Watson College Additional Location Diversity Statement

Watson College has a rich history and deep commitment to diversity, equity, and inclusion.

We proudly display our college's commitment to diversity, equity, and inclusion on our website: https://www.binghamton.edu/watson/diversity/index.html. Specifically, our diversity statement, mission, vision, and goals are as follows:

Diversity Statement

The Thomas J. Watson College of Engineering and Applied Science at Binghamton University is committed to fostering a community that reflects our diverse society to ensure that its teaching, research, scholarship, and outreach programs include and serve a wide range of individuals. We self-evaluate and self-critique our environment to recognize and mitigate power imbalances, improve our policies and programs, and foster a culture of belonging. We strive for a community where all backgrounds, contributions, and perspectives are valued and respected.

Underpinning the technical, engineering, and computer science expertise of Watson College faculty, staff, students and alumni is an understanding that diverse and inclusive groups maximize potential, innovation and impact. We therefore develop structures and opportunities that improve the experience of all students, especially those who are underrepresented in engineering and computer science. Watson faculty, staff and students assist in cultivating a community of members that are conscious of barriers to social mobility, exhibit and act on empathy and compassion, and advocate for diversity, equity, and inclusion (DEI), both within the college and beyond.

Together, we learn, educate, innovate and work toward a more just and inclusive future. We embrace and cultivate our diversity and thrive because of it.

Mission Statement

The Thomas J. Watson College of Engineering and Applied Science is strongly committed to cultivating and sustaining an educational and employment environment that is diverse in race, ethnicity, gender, sexual orientation, interests, abilities and perspectives.

Watson College values diversity as a strength critical to its educational mission and expects every member of our community to contribute to an inclusive and respectful culture for all.

Watson College seeks to create and sustain learning environments where differences and similarities are valued and respected, and all students, especially women and underrepresented students, are included and empowered to excel in engineering education.

Vision Statement

In the pursuit of academic diversity and inclusive excellence, to establish an equity-minded STEM community that challenges and eliminates exclusionary systems and practices and promotes innovation and academic success for all students, faculty and staff.

DEI Goals at Watson

- ■ To become a leader in diversity and inclusion in engineering and computer science
- ■ To increase the number of historically underrepresented minorities and women in the Watson College student body, faculty and staff
- ■ To foster an environment that supports diversity, inclusion, equity and equity-mindedness

In 2021, Watson College was recognized with a Bronze-level award by the American Society of Engineering Education Diversity Recognition Program (ADRP).   The ADRP was created to publicly recognize engineering and engineering technology colleges that make "significant, measurable progress, in increasing the diversity, inclusion, and degree attainment outcomes of their programs." We plan to seek Silver Recognition if and when the program is resumed.
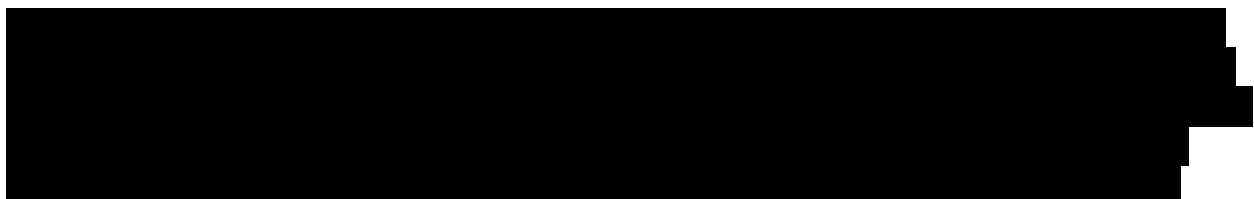
Watson Graduate Recruiting

The Watson Graduate Recruiting office (WGR) employs a dedicated team of professionals, whose mission is to create a large and diverse pool of talented graduate program applicants. WGR collaborates closely with academic departments, the Office of Graduate Recruitment and the Division of Diversity Equity and Inclusion. Some specific DEI-related recruitment and retention activities include:

- GEM Conference (Fall 2024)
- SREB Institute for Teaching and Mentoring (Fall 2024)
- GEM Information Session, co-leads WGRA/WEDEI (Fall 2024)
- McNair Conference (Spring 2025)
- WGRA/WCSP Graduate Info Session 4+1 (Spring 2025)
- CSTEP Conference (TBD, awaiting response re: tabling) (Spring 2025)
- Watson Advising Takeovers (2024-2025)

In addition to Watson's college-wide efforts, our departments and schools engage in unit-level efforts and initiatives. These are detailed in Appendices A-E.

Recruitment in ███

[REDACTED]

Our Watson Graduate Recruiting Office, with support from the Office of Graduate Recruitment and Admissions (OGRA) and Watson college faculty, will aggressively recruit students from our diverse set of partner colleges utilizing information sessions, campus visits, and social media outreach. The diverse nature of these partnerships will help to ensure cultural, religious, and gender diversity in our application pool. [REDACTED]

In addition, our partner, [REDACTED] will assist us in marketing efforts across [REDACTED] fosters a global academic environment and maintains an active portfolio of research engagements throughout the region, which can further be leveraged to recruit students to our graduate programs in [REDACTED]

Faculty Hiring

[REDACTED]

In addition to gender, socio-economic status and cultural diversity will also be considered when hiring new faculty members for the additional location.

We will carefully work with our partner, [REDACTED] in the hiring of faculty to teach in our programs. The qualifications for faculty at the new location will meet the same high standards to qualify to teach our curriculum and the hiring process of faculty/instructors for various programs will include representatives from our faculty from respective programs.

Appendix A

Departmental Broadening Participation in Computing Plan
Department of Computer Science
Binghamton University

Effective dates of Plan: 12/06/2023 - 12/06/2025

Contact: Weiying Dai, Associate Professor (wdai@binghamton.edu)

Context

Binghamton University (BU) is one of the four Centers in the State University of New York (SUNY) system, with a total student population of about 18,600. The campus is located in upstate New York in the Binghamton metropolitan area. The Computer Science (CS) Department, which is part of the Thomas J. Watson College of Engineering and Applied Science, offers Bachelor's, Master's and PhD degrees, and enrolls more than 1,450 students who are taught by about 40 faculty members.

At the undergraduate level, in the Fall 2022 semester:
- The CS Department included 702 undergraduates; 158 (22.5%) were women and 124 (17.7%) were from racial/ethnic groups that are underrepresented in computing: African Americans, American Indians including Native Alaskans, Hispanics, or Native Pacific Islanders. These numbers increased significantly from Fall 2019 – from 17.5% and 15.5%, respectively, but there is room for further improvements.
- The Watson College (including CS) enrolled 25.9% women undergraduates and 17.3% students from underrepresented racial/ethnic groups.
- BU undergraduates were 52.6% women and 17.8% students from underrepresented racial/ethnic groups.

We intend to increase the CS Department's percentage of undergraduate women and students from racial/ethnic groups that are underrepresented in computing by recruiting both externally and internally (as both the College and University have a higher percentage of women than CS) and by providing inclusive classroom and co-curricular experiences to promote retention.

At the graduate level, the CS Department had 25.6% women students and 9.3% domestic students from underrepresented racial/ethnic groups in the Fall of 2022.

Binghamton University, the Watson College, and the CS Department are all committed to diversity. The University recently established a Vice President for Diversity, Equity and Inclusion (DEI), and the Watson College has an Assistant Dean for Academic Diversity and Inclusive Excellence. The CS Department has a DEI Committee.

Goals, Activities, and Measurement

Goal 1. Increase the population of women in the CS undergraduate program to 30.0% (an increase of 33.3%) and of students from racial/ethnic groups underrepresented in computing to 23.5% (an increase of 33.3%) over the next 3 years. We set these numbers to be slightly higher than, but in line with, corresponding numbers in the Watson College, and nationally in Computer Science.

A1a: Establish connections with Binghamton High School, which has an ethnically diverse student body (African American: 30.6%, Hispanic: 15.6%, American Indian: 0.2%). Conduct outreach activities such as research presentations and coding camps to attract students to computing, encourage students to participate in research activities in our labs, and inform students about BU's computing program. **Measurement**: number of events held, number and demographics of students reached and students who apply to BU's CS program. *[Coordinator: Dai]*

A1b: Run an annual 2-week "Introduction to Coding and Computer Science" summer program designed for women and racial/ethnic groups that are underrepresented in computing for high school students. Continue to advise and track the progress of participants after they have completed the program. **Measurement**: number of students participating, survey to measure participants' satisfaction, number of participants who apply to BU. *[Coordinators: Naghibijouybari & Ismail]*

A1c: Meet regularly with personnel in the Undergraduate Admissions Office to discuss the CS Department's goal to increase enrollment of students from racial/ethnic groups underrepresented in computing for both freshmen and transfers and coordinate efforts with them to achieve that goal. Report outcomes of this collaboration to the full faculty during our annual retreat at the end of the academic year. **Measurement**: number of meetings with the Admissions Office, collaborative efforts established. *[Coordinator: Dai]*

A1d: Incorporate inclusive teaching practices into classes (resources include BU's Center for Learning and Teaching, "The Teaching Practices Inventory" (Wieman & Gilbert, 2017), and NCWIT's Engagement Practices Framework). **Measurement**: number of inclusive teaching practices implemented. *[Coordinator: Lewis & Ponomarev]*

A1e: Actively recruit women and students from racial/ethnic groups underrepresented in computing to participate in research experiences (see NCWIT's REU in-a-Box and CRA's Tips for a Successful Mentoring Experiences for mentoring best practices). **Measurement**: Number and demographics of students participating in research. *[Coordinator: Yang & Naghibijouybari]*

Goal 2. Strengthen our existing relationship with Prairie View A&M University (PVAMU, an HBCU) and initiate research collaborations with other HBCUs and increase the population of domestic graduate students from underrepresented racial/ethnic groups to 12.4% (an increase of 33.3%). Annually, 20% of BU faculty will participate in these collaborations.

A2a: Promote research collaborations between BU faculty and faculty at HBCUs by arranging campus visits and monthly webinars to learn about each other's research and identify mutual

interests. **Measurement**: number of meetings with HBCU faculty, number of BU faculty participating, number of joint proposals and papers. *[Coordinators: Dai & Ismail]*

A2b: Establish and run a summer day camp at BU's CS labs for juniors and seniors from PVAMU and other HBCUs to encourage them to pursue BU's CS graduate studies or careers in CS-related fields. **Measurement**: number of student participants from HBCUs, number of BU faculty participating, survey to measure student participants' satisfaction, number of HBCU students who applied for BU's CS graduate program. *[Coordinators: Naghibijouybari & Ismail]*

Goal 3. Annually, collect and report on departmental data relevant to broadening participation in our undergraduate program and graduate program to understand the challenges related to attracting, retaining, and ensuring the success of students from racial/ethnic groups underrepresented in computing.

A3a: Track undergraduate and graduate program data by gender and race/ethnicity including enrollment, retention, and graduation, and course DFW rates. **Measurement**: data collected and reported annually. *[Coordinator: Lewis & Lander]*

A3b: Coordinate student participation in the Data Buddies Survey (https://cra.org/cerp/data-buddies/) to obtain data on departmental climate. **Measurement**: student participation rate, data collected and reported annually. *[Coordinator: Lewis & Lander]*

Appendix B

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School of Systems Science and Industrial Engineering
Diversity, Equity, and Inclusion

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Diversity and Inclusion are both very important to the SSIE Department as the department firmly believes that a more diverse and inclusive department is essential for its students, faculty, staff, and society. In Fall 2023, the SSIE Department included 169 undergraduates, of whom 40.8% were women and 18.9% were from racial/ethnic groups that are underrepresented in engineering (African Americans, Indigenous Americans including Native Alaskans, Hispanics, Native Pacific Islanders, or multiple races). At the graduate level, the SSIE Department had 383 students in Fall 2023, of whom 34.7% were women and 10.7% of domestic graduate students were racial/ethnic groups that are underrepresented in engineering.

SSIE's position with respect to diversity and inclusivity is consistent: we make all efforts to foster a community in which individuals feel free to be their authentic selves while pursuing their educational goals. Intercultural connections are encouraged, including with international academic partners. We likewise seek out opportunities to celebrate the achievements of our students, and our social media and stories are a reflection of our student body and their efforts.

Specific efforts over time to continue improving the overall diversity and inclusivity of our community include:

- Expedited application review to initiate dialogue with candidates earlier, which can include encouraging URM candidates to apply for additional awards (e.g., Clark).
- Introduction of the National Consortium of Graduate Degrees for Minorities in Engineering (GEM) to Watson College and greater Binghamton University.
- SSIE faculty engaging with local high schools to foster earlier interest in STEM.
- Mentoring underrepresented groups, such as Professor Hiroki Sayama's introduction of Girls Who Code to Binghamton University.
- Participating in HBC/HBCU graduate events, collaborating on research, and visiting institutions.
- Participating in events and advertising with EOP Career Diversity Expo and related resources.
- Engaging in open/non-STEM forums such as the Idealist NYC Grad Fair, NYE Metro Career Night, and other events to expose more students to opportunities in STEM, and specifically engineering.
- Seeking articulation agreements with institutions with high URM representation (e.g., University of Hawaii-Hilo).
- Promoting women in STEM, including engagements with ███
- Encouraging student participation in WORMS (Women in Operations Research and Management Science) and actively recruiting from this group.

- Sponsoring community events and organizations, such as the Binghamton Men of Color Summit (BMOC), events of the Black Student Union, and Life After Bing (LAB – presently inactive).
- Promoting support via the Watson African American, LatinX, and Native American (AALANA) Success Fund.
- Funding student conference attendance to SWE, NSBE, and other events.
- Focused promotion of LSAMP and McNair funding and supervision.
- Collaborating with SSD on an Autism Internship and the Institute for Child Development (ICD) on a dedicated research project.
- Support of the Watson Scholars Program and initiation of the WISE SEEDS Program.
- Faculty advising of NSBE and other groups.
- Participating in available diversity initiatives and forums.
- Partnering with healthcare networks, unions, and the NYC governmental offices to extend scholarship opportunities to healthcare providers and NYC government workers, including many students from underrepresented populations.
- And, of course, continued communication and collaboration with other offices working in the advancement of DDEI initiatives.

The SSIE Department is also working towards increasing the diversity of its faculty. The department appreciates the importance of faculty role models for students with different racial/ethnic groups and for women students. The department started the practice of having one member of the faculty search committee serve as the diversity advocate during the 2022-2023 search cycle and this practice is continued in the current 2023-2024 cycle. These efforts to support a faculty and student population that is more equitably representative of our planet have included advertising for faculty in targeted diversity hiring forums as well (e.g., EOP Diversity Career Expo, Academic Diversity Search, etc.)

While there are individual diversity "champions" within our collective (e.g., participants in Watson and other DDEI committees, diversity advocates on all hiring searches, contributors to UDiversity and other initiatives), all members of our group are expected to celebrate the differences within our community and promote environments in which all members of our campus community feel included and welcomed. Our faculty/staff team continues to work closely with Dr. Carmen Jones, Assistant Dean, Academic Diversity and Inclusive Excellence, Watson College, and other diversity advocates and support offices across campus.

Appendix C

Broadening Participation Plan
Department of Electrical and Computer Engineering
Binghamton University (SUNY)

Effective dates of Plan: January, 2023 - present

Contact: Doug Summerville (E-mail: dsummer@binghamton.edu), Tara P. Dhakal (tdhakal@binghamton.edu

Background statement: Binghamton University (BU) is one of the institutions within the State University of New York (SUNY) system, with a total student population of about 18,000. The campus is located in upstate New York in the Binghamton metropolitan area. The Electrical and Computer Engineering Department, which is part of the Thomas J. Watson College of Engineering and Applied Science, offers Bachelors, Masters and PhD degrees, and enrolls around 500 students who are taught by over 25 faculty members.

At the undergraduate level, in the 2022-2023 academic year:

·   The ECE Department included 101 undergraduates; 17 (17.0%) were female and 49 (49%) were from groups that are underrepresented in engineering: African Americans (6%), American Indians including Native Alaskans (0%), Hispanic or Native Pacific Islanders (13%). As a comparison, total # of students from underrepresented groups in engineering were 181, out of which 27% are from ECE which is encouraging.

·   As a comparison, total # of BU undergraduates were 3643, among which 1863 (51%) were women.

At the graduate level, the following is the student statistics for the 2022-2023 academic year:

      Total # of ECE Department graduates - 59
           o # of female students – 9 (15%)
           o # of international students- 10 (17%)
           o # of students from groups that are underrepresented - 22
                 § Among them, African Americans - 1 (4.5%)
                 § American Indians including Native Alaskans - 0
                 § Hispanic or Native Pacific Islanders - 5 (23%)
     · Total # BU graduates - 1453
           o women - 707
           o students from groups underrepresented- 663

While this is encouraging, no. of female students remains significantly low in every ethnicity. Additionally, no. of Black or Hispanic students remained relatively the same in the last 5 years. The department needs improvement in these areas.

Binghamton University, the Watson College, and the ECE Department are all committed to diversity. The University has a Vice President for Diversity, Equity and Inclusion, and Watson College has recently established a new Assistant Dean for Academic Diversity and Inclusive Excellence. We will continue to work with both of these offices to implement our department initiatives.

Initiatives and Plan:

    a.   Student Recruitment Initiatives:

Local initiatives:

- Recruit more 1st year students (coordinate with Watson for recruitment)

    - Establish contact with local high school guidance counselors

    - Short presentation about ECE during the recruitment events

- Create opportunities for faculty and senior students to meet the 1st year student classes to talk about ECE

- Establish summer programs that bring high school students and parents to ECE (or Watson)

    - Example: John Hopkins has a week-long summer program for students and parents

- Visit and work with local companies, e.g., TechWorks, as a resource for recruitment

- Create a Female Student Club that helps to understand and address their challenges

- Have a town hall type event once a semester, inviting some minority students to discuss to enhance their representation, educational/research experience, etc.

National Initiatives:

- Attend conferences like the Southern Regional Education Board (SREB) to showcase department activities and degree programs (e.g., promote MS and PhD programs). The attendance puts ECE and Watson on their radar

- Encourage faculty to collaborate with HBCU and HSI institutions

§ Include them in collaborative grant proposals

§ Schedule seminars from both sides

§ Invite to present in local BU conferences (Watson funds for economically disadvantaged students needs to be established)

- Explore NSF programs that support STEM research

- ECE previously had an NSF STEM grant that provided $10,000/yr to economically disadvantaged students

International initiatives:

- Establish relationship with international institutions

  - Initially through faculty contacts/collaborations

  - Use Watson dean's office templates already used to recruit students through combined degree programs

- Explore viability of enrolling female students from ███ or elsewhere

  - Visit intuitions which Watson has established relationship with

  - Focus to boost female undergraduate numbers because the current ECE female international enrollees are mostly graduate students

b.   Faculty and Staff Recruitment Initiatives:

- Advertise job in several sites including visibility in

  § SREB, HSI and HBCUs

- Have diversity advocates in the department (already in place)

- Hiring faculty has been a difficult task because of lack of low number of qualified candidates

  § Effort should start from how to encourage families to send their kids to STEM field (Family visit programs to Watson needed)

  § Request Watson DEI to find information on how other institutions are doing

Appendix D

Diversity and Recruitment Plan
Department of Mechanical Engineering, SUNY Binghamton

- **Engage** with students one-on-one during sophomore and junior advising. Each faculty member shall discuss graduate school opportunities (4+1 BS/MS, etc.) with students and encourage qualified students to apply.
- **Partner** with student groups (SWE, NSBE, etc.) to support visits and presentations from a diverse range of engineers, scientists, alumni, etc.
- **Encourage** students to apply to programs at DoE, NSF, etc. (including diversity programs) in collaboration with faculty members; make deadline dates available to students.
- **Leverage** diversity programs (Clark, GEM) to recruit our own undergraduate students.
- **Recruit** diverse faculty through University partnerships and targeted marketing of open positions.
- **Support** activities organized by the Dean's Office to enhance recruitment and retention.
- **Measure** demographic trends using data provided by OIR.
- **Create** an inclusive learning environment for students; ask graduate students and teaching assistants to attend workshops on international communication (provided by Watson Advising).

Appendix E

<u>Diversity and Recruitment Plan</u>
<u>Department of Biomedical Engineering, SUNY Binghamton</u>

The Biomedical Engineering department at the Watson College of Engineering and Applied Science has a strong track record in recruiting students from diverse backgrounds. This recruiting strategy is built on our success with NSF REU sites (90% of trainees were from underrepresented populations). The department currently has five Clark Fellows and one GEM fellow. In the last three years, the department has trained three McNair Scholars, one Beckman Scholar, and two LSAMP scholars. Additional DEI initiatives include:

- Establishing a Committee on Diversity, Equity, and Inclusion
- BME's Diversity Committee is working with the Graduate Study Committee to develop strategies to recruit students from underrepresented groups. These strategies include:
    - Advertising the BME graduate program at the Southern Regional Education Board (SREB) Institute on Teaching and Mentoring Annual Conference
    - Participating in HBCU-Thurgood Marshall-Watson College Alliance to attract students from minority serving institutions (MSIs)
    - Attending the Biomedical Engineering Society annual meeting to recruit students from underrepresented groups
- BME faculty established a national Council of Diversity at Biomedical Engineering
- Invited to chair Power Hour on DEI initiatives in the field during the 2023 Biomanufacturing Gordon Research Conference