Strategic Vision and Plan of the

Georgia Institute of Technology's School of Psychology 2018

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Psychology's Role

Psychology at Georgia Tech (GT) transitioned in 1959 from a department that offered service courses, primarily to the engineering students in the Institute to a School offering an undergraduate degree. Psychology at GT always emphasized the science of psychology and rigorous quantitative methods, whether directed at basic research in psychology or applications of the science. Following the Board of Regents' stipulation at the time that Georgia Tech could not have a program that was already represented at the University of Georgia, the original program, a B.S in Applied Psychology consisting of roughly around 200 quarter hours, was designed to be unique from any other existing psychology program in Georgia.

The School continues to be unique because of what it includes among its specialties (e.g., work psychology, engineering psychology, cognitive aging, cognition & brain science, quantitative psychology) and what it excludes (e.g., no clinical or counseling psychology). Being situated in a college of science at a world-class technology institute contributes to this uniqueness, as does the School's culture and its exceptional students. This confluence of factors has worked well for the School, allowing it to be respected in all its specialties and to excel in several of them.

Psychology has been called a hub discipline [Boyack., et al., 2005, Mapping the backbone of science. *Scientometrics, 64*, 351-374], one that influences other disciplines more than most. The influence of psychology will only increase within both basic and applied research. The explosion of understanding in neuroscience is based in large part on cognitive neuroscience. Couple that with a focus on cognitive aging, and psychology becomes the key that can unlock basic issues of cognitive decline.

When application is considered, the role of psychology becomes even more compelling. Most of the societal challenges of the next half century—from recycling to managing chronic disease-- will require an understanding of people—how they decide, how they are motivated, how they use technology, how they make war, how they make peace, and on and on. The role of psychology is evident here at Tech. Virtually every one of us has a collaborative relationship with others outside of psychology, engaging every college in the Institute.

This document reports a strategic plan aimed at moving the School of Psychology forward during what we perceive as difficult times, when pressures on science and academia are high. Despite these pressures our strategic plan hopes to establish the School as a key player in the Institute and the discipline.

Planning Context

Planning Process

The strategic plan was developed in stages from Summer into the late Fall of 2017. The stages included initial planning, later organizational and data gathering work carried out by members of the steering committee, and discussion of five-year goals among faculty at an off-campus retreat. In the first stage

during the summer, the school leadership met and formulated a strategy to identify big picture aims that would take some degree of concerted and prolonged effort to achieve, would improve the school and the community, and would be supported by the faculty. In the second stage, the Chair formed a steering committee of faculty to meet regularly in order to assess and discuss the school's strengths, weakness, opportunities and threats. The steering committee then identified stakeholders across campus, a list that included but was not limited to, current students, alumni, curriculum partners (e.g., human computer interaction), health and wellbeing units, emeritus faculty, staff, neuroscience leaders involved in the major, and the Dean of the College of Sciences. Committee members then met with the stakeholders in order to gain a more informed perspective of the School of Psychology as it fits within the local Institute community. From these assessments, the steering committee identified a set of aims that would likely gain consensus support, and a separate set that warranted further discussion by the faculty. Aims were discussed at an all-day retreat held off campus and the aims achieving consensus are included in the present strategic plan.

Benchmarking

Comparison Schools

The comparison schools for the School of Psychology emerged from a consideration of the Carnegie rankings. There were 80 4-year public doctoral universities who were given the classification of "highest research activity." From these institutions, we eliminated departments that had a clinical psychology or a counseling psychology program. This resulted in 13 schools.

 Inspection of this list revealed that only schools from the University of California system were ranked higher than Georgia Tech's School of Psychology. For this reason, and to provide a better interface with Georgia Tech's institutional level peer group, we looked at 3 private institutions that otherwise met the above criteria, selecting two private schools, CMU and MIT, for inclusion. These private schools were added to a pair of UC schools (UC-San Diego & UC-Davis). These 4 schools have ranking from the National Research Council better than Georgia Tech's School of Psychology; in this sense they for the aspirational subset of our comparison schools. Four other schools were selected that met the criteria described above and that offered opportunities to explore various dimensions of our own program, such as location, degree programs within psychology, and so on: University of Oklahoma, Clemson, UT-Dallas, and North Carolina State University.

Schools and NRC Ranks

Below are the final group of comparison schools with aspirational schools listed above Georgia Tech. The number in brackets is the NRC ranking of the program.

- Carnegie Mellon [7]
- MIT [9]
- UC-San Diego [19]
- UC-Davis [21]
- Georgia Tech (Psychology) [60]
- University of Oklahoma [117]
- Clemson [122]
- UT-Dallas [140]
- North Carolina State University [196]

If we take a more detailed look at the rankings of our aspirational schools, it is clear that the private schools outrank us on each of the 5 rankings supplied by the NRC. We compete more favorably with the aspirational public schools, and indeed are essentially equivalent or superior on diversity and quality of students.

Salary, Workload, and Personnel

Part of the benchmarking process was to retrieve information about workload (e.g., teaching load, TA hours), faculty, students, stipend, salary, and the curriculum. For most measures, the Georgia Tech School of Psychology fell in the middle of typically broad ranges for any particular variable. There were exceptions. Four measures stood out:

- GT listed 20 faculty (the smallest) with the largest (47) being UC-Davis.
- GT has a small undergrad: faculty ratio (5.2:1); MIT is smaller at 1.7:1. The next closest (NCSU) is 21:1 and the largest is UCSD (50:1).
- On the other hand, GT had the largest grad:faculty ratio (4.1:1); the next closest (NCSU) was 3.9:1 and the smallest was CMU at 1.1:1.
- Finally, and importantly, GT has the smallest proportion of female faculty (20%). Diversity is one of our core values and we have established the improvement of diversity as one of our 6 strategic goals.

Research Benchmarking

Part of the benchmarking process allowed us to compare ourselves to our aspirational and comparison schools. Compared to our aspirational schools, we do quite well in the per capita receipt of awards and the publication of books. We also do well in securing grants, although they tend to smaller awards. Per capita journal publication is not comparable to our aspirational schools (in fact only at the median even for our 8 comparison schools), but the quality of the work that is published, as measured by citations, is higher than even the aspirational median.

Results of SWOT Analysis completed by the Faculty

The SWOT analysis permeates all of the strategizing of the strategic plan, from the strategic goals to the strategies that are used to reach them. Some of the SWOT manifest itself as a particular piece of the strategic plan; other aspects manifest in multiple goals and strategies. Finally, some are so foundational that the reader will see their influence in virtually every aspect of our strategic plan.

Table 1

STRENGTHS	**WEAKNESSES**
Exceptional faculty Excellent students Strong support for faculty Psychology as a Science Culture of free agency	Funding of graduate students Visibility Shoestring budget Lack of Diversity Faculty size
OPPORTUNITIES	**THREATS**
Neuroscience Initiative Graying of the population Surge in military funding Surge in healthcare Dean's charge to reach out to GT faculty & initiatives	Increased "taxes" on hiring graduate students Administration's view of Psychology Lack of growth in faculty positions Pressures on science/academia Pressure on aging training grant

Strengths to Build On

As we move forward as a discipline, a school in the College of Science, and a member of the Georgia Institute of Technology community of scholars, the School of Psychology has many foundational strengths. World class faculty work closely with strong graduate students to contribute to research in psychology in both basic and applied domains. We enjoy the privilege of teaching exceptional undergraduates in psychology, computer science, neuroscience and other majors.

The faculty are supported and energized by several features that ensure innovation and progress. Across all that we do, we view psychology as a science and thus belong in and benefit from a college of science in a world class technology institute with its concomitant levels of strong faculty support. Finally, and importantly, the faculty in the School of Psychology enjoy a culture of free agency, in which independence, freedom, and minimal regulation and bureaucracy allow gifted researchers to make important strides in basic and applied science.

The Task at Hand

This strategic plan intends to build on these strengths to move the School of Psychology forward in the discipline, the College, and the Institute.

Our task now is to build on our strengths by developing strategies that eliminate our weaknesses, leverage our opportunities, and ameliorate upcoming threats. Our approach has been to operationalize our Mission through Strategic Goals aimed at helping us reach our vision while maintaining our core values. Within each Strategic Goal, we identify a set of strategies—not tactics, or actions—that can be used to guide the School's progress over the next five years. Given the uncertain future, strategies can be translated into timely actions and tactics. Each strategy we discussed was designed so that its success can be measured.

Our implementation plan is to leverage the executive leadership of the school (chair and two associate chairs) along with its three-person advisory committee to supervise the implementation of a subset of the strategies each semester. We will continually monitor progress made on this plan and adjust the specific tactics and actions that emerge from our strategies and goals.

Psychology's Vision, Mission, Values, and Strategic Goals

Vision

To become an internationally recognized leader in psychological science and its application in human endeavors.

Mission

The mission of the School of Psychology is to advance, through scientific research, our knowledge and understanding of people as thinking, feeling, active human beings, engaging with a world they both adapt to and create. We strive to disseminate that knowledge and understanding through publication, outstanding teaching, and the development of the next generation of psychological scientists.

Values statement

The School of Psychology strives to be a <u>diverse</u> and <u>inclusive</u> community of scholars who value <u>excellence</u>, <u>integrity</u>, and <u>scientific rigor</u> in the pursuit of new knowledge and an <u>educated</u> citizenry.

Goal 1: Increase extramural grant support

Compared to our comparison schools, the School of Psychology is relatively successful in grantsmanship when measured by the number of grants per faculty member--~70 percentile against all comparison schools, and at the median against our exceptional, aspirational schools. However, the size of our grants tend to be smaller--~30 percentile against aspirational schools, and even against all comparison schools we fall below the median.

Our desire to increase the lot of our graduate students and to circumvent the underfunding of our School by the administration requires that we increase grants coming into the School. The faculty have been resilient and entrepreneurial in getting grant dollars to fund their work by seeking grants of all sizes. Our aspirational schools, for example, tend to be more likely than us to secure NIH funding, which in general make larger awards, whereas we obtain proportionately greater number of NSF awards.

Insisting on larger grants seems misguided for this hard driving band of faculty. Those who have been receiving grants have been remarkably successful in what is a difficult environment. We believe strategies aimed at helping all faculty, including those few who do not apply, would be wiser than efforts merely to increase the size of each award.

Strategy 1: Improve relationships with granting agencies

Although a great idea and a good plan to achieve it are the essence of grantsmanship, there is undoubtedly an advantage to those who have their finger on the pulse of the sponsoring agency. Faculty can get a clearer idea of how to present their idea if they have closer contacts with decision makers in the granting agencies. There are many tactics that could implement this strategy, including mentoring, and internal network, and visits to the agencies. In particular, some of our faculty receive military funding (e.g., ONR, ARI) but given the increase in funding, others may benefit from better contacts with these agencies. Healthcare is another industry that we believe is an opportunity we could leverage more often for funding. As with military funding, healthcare has funding agencies that are rarely approached by our faculty that are specific to the healthcare industry (e.g., AHRQ).

Success measure: The number of program officers directly contacted by faculty, relative rise in grants as a function of contacts.

Strategy 2: Reach out to corporations

The School of Psychology recently launched an industrial outreach initiative to identify and engage corporate partners. The goal of the initiative is to generate opportunities for faculty collaboration with industry as well as to make collaborations with industry relatively easy in terms of contracting and logistics. All faculty should benefit from the initiative, at least indirectly, as it will manifest new sources of revenue for the school. Other potential benefits include supplemental (faculty) salary, RA funding, support for applied research experiences (capstone and project courses), and opportunities for application-inspired research.

The Industrial Outreach Committee has already identified and met with several institute officials from Corporate Relations and the Office of Industry Collaboration to make them aware of the initiative and that the school is interested in their activities. As a result of these efforts, the committee identified

institute administrative support and existing infrastructure that could be leveraged to facilitate the initiative. Moreover, three-quarters of the faculty have joined the initiative and approximately one-third of the faculty have committed to playing an executive role. As a result of the school's outreach, the committee was invited by VP McConnell to present an overview of the school's research capabilities to Ford, Delta, and the Atlanta Falcons. The psychology chair has already consummated an agreement with State Farm as being the school's first industrial partner.

Complementary to the industry outreach initiative is the establishment of an Advisory Council of Industrial Partners to advise the school on strategies to facilitate corporate collaborations. Efforts to raise the awareness of the school's corporate outreach initiative within the institute as well as industry will continue as contacts are made and opportunities arise. The school is hopeful that the presentations and contacts we have made thus far will pay off.

Success measure: The number of corporate internships; the number of course/student projects supported by corporate sponsors, the number of corporate contracts; the number of contacts initiated.

Strategy 3: Raise School's visibility for collaborative grants

Strengthening our visibility with campus research leadership such as the Executive Vice President for Research, Director of GT Research Institute, and Deans and School Chairs, will facilitate opportunities for Psychology faculty to be invited to join larger research initiatives and center proposals. By enhancing these key stakeholders' awareness of research expertise in the School, we hope to increase opportunities for our faculty to join collaborative research on campus. Tactics include creating greater awareness of faculty research through face-to-face meetings with these stakeholders, writing research briefs, holding public events, enhancing media presence, and keeping web research descriptions up to date.

Success measure: The number of visibility-raising activities, the number of faculty participating in collaborative grants on campus.

Strategy 4: Leverage existing, and establish new, grant awareness and writing support options

Planned activities aimed at bolstering grant activity within the department are centered on providing increased support for faculty and enhancing awareness of grant opportunities, as well as knowledge of pertinent policies and procedures. Supplying informational sessions can allow us to leverage the opportunities afforded by the surge in military funding and the increased interest in healthcare. Workshops or lunch and learns, depending on the appropriateness of the format for the theme, on grant-related issues are two tactical examples. Possible topics will be agency-specific procedures or issues (e.g., when to use NSF's Fastlane vs. Research.gov, navigating NIH's new clinical trial policy), general areas for discussion (best practices for collaborating with other institutions, establishing positive working relationships with program officers), or focused around a research theme, with attendees sharing insight from their own funding history.

In addition, more frequent and routine contact with the School's part-time grant administrator would be useful. A tactic here would be to have faculty members meet once a fiscal year to discuss their current research goals as well as any plans for grant applications. The grant administrator will be able to recommend possible funding opportunities and provide tailored guidance on proposal planning and

preparation depending on the individual needs of the faculty member. Further, the grant administrator may be able to suggest potential collaborations, both within and outside the department. Meeting annually will help keep information current as faculty research progresses and funding needs change. Similar efforts can occur for student internships and so forth. Relatedly, as mentioned elsewhere in this Plan, the graduate level Research Methods class currently requires all students to prepare and submit an NSF predoc proposal.

Success measure: The number of workshops/info sessions, the number of faculty taking advantage of support, relative rise in grant submissions.

Strategy 5: Explore ways to improve the publication record of faculty

For the most part, the School of Psychology does well when per capita evaluations of publications are considered. For example, we excel in the number of books published. We also do well in the Citations-per-Article, even when compared to our aspirational schools. However, the number of publications per faculty member falls below the median of our aspirational schools, and is only at the median of our all our peer schools. To the extent that publication rate impacts grant getting, it may be valuable to address this underlying cause as well as implementing the bevy of strategies to improve grant getting more directly.

We hope to explore tactics that could help faculty increase the number of publications, while maintaining the exceptional citation rate. Given the systems nature of such issues, there is considerable uncertainty here. Nevertheless, these could begin by exploring with relevant faculty the reasons for the low publication rates. Interventions could be tried, and if successful the interventions could be expanded across the School "raising all boats."

Success measure: Per capita number of publications increases.

Strategy 6: Provide school resources directly at securing extramural funding

Although it is likely that successful implementation of this strategy will require securing additional funds for the School, it is important that Psychology use whatever limited and additional funds to facilitate the strategies above. This could include, but not be limited to supplying support for travel to visit agencies, lunch & learns, graduate student assistantships assigned to aid the endeavors, or even funds to make the grant facilitator full time.

We note that in the SWOT analysis, one identified threat was "Pressures on the Cognitive Aging Training Grant". There is no better use of funds than to keep the nation's longest running Aging Training Grant active. These funds can be expended to support a number of strategies in this document.

Success measure: Demonstration that grant and contract submission increases are attributable to the additional expenditures.

Goal 2: Optimize graduate student experience

Recently initiated efforts to assess our graduate training program have revealed a number of areas that we think could be addressed over the next five years to significantly improve the program. According to our recent survey(s), the current graduate students seem less satisfied with the program than has been the case in the past. Some of this has to do with stipends (especially summer funding), but there are also curriculum issues and a disconnect between the basic academic vision of the faculty and the applied industry goals of several of our students.

Strategy 1: Find new sources of Graduate student summer funding

Options for summer funding are limited. Students who are not supported by a grant can apply for a teaching assistantship in the summer, but there are typically few courses available. Therefore, many students need to support themselves, which can result in significantly less time available for research, and additional financial stress. Possible avenues for increased summer funding could include an increase in the number of summer courses or reconfiguration of grant support so that they cover a summer + semester, rather than 2 semesters and no summer. Further, it has become increasingly difficult to use grant funds to support students over the summer. Recently the Institute changed requirements for summer enrollment: students are now required to register for classes and pay fees over the summer if they are to be funded by a grants; during the summer, grants are now required to pay tuition for grant supported RAs over the summer. The cost of a graduate student has approached the cost of hiring a postdoc.

Success measure: More students are funded for research and/or teaching over the summers.

Strategy 2: Rethink administration of graduate student recruitment and retention

There are two clear avenues for improvement in this area: improvement of evaluation and feedback; and modifying recruitment weekend to better suit the interests of our recruits.

The current procedure for annual evaluations is that students and their advisors complete a form, review the form together, then submit it to the area coordinator to be used for an end-of-year evaluation meeting conducted by the area faculty. The students later receive a letter that specifies a rating (0-3) and perhaps a few comments. Feedback can be improved in different ways, including greater mentor involvement and perhaps more detailed and informative evaluation letters.

The annual student survey revealed that certain aspects of recruitment weekend and orientation were not particularly helpful. For instance, they would prefer to have more opportunities to meet other students and learn about research (e.g., via poster session) than meet with individual faculty during recruitment weekend. This makes sense in the context that our recruitment model is to accept applicants before recruitment weekend, so the purpose of the visit is not to evaluate but to recruit. Another example is that incoming students would like to know more about finances and how to navigate Georgia Tech and Atlanta prior to arrival. Receiving this information and being informed about finances in the acceptance letter would be an improvement.

Success measure: Increased student satisfaction about evaluations, recruitment and orientation, as measured via the annual survey.

Strategy 3: Continue improvement of the curriculum to allow students to graduate on time

For the students who graduated with a Ph.D. between 2014 and 2016, the average time to completion was 5 years, 11 months. Thus, many students take longer than six years to complete the program. This length of time impacts the number of new admissions we can commit, and extends many students beyond the guaranteed school funding of five years. There is room to improve on the balance between time spent in the program and time to build a competitive record of productivity. One recent example of curriculum improvement was the removal of the First Year Project requirement. The survey results suggested that students did not see the value of the project. While it was established many years ago to ensure that all students were promptly engaged in research, it has become clear that is unnecessary and burdensome. This change will enable students to launch master's thesis research as soon as they enter the program. The Graduate Curriculum Committee will review the curriculum on a regular basis and track student progress-to-degree.

Success measure: More students graduate within 5 years

Strategy 4: Evaluate models of funding students

Graduate students are funded in different ways across the School and College. Much of our funding is tied to teaching assistantships, which may increase the time to Ph.D. It is not known how much of this funding is to provide teaching experience and how much is a convenient source of funding. There may be other models where that is not the case, for example some of the current TA funding could be used to support research instead of teaching. In addition, more students, perhaps all, could apply for graduate fellowships, such as the NSF's GRFP.

Success measure: Multiple models are evaluated and documented by the Graduate Curriculum Committee.

Strategy 5: Offer Professional Development for non-academic careers

Given the limited number of open academic positions each year, and the fact that a little over half of our Ph.D. graduates take jobs outside of academia, it would be of service to our students to offer opportunities to learn about non-academic careers. The academic job market is becoming more competitive each year, with roughly 12% of PhDs obtaining academic jobs https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4309283 . We feel that we owe it to our students to provide them with excellent training that will serve them well in a number of possible careers. Tactics to accomplish this could include a discussion panel or invited talk comprised of Georgia Tech graduates who have non-academic careers.

Success measure: Professional development opportunities are provided and are viewed as helpful by the students.

Goal 3: Improve outreach

There are many forms of outreach. The School has typically done a great job reaching out to the discipline of psychology and its subdisciplines. The reputation of our programs and our individual faculty are testament to that. The number of awards received by our faculty places us high among even our aspirational schools. Finally, the offices held by our faculty span a number of organizations, with several being elected to the highest office of their discipline.

Instead, the goal of outreach here is a focus on local outreach, including across the Georgia Tech community. One of the top 5 threats the faculty identified was the administration's view of psychology. The faculty's belief is reinforced by interactions and anecdotes, but we believe the best way to gain the administration's respect is through outreach. We recognize the number of untapped opportunities and hope to leverage them for the good of all. Of course, our faculty have already established a number of collaborative research endeavors across the College and across the Institute, but here we hope to improve on and aid those bottom-up efforts.

Strategy 1: Establish a coordinated electronic and social media presence

Communication, promotion, recruitment, outreach "messaging" is important for our school (and its current state is fragmented and lacking up to date information). A committee headed by a graduate student, overseen by an Associate Chair, with the aid of staff and undergraduates could begin by working with the School's advisory committee to set up a short and long term action plan for School communications. The CoS-recommended "hub and spoke" model with our website as the hub, and social media as the spokes. Information gathering about the process and the needs of different audiences will continue throughout along with content management. Additional training, graduate student and staff time, and a department policy on communication (including e-communication) are needed.

Success measure: Website Hit Counter, The number of Tweets and followers.

Strategy 2: Establish and nurture a relationship with GT Study Abroad programs (e.g., GT Lorraine and GT Barcelona)

One way to be better aligned with the Institute's priority on globalization is to demonstrate greater participation in international programs. Many of our undergraduate students go on Study Abroad opportunities. Some of our faculty have international activity, including regular collaborations with scholars around the world. Still, we see the value in creating new opportunities for our faculty to teach in the GT international programs if our on-campus teaching load permits faculty release. We have already begun some dialogue with Cam Tyson in the College of Sciences on how we might facilitate this effort.

Success measure: School of Psychology faculty member teaches a course in the GT international program.

Strategy 3: Establish an Advisory Council of industrial partners

The School of Psychology will form an Advisory Council of Industrial Partners comprising members expected to be representative of the school's industrial outreach constituencies and stakeholders. Members of the council will have experience in business and industry and may include alumni with professional backgrounds, Atlanta-area business leaders, as well as institute officials involved with

industry outreach. The primary obligation of the council will be to advise the school on strategies to facilitate industry collaboration. The council may also be consulted on issues concerning instructional and research programs, facility improvements, expanding the school's base of support, and serving alumni. The chair and outreach coordinator of the School of Psychology will be ex-officio members of the council.

Success measure: Establish a council, number of partners.

Strategy 4: Promote the Optimal Aging initiative and its colloquium

At Georgia Tech, there is untapped potential for a sustained and systematic effort for explicitly translational research and outreach to foster progress in improving the lives of older adults. We have started an Optimal Aging Initiative to further the goal of marshalling the expertise of scientists and faculty at Georgia Tech (and in the greater Atlanta intellectual community) to identify how to translate knowledge about aging into optimization of individual older adults' quality of life.

As a society, we must find ways to optimize the status and function of older adults. Psychologists can contribute to this process by (1) helping to bend the aging/disease relationship through advances in health psychology and behavioral medicine to prevent or delay age-related disease; (2) improving assessment of physical, social, emotional, and cognitive function of older adults to rapidly identify risk factors and to insure early treatment and intervention; (3) raising societal and individual awareness of the links between behavior patterns and risks for suboptimal aging, for example, through (a) encouraging physical and cognitive activity to maintain and enhance function and minimizing psychological stress in the workplace while maintaining or enhancing productivity; (4) developing methods that aid individuals to manage their lives effectively even in the face of age-related changes in perceptual and cognitive function; and (5) addressing risks for adverse mental health outcomes in old age through understanding how late-onset problems (e.g., late-life depression) differ in etiology and manifestation to mental health problems that are encountered in adolescence and young adulthood.

Success measure: Cognitive Aging group develops and implements a visibility/promotion plan and establishes an Optimal Aging Speaker Series that is promoted widely.

Strategy 5: Promote the Work Science Center and its conference

The Work Science Center promotes interest, interdisciplinary research collaborations, and scientist-practitioner partnerships on topics related to the experience and design of human work in the 21st century. The Center leverages faculty strengths within the School of Psychology and the broader Institute (e.g., Architecture) to address issues in three broad areas: (1) human behavior in robotic environments, (2) work across the lifespan, and (3) managing the modern workforce. The Center publishes a newsletter, blog, podcasts, and a white paper series available to the scientist network of approximately 45 members that constitute the listserv.

Over the next two years, the Center has planned a mini-conference on the psychology of robotics for human workers, tentatively scheduled for late 2018. The Center also plans to expand outreach both within the Institute and the Southeast region through a series of events that highlight student and faculty research progress and bring together researchers and community leaders in mini-workshops focused on translational challenges in the adoption of technology in skill learning and sustaining longer working lives.

Success measure: Work Science Conference occurs and is well attended; frequency of e-blasts to listserv.

Strategy 6: Establish relationships with other GT units (e.g., iPaT, Health & Wellness)

The School of Psychology has engaged with other units at the Institute routinely. Many of these are established and maintained by individual researchers, including numerous collaborative grants and contracts. Some of these engagements are through formal programs; for examples, the HCI Masters program, the new Neuroscience degree program(s). There are also less formal affiliations, such as Psychology's participation in GVU.

However, there is room for improvement. There are opportunities across campus—efforts on both the academic and non-academics sides of the house. For example, our interviews with stakeholders suggested that engagements can take place with GT's Health and Wellness program (Suzanne Harrington) and iPaT (Beth Mynatt). Although one, possibly two, faculty have been involved in iPaT there are far more possible connections. The connections could be through faculty, graduate training, or even undergraduate courses, such as the School's capstone class. The connections with undergraduates is especially valuable given that our focus on particular subareas of psychology does not necessarily match the broad expanse of our majors' interests.

Success measure: The number of cross-GT unit projects initiated, number of faculty, graduates, majors involved.

Strategy 7: Reinitiate school activities with outreach consequences

A number of traditional vehicles for community building and for outreach should be reinstated. Indeed, we have returned to a monthly colloquium series and have constituted an Awards Committee. Both have as one of their effects the promotion of the School of Psychology and its faculty and graduate students.

We have created an Associate Chair of Operations and Outreach. This position is responsible for generating and overseeing generic outreach activities across campus, in addition to serving as liaison for the School activities with a specific outreach component (e.g., industrial partners, Optimal Aging). The hope is that with this infrastructure in place, outreach activities will increase over the next several years.

Success measure: A documented rise in outreach activities.

GOAL 4: Co-lead Neuroscience at Georgia Tech

Strategy 1: Lead and expand the influence of the Center for Advanced Brain Imaging (CABI)

CABI is a vital resource for a significant number of faculty in the school. Six faculty use the facility regularly. Five faculty currently have labs in the CABI building (Audrey Duarte, Scott Moffat, Dobromir Rahnev, Eric Schumacher, Mark Wheeler), and one more (Thackery Brown) will move there when his lab is ready. In addition to its role in neuroimaging, CABI, under the leadership of its Director Eric Schumacher has become a hub for neuroimaging scholarly and research activity in the Atlanta area. The center hosts regular meetings and talks where researchers from local institutions can learn about the work of their colleagues and learn about advances in the field. CABI is a joint facility between Georgia Tech and Georgia State University. Leadership currently consists of the Director and an executive committee that advises the director. Given the vested interest in the longevity, vitality, and influence of the center to support cognitive neuroscience research, Psychology will achieve this goal by maintaining a role in the Center's leadership.

Success measure: Psychology faculty play a significant role in CABI leadership.

Strategy 2: Lead development of new funding sources

One strategy to help in our goal to co-lead neuroscience is to pursue sources of funding that bridge various units on campus. Georgia Tech has a unique profile of specialties that have tremendous potential to offer a unified program of training that combines various specialties, such as engineering, biological sciences, and behavioral science. One possible tactic is to lead the development of a training grant that supports cross-lab training between Biomedical Engineering and Psychology.

Success measure: New funding sources related to neuroscience are obtained.

Strategy 3: Maintain proactive involvement in the Neuroscience Community

The most effective means to help lead is to be involved. Faculty members have already been involved in developing Neuroscience at Georgia Tech. Eric Schumacher is Director at CABI, and he and Audrey Duarte served on the curriculum committee for the development of the Neuroscience major. Scott Moffat and Mark Wheeler served on the College of Sciences Neuroscience search committee in 2016-2017, which resulted in the hiring of Thackery Brown. Several faculty have given talks at the weekly GT Neuro Seminar series and the undergraduate NeuroClub. Maintaining involvement will help establish Psychology as a co-leader in Neuroscience on campus.

Success measure: Faculty serve on committees and give talks at Neuro events.

Strategy 4: Review and monitor enrollment patterns and the instructional input of Psychology courses that are part of the Neuroscience curriculum

Psychology offers one of the core required courses for the Neuroscience major, Biopsychology. It also offers a number of electives, including Behavioral Pharmacology and Sensation & Perception. Given the success of the new major in terms of enrollment, we anticipate a significant increase in enrollment in

these courses. Tracking enrollment will provide information about Psychology's efforts over time to provide instructional support for the Neuroscience major.

Success measure: Enrollment data are collected and evaluated regularly, and these are documented.

Strategy 5: Work to facilitate development of faculty toward senior leadership in Psychology and Neuroscience

Currently, there are no senior Psychology faculty members who are involved in GT neuroscience. All are at the level of Associate or Assistant. Given the already large numbers of faculty represented in the department, expanding by hiring senior faculty is unlikely. However, the school can help to develop existing faculty for promotion and leadership positions. One tactic is to extend, where feasible, the established mentorship program for Assistant Professors to include Associate Professors.

Success measure: Increase in full professors in the cognitive neuroscience specialty.

Goal 5: Improve the Diversity within our School

At our Fall 2017 School retreat, faculty were in full agreement that our School's record on gender and ethnic/racial diversity is not satisfactory and that we see increasing diversity as an important strategic goal for our community.

Considering the gender demographics of our current 24 faculty members, 29% are female. Of the 81 graduate students, 56% are female. And, of the 104 undergraduates, 80% are female.

Considering the representation of minorities within our School, we observe that approximately 76% of undergraduates, 86% of graduate students, and 96% of faculty would be identified in categories not defined as "underrepresented" (White/Caucasian, Asian, or International).

Based on this demographic information from 2016, we propose that our areas needing greatest attention in improving diversity is in addressing the gender balance among the faculty (i.e., hiring more women), and working to increase the number of individuals from underrepresented minorities (URM), Hispanic/Latino and Black/African-American, within our undergraduate, graduate, and faculty communities.

Strategy 1: Develop Postdoc-to-Faculty pathways as a means to recruit and support outstanding scholars who are from URM

We are intrigued by University of Michigan's (lsa.michigan.edu) approach to increasing the diversity of their faculty by creating "pathways to tenure track positions"—this means identifying early career scholars who are committed to contributing to diversity initiatives and who may benefit from a 2 year postdoc dedicated to supporting the transition to a tenure track appointment. We would like to evaluate this approach and explore funding possibilities for the recruitment and retention of scholars who would contribute to our diversity and inclusion mission. (The University of Michigan's program is hiring 50 such fellows).

Success measure: Securing funding for this postdoc and being successful in this hire.

Strategy 2: Improve diversity (in gender and URM) within the applicant pool for faculty positions through intentional recruitment efforts

In addition to participating in the mandated Institute sessions on implicit bias we have discussed issues of (explicit and implicit) bias and strategies for creating a strong pool of candidates that includes more women and scholars of color; this includes placing position ads on listservs of special interest groups that may have a good representation of URM. Faculty will also need to participate in these efforts by networking at their professional conferences, encouraging women and URMs to apply to our positions. It would also help if the Institute provided a demographic assessment of the available candidate pool so that we can assess our efforts against what is possible.

Success measure: Each slate of candidates submitted to College of Sciences for interview approval will include women and people of color.

Strategy 3: Increase number of URM applicants to undergraduate and graduate programs through outreach and recruitment activities to Atlanta High Schools with high URM, and Georgia HBCUs.

The Atlanta population is 54% African American (Census, 2010). It is also home to several well-regarded Historically Black Colleges & Universities (HCBUs). This community is rich with talented scholars who are African American and we are likely missing key opportunities to recruit such individuals to our School's undergraduate and graduate programs. The leadership team of the School will develop outreach activities to enhance our networking with AP Psychology classes in high schools and Psychology undergraduates at local HCBUs. We will also continue our participation in GT's Focus Scholars campus visit programs and in our summer camp for high school students in collaboration with our institute partner Center for Education Integrating Science, Mathematics & Computing (CEISMC). The racial demographics of the campers are consistent with the diversity in the Atlanta area.

Success measure: Plan and Implement at least one outreach event targeting high school AP Psychology students, and one outreach event targeting Psychology majors at HBCUs each year.

Strategy 4: Identify and secure funding resources to facilitate recruitment of top URM doctoral students

We are not alone in trying to recruit these talented students who happen to be from an underrepresented minority. We are competing against universities that have fellowship funds for these students. While a teaching assistantship guarantee is a nice offer, they are more likely to pursue the fellowship opportunity so that they have more time to do their research. We would like to work with the CoS Diversity Council and the Provost's office to explore ways that we can make progress on scholarship fund development.

Success measure: Establish a scholarship fund for URM graduate students.

Strategy 5: Understand impediments to minority recruitment, including tracking and statistics.

We are confident that there is much good will on the part of our (predominantly white) faculty to focus effort and attention on increasing the diversity of our faculty and students. What we need is a better understanding of why we have not "naturally attracted" a diverse faculty or student group. The School's leadership will seek to understand what factors may be impeding our progress and develop some recommendations for how we can effectively improve our record. Better awareness of minority issues, including tracking and statistics

Success measure: Documentation of effort made toward this strategy (e.g., training, consulting, implementation of recruitment strategies).

Goal 6: Improve operational efficiency, increase School's base budget, and address financial inefficiencies

The operating budgets for Schools at Georgia Tech are unusual in a number of ways. First, the chairs have a single line item to manage all aspects of the department; this means, for example, that should a chair overspend because too many graduate student recruits accept offers, the responsibility remains with the School and monies must be moved from operations. Because the vast majority of the budget is already committed (i.e., salaries), there is in reality little discretionary money in the budget. Second, unlike in years past, the Dean sweeps all empty positions and reserves the funds for future hires, including both salary and start up. Theoretically, this money belongs to the School and can be used in a variety of ways, but permission from the College is required beforehand. The previous review team explicitly mentioned the problem of living off of open positions. Third, Georgia Tech returns no overhead from grants to either the School or the PI. Retention of these funds allow new hires to receive large salaries and large start up packages.   However, this sometimes makes it difficult to support a well-funded researcher who is between grants or who wants to take a different tack. Finally, Georgia Tech has over the past few years requested the School to prepare budget cuts from 1% to 3%, and indeed we have returned $17,000 this past year, and over $40,000 the year before. Thus, in Goal 6 we hope to increase the funds for managing the School.

Strategy 1: Encourage faculty participation in School funding

There are two avenues at Georgia Tech that result in increases in the School operations budget from faculty participation: Buying teaching research; and buying research time. To date neither of these avenues is traveled often by faculty. In part this is because the limited grant dollars go for summer salaries for the PI and graduate students; however, there may be other reasons, such as the cost of buying out or the return on research time. We will explore these as part of a strategy to increase the inflow of funds to the operation budget.

Success measure: The number of dollars from these types of buyouts.

Strategy 2: Explore nontraditional educational opportunities (e.g., certificates, masters programs)

One way to increase school resources is to operate fee-paying educational programs. Our faculty agreed that we are not seeking to launch large-scale programs, but we saw the potential for smaller scale initiatives where it would be relatively easy to leverage our research and teaching expertise. For example, a professional education series on Optimal Aging (offering continuing education units) for gerontology professionals in Atlanta (or even online) could gain traction; something coming out of the new Work Science Center could attract attention. The School's leadership will also explore revenue-generating master's programs. We all agree that our main purpose is on-campus undergraduate and doctoral education, but there may be opportunities that could infuse funds to our school's budget.

Success measure: Recommendations from a faculty working group regarding fee-paying programs.

Strategy 3: Continually review expenditures, policies, and opportunities for increasing cost-sharing

Because the faculty receive no return on indirect costs, they rightly perceive the School as a resource to supply needed research related support, such as maintenance costs, software packages, and so on. At

times only a small number of faculty, in the extreme one, may need these resources. At other times, the school supplies resources of value across the department. In both of these instances, it may be worthwhile to develop procedures for including shared School resources in extramural grants.

Success measure: Amount of funds for shared resources as an expense to grants.

Strategy 4: Negotiate with the administration for a permanent increase in School's base budget

The operating budget for the School of Psychology is inadequate for many of the initiatives we would like to pursue. We have been engaging in cost-cutting (e.g., phones, participant parking) and been aggressively pursuing alternative funding. Much of this Strategic Plan centers on how to increase funding to allow an increase in our ability to fund projects. It is also the case that the faculty identified faculty size as a major weakness. In our program, faculty size manifests also as a problem in the number of programs the School can support.

Success measure: Increase in School budget.

Strategy 5: Improve student and alumni record-keeping

An area of departmental operational efficiency that needs attention is record-keeping of students and career/educational choices of our graduates. Also important is tracking alumni for future development and networking. The institute has some database tools (Degreeworks, GTReports), but these are only available to certain individuals; thus, it will be useful to maintain better records in-house (on password protected server) to increase efficiency and service to our outreach and evaluation (OATS) goals. This can be coordinated by the Associate Chairs and Advising team.

Success measure: Student/Alumni database is established and maintained.

Strategy 6: Improve OATS assessment documentation

In 2016-2017, we launched a significant effort to improve our assessment plan for measuring student learning outcomes (OATS; for SACS accreditation). This involved several new pilot projects for assessing student learning. Now that we have completed one "round" of the pilot, we need to establish a better system for documenting the student outcomes to make it efficient to enter data each semester. This increased efficiency will facilitate our OATS reporting.

Success measure: OATS database is established and maintained.

Strategy 7: Develop and maintain spreadsheet for tracking strategic success measures

Now that we have created a 5 year strategic plan, it will be important to develop a spreadsheet to track our progress on the strategic success measures. This will improve our efficiency in preparing self-study materials and annual evaluation of progress toward our departmental goals.

Success measure: Strategic Plan Success Measure Progress Spreadsheet is established and maintained.

Imagine the future

A School of Psychology . . .

where every psychological scientist wants to be

*whose advice is sought by decision makers throughout the Institute, the discipline, and the world: **ASK US!***

whose graduates go on to lead in science, business, and industry