

**Departmental BPC Plan
Innovative Computing Laboratory (ICL)
University of Tennessee**



Effective dates of Plan: 01/04/2023- 01/04/2025

Contact: Deborah Penchoff, Associate Director, dpenchof@utk.edu

1. Context

The University of Tennessee, Knoxville (UTK) is a public land-grant R1 university and flagship campus of the University of Tennessee. The Innovative Computing Laboratory (ICL) is an externally-funded research center at UTK which focuses on enabling technologies and software development transitions from research into production for advances in high performance computing (HPC). The center is part of the Electrical Engineering and Computer Science (EECS) department in the UTK Tickle College of Engineering (TCE). As a research center, ICL is composed of researchers (faculty, research scientists, research associates, and graduate and undergraduate students) and administrative staff. ICL is not an academic unit, and there are no teaching responsibilities intrinsic to the center. ICL students pursue research efforts as graduate or undergraduate research assistants.

The demographics of those earning computer science (CS) degrees in the United States, as reported by the National Science Foundation, indicate that the CS population obtaining undergraduate degrees is 48% white (non-Hispanic/Latinx), 21% female, 16% Asian, 11% Hispanic/Latinx, and 8% African American. Compared with national demographics, ICL has a higher white (non-Hispanic/Latinx) population at 78%, an equivalent Asian and female population at 16% and 19%, respectively, and lower Hispanic/Latinx and African-American population, at 6% and 0%, respectively. This shows that ICL is out of sync with this population in the proportion of African Americans and Hispanic/Latinx members. Percentages in such a small sample, though, mean that there are only 1-2 individuals in ICL in the categories that are represented. ICL has the potential to influence the new generation of researchers since it provides a unique research setting. Currently, ICL has a total of 32 researchers (including faculty, research staff, and students). We seek to include more undergraduate and graduate students, post-docs, and junior level researchers from historically under-represented groups (HURGs) to enhance the experience and the innovations in the center. We will focus on increasing recruitment and retention of African-American and Hispanic/Latinx students and researchers.

2. Goals (G), Activities (A), and Measurements (M)

G1: Improve departmental policies to foster inclusivity to aid in recruitment and retention of students, faculty, and staff (SFSs) from HURGs through learning (A1.1) and mentoring (A1.2). Target: 1 year after Activities start date.

A1.1a: Develop a departmental committee focused on outreach, engagement, and service.

A1.1b: The committee will develop a survey to evaluate departmental climate and departmental service obligations. Discussions about results will be addressed in departmental

meetings, with particular attention to differential outcomes for different groups, if there are any.

A1.1c: Develop a departmental learning program. ICL members will engage in events organized by the committee including efforts from the UTK Office of Diversity and Engagement (ODE), the Office of Diversity and Inclusion in the Tickle College of Engineering (TCE), and others available in the computing community, such as the [NCWIT 101 course](#).

A1.1d: Develop a consolidated list of events and activities available to ICL students, faculty and staff to increase BPC learning (distributed through ICL's website and newsletter).

A1.1e: The ICL seminar will include at least one speaker per year to address BPC.

A1.1f: The UTK Department of Human Resources (HR) has implemented an outreach and engagement objective for all employees. The committee will adopt scoring rubrics from established UTK departmental groups in TCE and in the College of Education.

A1.2a: The department will ensure that faculty and staff from HURGs have equitable access to opportunities to participate in relevant professional development.

A1.2b: Faculty and staff from HURGs often receive less informal mentoring than other faculty and benefit particularly from formal mentoring. Faculty and staff members from HURGs will be assigned a mentor in the center. External mentors for new members from HURGs will be recruited externally if needed. Those with responsibilities as mentors and peer evaluators in the department will receive training on inclusive mentoring and evaluation through available institutional programs through ODE and HR.

M1.a-b: Departmental climate and service survey. Special attention will be paid in analysis to the experiences of individuals from different HURGs to facilitate discussion of trends and climate. Surveys will be pursued once per year, starting at the beginning of Y1.

M1.c-e: Participation in learning opportunities will be tracked.

M1.f: The committee chair will evaluate the outreach and engagement objective for all ICL members' annual performance evaluations. Data from these evaluations will be used to measure progress in departmental involvement.

M1.2a-b. The department survey will include questions about professional development opportunities and mentoring experiences.

G2: Increase diverse participation in computer science by engaging students from HURGs from K-12 local schools with high African-American populations (A2.1), and 2- and 4-year HBCUs (A2.2). Target: (1) Establish connections 1 year after Activities start date. (2) Complete programs 2 years after start date.

A2.1a: Partner with Project GRAD and opportunities from UTK at departmental, college, and institutional levels. This effort will focus on K-12 schools in the area which have a large population of African American and Hispanic/Latinx students, with which ICL has current active relationships.

A2.1b: Leverage TCE programs such as the One UT Thousands of STEM, Women in Engineering, and the pre-college HITES program. This will include creating summer programs to provide tours and introductory computer science engagement to K-12 students and teachers.

A2.2a: Create summer research programs for students from 2- and 4-year HBCUs.

M2.a: Data from student enrollment and participation in proposed activities.