the flexibility and freedom, confidence and validation, network and community connections, and overall significant impact on their careers.

Questions regarding additional funding supports also indicate the importance of the fellowship. Prior to the Klingenstein award, only 52% of respondents had received another grant, and analysis by cohort revealed that the number of fellows *not* having other grants prior to receipt of their Klingenstein award has increased over time. At the time of their Klingenstein award, a consistent 24-31% of respondents in each cohort did not have any other grants. However, among those who held other grants, recent cohorts were more likely to have three or more grants at the time of the award. In the five years following their fellowship award, 95% of respondents received other grants, and over time, the number of fellows receiving five or six grants post-Klingenstein award has steadily increased (from 3% of cohort 1 to 50% of cohort 4).

Finally, the significance of a 75% response rate to a survey that required up to 20 minutes cannot be overlooked. The willingness of neuroscientists to devote substantial time and effort to a survey for a program, in which some participated up to 40 years ago, alone indicates the importance of the fellowship.

What are fellows' contributions to the field of neuroscience?

Data from several questions address this question. Although each set of data has limitations and caveats, together they offer a clear representation of the numerous ways that Klingenstein/Klingenstein-Simons Fellows contribute to, and impact, the field of neuroscience.

The majority of fellows (79%) seldom work with humans. More than half (58%) work in Cellular Neuroscience, followed closely by those who work in Molecular Neuroscience (49%) and in Systems Neuroscience (43%). Fewer work in Developmental Neuroscience (27%) and Computational Neuroscience (16%). Over time, four areas increased in popularity with fellows: Systems Neuroscience, Molecular Neuroscience, Computational Neuroscience, and Cellular Neuroscience.

Nearly three-quarters of respondents (72%) indicated that their work—including basic research—led to insights into the cause or treatment of a disorder of the nervous system. Qualitative data allowed them to describe the impact of their work leading to insights as well as the most meaningful research accomplishments in their career. Analysis of these data reveal that the majority of fellows' contributions to the field are foundational, with greatest insights into Neuro-psychiatric diseases, followed by insights into Neuronal excitability, and then an equal number of insights into Special senses and Motor systems. Over time, the number of fellows with insights into neuronal excitability has decreased, while the number of fellows with insights into neuro-psychiatric diseases and motor systems has increased.

As addressed previously, 'meaningful' is inherently a subjective term. However, the multiple metrics used to answer this question provide unequivocal evidence of the breadth and depth of significant accomplishments achieved by Klingenstein fellows.

Fellows are well published, with 89% listing seven or more publications that best highlight their accomplishments (they could list up to ten). Across the five highly esteemed journals in neuroscience (Nature, Science, Cell, Nature Neuroscience, and Neuron), fellows published at rates four to eight times greater than average acceptance rates. The h-index ratings of fellows mirror expected patterns across career stages (i.e., ratings clearly increase over time) and match or exceed h-indices of "typical" highly successful neuroscientists. Exemplary publications further illustrate the transformative, important contributions of fellows to the field of neuroscience.

More than two-thirds of fellows (67%) listed at least four honors and awards (they could list up to five). Notable foundations, universities and organizations have recognized Klingenstein fellows' accomplishments. Sixteen fellows have been elected to the prestigious National Academy of Sciences, and thirteen have been elected to the National Academy of Medicine. They have received several lucrative prizes that are awarded to the most distinguished scientists in the field. These include the Society for Neuroscience

Young Investigator Award, the Gruber Prize in Neuroscience, the Pradel Research Award of the National Academy of Sciences, The Brain Prize, and the Champalimaud Vision Award.

Nearly half of all respondents (41%) listed up to four leadership positions (they could list up to five). Several types of organizations have been served by fellows including National Institutes, universities, and foundations. In these organizations, fellows have held important and varied types of leadership positions such as Director, Chair, Chief, Editor, University Provost and Dean, Founder, and President.

What works well in the fellowship program, and what may be improved?

Questions soliciting feedback on the Klingenstein-Simons Neuroscience Fellowship Conference and Klingenstein/Klingenstein-Simons Fellowship Program inform this question.

Among the 104 respondents who attended a Fellowship Conference, one-third (31%) reported that the meeting(s) led to scientific collaborations. Satisfaction among attendees of fellowship conferences was high. On a 5-point Likert scale (where 1=much less satisfying than other conferences and 5=much more satisfying), the mean rating was 4.4; 84% found Klingenstein-Simons Neuroscience Fellowship Conferences more satisfying than similar events. Qualitative data support these ratings. The majority of respondents (90%) appreciated several aspects of the Fellowship Conferences including the small size which facilitates close interactions and networking; the rigorous, high-quality, and exciting content of presentations and discussions; overall execution of a scientifically and socially balanced program (that was the highlight of the fellowship for some); mix of attendees; and specific focus on neuroscience.

Nearly one-quarter of respondents who had attended Fellowship Conferences suggested ways to strengthen them. These included allowing for more interactions with current and former fellows, advisors, and scholars; offering more opportunities to attend; and facilitating new collaborations.

When invited to draw on their experience with the Klingenstein or Klingenstein-Simons Fellowship Program, as well as on experiences they may have had with other fellowship programs, and to suggest improvements to the Klingenstein-Simons Fellowship Program, nearly all survey respondents (98%) answered this open-ended question. Nearly one-quarter (23%) expressed satisfaction with the program as is, describing it as “outstanding” and “excellent.” They particularly appreciated the focus on early-stage

investigators and expressed gratitude for the honor to receive such support. An additional 13% of respondents were unsure of any necessary improvements.

Three quarters of survey respondents offered suggestions to improve the fellowship program. In decreasing order of frequency, they emphasized the importance of in-person annual conferences and ways to strengthen them; encouraged more frequent interactions and broader connections to build and sustain community; recommended increases to, or considerations to enhance, funding; advised formal mentoring; and advocated for additional professional development and publicity.

Appendix A: Survey of Klingenstein/Klingenstein-Simons Fellows

Introductory Welcome Screen

As a current or former fellow, we invite you to participate in this survey about your experience in the Fellowship Program. Your input will inform the Esther A. and Joseph Klingenstein Fund Trustees and the Neuroscience Scientific Advisory Committee about your experiences and accomplishments. With your feedback, they will learn how the award may have contributed to your career and to the field of neuroscience. Most importantly, they will gain understanding of what works well in the Klingenstein-Simons Fellowship Program and what may be improved to ensure the most productive experience possible for future award recipients.

This survey should take less than 15 minutes of your time, especially with your CV at hand. All responses will remain confidential. If you have any questions, please contact Judy Lee, external evaluator for Klingenstein Philanthropies, at judymlee68@gmail.com.

We appreciate your time and look forward to receiving your response no later than Friday, August 27.

Thank you for your participation and valuable feedback,
Judy Lee, Ph.D. (external evaluator for Klingenstein Philanthropies)

Background

1) What is the level of appointment you *currently* hold?

- Assistant professor
- Associate professor
- Associate professor with tenure
- Professor
 - [If yes] Please describe your highest academic title as Professor (*select all that apply*):
 - Professor with Tenure
 - Endowed Professor
 - Distinguished Professor
 - Emeritus Professor
 - Other:
 - None of the above
- Position in a pharmaceutical or biotechnology company
 - [If yes] Please specify your title in the company:
- Position in a research institute
 - [If yes] Please specify your title in the institute:
- Position in government (e.g., administration, health services)
 - [If yes] Please specify your title in government:
- Other (*please specify*):

2) If you changed fields or disciplines (e.g., switched from academia to a research institute or company), what is the highest level you held *previously*?

- I have not changed fields or disciplines. [*Skip to Fellowship Award*]
- Assistant professor
- Associate professor
- Associate professor with tenure
- Professor
 - [If yes] Please describe your highest academic title as Professor (*select all that apply*):
 - Professor with Tenure
 - Endowed Professor

- Distinguished Professor
 - Emeritus Professor
 - Other:
 - None of the above
- Position in a pharmaceutical or biotechnology company
 - [If yes] Please specify your title in the company:
- Position in a research institute
 - [If yes] Please specify your title in the institute:
- Position in government (e.g., administration, health services)
 - [If yes] Please specify your title in government:
- Other (*please specify*):

Fellowship Award

- 3) What were the greatest benefits derived from receipt of the Klingenstein or Klingenstein-Simons Fellowship (or for current fellows, what do you anticipate these will be)? (*Please select up to 3 benefits*)
- Prestige
 - Credibility
 - Financial support for research
 - Mentoring
 - Additional funding opportunities
 - Network of connections in the field
 - Collaborative partnerships on scientific projects
 - Increased knowledge or understanding of the field
 - New ideas for research
 - Advanced career prospects/development
- 4) In your own words, please describe the single, most important benefit of your Fellowship, *relative to any other support you may have received at the time*. If you are a current fellow, please describe the most important, anticipated benefit of your Fellowship.

- 5) At the time of your Klingenstein or Klingenstein-Simons Fellowship award, did you have any other grants (not including start-up funds or salary provided by your institution)?
- Yes
 - [If yes] Approximately how many other grants did you have at the time of your Klingenstein award (not including start-up funds or salary provided by your institution)? (select a number from pull down menu)
 -
 - No
 - Not sure

Additional Support

- 6) Prior to your Klingenstein or Klingenstein-Simons Fellowship award, had you received any other grants (not mentioned previously and not including start-up funds or salary provided by your institution)?
- Yes
 - [If yes] Approximately how many other other grants did you receive prior to your Klingenstein award (not including start-up funds or salary provided by your institution)? (select a number from pull down menu)
 -
 - No
 - Not sure
- 7) In the five years following your Klingenstein or Klingenstein-Simons Fellowship award, did you receive additional funding to support your research (not including start-up funds or salary provided by your institution)?
- Yes
 - [If yes] Approximately how many other grants did you receive in the five years following your Klingenstein award (not including start-up funds or salary provided by your institution)? (select a number from pull down menu)
 -
 - No
 - Not sure

Contribution to Field

- 8) Has your work (including basic research) led to insights into the cause or treatment of a disorder of the nervous system?
- Yes

[If yes] Please describe briefly how your work has led to insights into the cause or treatment of a disorder of the nervous system:

- No
- I have not yet completed the program or submitted my final report.

9) Since becoming an independent investigator, what are the *most meaningful research accomplishments* in your career? Please list up to three accomplishments, using one box per accomplishment (*please note that spaces permit up to xxx characters*).

10) Which statement best describes the primary focus of your research?

- I work mostly with humans.
- I seldom work with humans.
- I work a lot with both (humans and non-human research).

11) Which category best describes the nature of your work? (*select all that apply*)

- Clinical Neuroscience
- Computational Neuroscience
- Cellular Neuroscience
- Molecular Neuroscience
- Psychiatry/Drug Abuse
- Developmental Neuroscience
- Systems Neuroscience
- Other (*please specify*):

Fellowship Conferences

12) Did you attend, or present at, any *in-person* Klingenstein-Simons Neuroscience Fellowship conference meeting? In-person conferences were held annually between 2013 and 2019.

- Yes
- No [*If no, skip to Program Feedback*]

13) Did the meeting(s) lead to any scientific collaborations?

- Yes
- No

14) Using the following scale, please indicate how well Klingenstein-Simons Neuroscience Fellowship conference meetings compared to similar events:

1-----2-----3-----4-----5-----N/A

- 1=Much less satisfying than others
- 2=Somewhat less satisfying than others
- 3=About the same as others
- 4=Somewhat more satisfying than others
- 5=Much more satisfying than others
- N/A=I have not attended any comparable events.

15) Please explain your rating and suggest aspects that should be maintained or improved in future meetings:

Program Feedback

16) Drawing on your experience with the Klingenstein or Klingenstein-Simons Fellowship Program, as well as on experience you may have had with other fellowship programs, what, if anything, could be done to improve the Klingenstein-Simons Fellowship Program?

Accomplishments

Using your current Curriculum Vitae or a recent Biosketch, please complete the following questions. Feel free to copy and paste items into question fields.

17) Please list up to ten publications or research products that best highlight your accomplishments:

18) Please list up to five honors and awards (e.g., membership in National Academies or other prestigious organizations, prizes, lectureships) of which you are most proud:

19) Please list up to five notable leadership positions—in university, industry, or government settings—that you have held during your career:

CV Request

20) Please use the button on this screen to upload your current Curriculum Vitae so we may learn more about your research and accomplishments.

Thank you for your time and effort!

[redirect upon submission to <https://klingenstein.org/>]