ADVANCE-CoE Retreat White Paper

May 17–19, 2023

On May 17–19, 2023, 27 members of Georgia Tech gathered at Unicoi Lodge in Helen, GA to share their experiences in the College of Engineering (CoE), to learn from each other, and to receive briefings on programs at Georgia Tech. The participants, pictured and listed below, included faculty of all ranks, staff, postdocs, and students. Activities at the retreat included interactive presentations, panel discussions, and small group discussions on priority topics. The four priority topics identified by the group for small group discussion were

1. faculty hiring process and practice
2. parity in faculty salary and benefits
3. data analysis for diversity, equity and inclusion
4. inclusive teaching for student success.

The small group summaries are included as appendices to the white paper.

The four recommendations from the retreat are

- Prioritize the collection and access to accurate data so that the impact of DEI activities can be monitored, and the findings can inform future DEI activities and priorities.
- Collect and curate data on faculty recruiting and retention, including: (i) Faculty who receive an offer from Georgia Tech and choose to come to Georgia Tech, versus go elsewhere. (ii) Faculty who choose to leave Georgia Tech. What are the key factors impacting these decisions? What can Georgia Tech do to increase our success in faculty recruiting and retention?
- Prioritize transparency in all of the processes/procedures/practices/policies at Georgia Tech, such as the appointment for honorifics such as endowed chairs and Regents' professors.
- Work to develop a culture of inclusion within the classroom. Success means that race/ethnicity are not a predictor of student success outcomes, including GPA and time to graduation.

Retreat Participants

Alena	Alamgir	MSE
Salmata	Barrie	ECE
Terry	Blum	CoB
John	Christian	AE
Jonathan	Colton	ME
Kelly	Cross	BME
Naomi	Deneke	MSE
LaJauna	Ellis	CoE
Michael	Fisher	BME
Vanessa	Franco Carvalho Dartora	ChBE/MSE
Juanita	Freeman	ChBE
Martha	Grover	ChBE
Joy	Harris	ECE
Tequila	Harris	ME
Diley	Hernandez	IDEI
Sharon	Just	CEE
Pinar	Keskinocak	ISyE
Kaiya	Mitchell	BME
Kamran	Paynabar	ISyE
Devesh	Ranjan	ME
Mary Lynn	Realff	MSE
Michelle	Rinehart	CoD
Joel	Sokol	ISyE
Dae'Shawn	Taylor	ECE
Anuja	Tripathi	ChBE
Xing	Xie	CEE
Bo	Yang	ME

Appendix: Small group summaries

1. **Faculty Hiring Processes and Practices**

   Data collection, analysis and sharing

- Data/information: Look at the faculty numbers and demographics (separately for TTK and non-TTK), at the college level and school level, over time. What are the trends?
    - o Understand demographics at each stage. Where are potential causes of "leaks" and factors impacting diversity at each stage?
        - ▪ Applications --> Campus interviews --> Offers --> Decisions
- Share faculty hiring/retention best-practices across CoE schools and other units on campus. E.g., ME has several initiatives to increase the success of faculty hiring as well as the diversity of new hires.
- Cohort hiring / community building for women/URM faculty within a unit (and possibly across units)

   Applications --> Interviews

- Broaden the criteria to be considered by the search committee. In addition to traditional criteria such as publications and funding, the expanded criteria could include research impact beyond academia (e.g., government, industry, society), contributions and impact in education, entrepreneurship & innovation, past/potential contributions to climate and culture (including DEI), etc.
    - o Ideally, the rubric would align with the criteria in annual review and promotion/tenure evaluation.
- Research groups' influence in hiring vs. hiring to align with the school's overall priorities and strategic directions.
- More opportunities for hiring with some level of joint appointment across research groups, schools, colleges, to enable synergistic collaborations to address large, complex problems.
- The Provost/EVPR office can facilitate cluster hire opportunities on campus in partnerships with IRIs.

   Interview --> Offer

- Flexibility across teaching, service, and other expectations. For example, a faculty member who wants to develop an education outreach program could substitute that activity for teaching a course.
- A competitive start up package, including the identification of appropriate space, to ensure the success of the candidate's success if they come to GT.
- Dual career support – not just two hires at GT but within the Metro Atlanta area, especially at corporations etc. Create an environment to encourage candidates to raise two-body issues early (e.g., a chat with dean or chair who is not in the search committee to avoid bias) so that we can provide a better solution.

- MOU across multiple universities in this area to share resources to support dual hire processes?

- Social network and community: Ensure support for a candidate who might be the only (or one of few) from an underrepresented group in the unit. (Cohort hiring model for URM faculty)

- During the interview process, a person not affiliated with the school or college and not involved in hiring decisions, provides "general information" to "all" candidates who come for a campus interview. (e.g., this person could be a retired faculty member.) The general information could be related to work-life balance, resources, campus culture, dual career options, etc. and allow the interviewee to ask questions they may be uncomfortable asking current faculty and administrators.

- Make a list of the advantages of GT being at Atlanta (maybe a flyer), e.g., affordability, convenience in travel, climate, etc. A place not only for career, but also to live and raise kids.

- For non-TTK consider 3-5 year contracts rather than annual contracts.

  Post-decision

- Exit interviews – what other offers did they get? Why did they choose to come to GT or go somewhere else?

- Look at the first three years of faculty – from application to hiring to first two years on campus. Develop an integrated plan for new faculty.

- Mentoring, ideally with a "team" of mentors available to each new faculty member to provide information and support about financial systems, HR (e.g., post-doc or graduate student hiring), grant writing, research-related feedback, etc. The team could consist of staff members, faculty members from the unit, and a faculty member from another unit, to provide a broad perspective.

- Provide incentives to faculty members to broaden participation from women and URM in their research groups. Consider unit-wide incentives for cohort recruiting of women/URM Ph.D. students who would benefit from the "community even though they might be spread out to different research groups.

- Support integration of new faculty into existing professors' research groups and labs – provide incentives for lab expansions/renovations.

- Culture. Community building (e.g., faculty club where faculty can meet each other informally and make connections, have luncheons for faculty candidates and visitors and seminar speakers).

- Service expectations are made clear and are reasonable.

- Support in housing for new/junior faculties (housing downpayment as signing bonus).

- Relocation Support—Current numbers are not competitive, and Schools should be given flexibility to add funds to bring it closer to the market value (based on quotes etc). [This is especially a challenge for moving families from California, Seattle, etc...]

2. **Parity in Faculty Salary and Benefits**

OVERALL RECOMMENDATION:

More transparency in all of the processes/procedures/practices/policies at Georgia Tech. This includes those for data collection as well as those supports that are essential to function as a productive faculty member.

The data problem: In our discussion, we focused on the barriers and challenges that may lead to disparities in salary for faculty at Georgia Tech. We cannot fully understand the situation for faculty without having data that is relevant, in a usable form, and an analysis of that data to inform our decisions and measure our progress. Accuracy, accessibility, and data-quality are all required to allow analysis of the data so that it can be used to recommend measures to address the disparities. Currently, the data is in many different systems and includes inaccuracies and does not include important variables that may correlate with the faculty salary (and other resource allocations).

The faculty parity problem: At GT and COE our average and median differences in salary for women and some other groups are disparate when rank and time at GT are controlled. We need to determine the causes/reasons/explanations for these disparities, further explore them and mitigate them.

The issues: The following are some of the issues that we identified with initial recommendations for action. This is not a comprehensive list.

A. **Issue:** Getting data that is accurate and usable

   a. **Solutions/Recommendation**s:
   a. Work on cleaning up all data fields and putting them in a format for user to analyze.

   b. Get responsible offices, such as human resources, irp, institute diversity, hr, involved in cleaning up this data and prepare it for use– challenge, offices not traditionally seen as the ones to clean up this type of data for longitudinal analysis.

   c. Generate a "confirm your data" sheet (similar to what you get on an annual visit to a Dr. office) that employees must mark-up and correct/confirm at their annual review.

B. **Issue:** Some controls in parity analyses are debatable, such as time at GT and rank both being in the model. Need clarity on what variables need to be considered in understanding apparent disparities.

   a. **Solution/Recommendations:**
   a. We need to look at cluster comparisons (peer and near peer analysis)
   b. Outcomes other than salary should be considered.

   b. Start-up package, type of class taught, lab space time to function/produce findings, should be considered in the analysis of faculty success/resources.

C. **Issue:** Process/practices/mentoring for promotion and faculty development - People may be taking longer to be promoted (women/URM) which leads to lower salaries that compounds every year - Assure fair and equitable processes for going up for Full Professor. We don't have uniform procedures/processes.

Solution/Recommendations:

a. Put up successful cases somewhere that other candidates can see.

b. Develop mentoring programs that will include mentors who have just rolled off decision committees and who will not serve on the evaluation committees for the faculty that they are mentoring.

c. Chairs should be advising faculty and should value the ways that faculty contribute to the unit. They should be expanding the criteria that they use to reward faculty to consider this. For example, a faculty of color may be spending more time mentoring/advising the students of color in the unit.

d. Committees that evaluate other faculty should have training to make the process more consistent.

e. Consider the continuing disparate impacts of covid on differential trajectories of performance

D. **Issue:** Faculty leaving, and lack of exit/stay data from our faculty so we do not understand the situations that lead to faculty staying or leaving GT.

Solutions/Recommendations:
a. The COE Dean should be asking the chairs for data in a uniform format (dashboard of hiring and retention) that could be provided by the school HR lead.
b. Design and implement an interview process to collect, synthesize and analyze the situations that lead to persistence at GT.
c. Publicize/share information regarding department-level activities cited as helpful to retention.

E. **Issue**: Work life balance - impacts career progression

Solutions/Recommendations:
a. ASMD – Active Service Modified Duties – only available for tenure-track faculty – we should look at having this for non-tenure track faculty and Graduate Assistants.
b. Extended availability for affordable, quality, on-campus and off-hour child care to help faculty as they are trying to progress in their career, traveling, and conducting other GT activities.

F. **Issue:** Honorifics – the process to identify candidates for Regents Professor and Endowed Chairs is not transparent. Most faculty with these distinctions are men at Georgia Tech.

Solutions/Recommendations: Have a more uniform process that leads to a more diverse pool of candidates for these honorifics. Faculty affairs should take responsibility to move this forward.

3. Data Analytics in DEI

If DEI is important to do, it's important to do it right. Just like in applied research, we need to verify which good ideas and implementations are actually effective, by using designed or natural experiments, collecting data, and subjecting the data to rigorous analysis. We should also identify which approaches or implementations are not effective or cost-effective.

There are many individuals and groups across campus who engage in DEI activities, and it is unreasonable to expect that they all have rigorous training in statistics and data analytics. However, there is plenty of expertise at Georgia Tech (e.g., in ISyE and other units) to create a Center for Quantitative DEI to support the rigorous quantitative and qualitative assessment of DEI activities. Specific recommendations include:

- Assemble a team of faculty willing to lend their data expertise to individuals, programs, and units across campus to analyze available data to show impact of programs.

- Highly encourage bringing in the Center's expertise:

  o At the start to ensure that programs are asking the right questions and collecting the appropriate data to answer those questions.

  o In the analysis phase to ensure that the data is analyzed rigorously and correctly.

- Publish results (whether the activity is measured to be successful or not) with the Center listed as one affiliation of the Center's coauthor.

Ensuring that individuals and groups across campus know about this resource is necessary for its success. IRP and other data sources could make the recommendation to anyone who asks for a data set. EVPR would know of any NSF or other federally funded DEI studies. IDEI, COE's Associate Dean for Inclusive Excellence, etc. can also get the word out.

In addition to helping ensure that GT's DEI activities are successful, having this information can help make the case that GT's spending on DEI activities is impactful in positive ways, both on the state of Georgia and overall (e.g., in ways that provide opportunities to those who otherwise wouldn't have them).

Some specific programs that could be analyzed first as proofs-of-concept include:

- CEISMC's impact on college preparation/interest in STEM amongst its participants over time

- OMSA and other OMS programs impact on diversity in their technical fields

To allow the Center to work more effectively, it is important to catalog:

- What data is available around campus

- What data we should start to collect, and

- How to combine the various campus data sources effectively and easily.

Questions here include whether it is possible to survey the campus to determine the data gaps, and to determine what types of data should not be asked for (e.g., politically sensitive, potentially harmful).

4. Inclusive Teaching

Success means that race/ethnicity are not a predictor of student success outcomes, including GPA and time to graduation.

a. Work to develop a culture of inclusion within the classroom

b. Professors should review the CIOS questions about inclusion.

c. Offer paid research positions for undergraduates during the academic year

d. Provide need-based scholarships.

e. Provide free housing and food (note: reference the Strategic Plan)

f. Partner with CTL to offer inclusive teaching compulsory training along cyber security compulsory training.

g. Offer more training for teachers.

h. Collaborate with the Math department to review Math 1111/1113.

i. Partner with OMED to further improve the Challenge Program. Review Challenge data. How are Challenge students doing?

j. Why are we asking for majors when it's not considered?

k. Host an event like a Majors recruitment fair/ event to introduce all engineering majors to students. Recommend this event to other Colleges as well.

l. [Guaranteed 4.0 program](#)

m. Use grad students as ugrad advisors – BS/MS students

n. Make others aware of financial need to crowd source more solutions

Here are some websites that may be helpful to identify actions that faculty can take to make their classrooms more inclusive:

https://poorvucenter.yale.edu/InclusiveTeachingStrategies

https://teaching.cornell.edu/teaching-resources/assessment-evaluation/inclusion-accessibility-accommodation/building-inclusive-4#:~:text=Inclusive%20teaching%20strategies%20refer%20to,valued%20and%20able%20to%20succeed.

https://www.lifescied.org/doi/full/10.1187/cbe.19-01-0021