January 4, 2017

To the External Review Committee:

First, let me express my sincere appreciation for your service as external reviewers for the Department of Computer Science (CSc) at Georgia State University. I understand the demand on your time and very much appreciate your willingness to help. Your expertise and insights into the state of the department and its future directions will be critical to our effort in formulating a strategy to move forward.

I have enclosed the department’s self-study report, which provides a comprehensive summary of the state of the department consistent with the strategic directions specified in Georgia State’s current 10-year strategic plan. The cover letter from the department chair, Dr. Sunderraman, also captures the salient issues reflected in the report.

In terms of the state of the department, the most prominent issue—both challenge and opportunity—is the recent rapid growth in enrollment credit hours and number of majors. An imminent plan to establish pre-majors with a GPA cutoff should help alleviate some of the pressure. However, this may just be a temporary re-set, and we expect this trend of rapid growth to continue. On one hand, this rapid growth strains the department in many ways. Chief among these challenges are the need for additional dedicated instructional space and the current heavy reliance on Ph.D. students to teach many of the courses. On the other hand, the high level of interest by students in computer science presents a unique historical opportunity. The self-study report outlines areas of growth needed. I would also appreciate your analysis and advice on the best way for CSc to manage this growth while capitalizing on existing opportunities and pursuing further growth in a strategic way.

CSc has also seen a steady growth of its graduate program. Currently, the department has 78 Ph.D. and 99 M.S. students. I agree with the assessments of the department chair and the self-study committee chair, Dr. Yanqing Zhang, that the current faculty/graduate student ratio is healthy. However, there are opportunities for the further growth of the CSc graduate programs because of the excellent job market and students’ high level of interest in CSc. The department intends to expand its offerings at the master’s level to include programs or concentrations in computational data analytics, cybersecurity, computer engineering, and cyberphysical systems (the “internet of things”), and there may be other opportunities. Factors that pose a major
challenge to future growth of the graduate program include limited space and low stipend levels. I would appreciate your analysis and advice on the best way to strengthen the graduate program and capture any other opportunities that are within reach of the CSc department, understanding of course that any such strengthening must come from growth in resources in a time of budget austerity.

In the area of research, the CSc faculty has been quite productive. However, productivity is uneven among members of the faculty. The annual external funding level for the past three years averaged about $1.5M, with some year-to-year fluctuations. There is room for growth, as Dr. Sunderraman stated in the department chair’s cover letter. With some recent new hires, one can expect further growth. Dr. Sunderraman laid out a plan to grow in specific areas, which reflects departmental strengths and growth opportunities. These areas include big data, bioinformatics, and cyberphysical systems. Additional areas of tremendous (multi-disciplinary) opportunity may include cybersecurity and personalized medicine. I would appreciate your thoughts and advice on strategic directions of growth within the context of the department’s current state and the prospect of establishing distinct strengths and unique positions regionally and nationally.

CSc is already collaborating with many units on campus, very productively. CSc faculty and researchers are contributing to interdisciplinary projects on astroinformatics, big data, bioinformatics, computational genomics, data analytics for business, cybersecurity, and transcultural conflict and violence. I would appreciate your thoughts on ways to further promote interdisciplinary collaborations including new organizational structures if warranted.

An additional goal identified in the department’s self-study report is to expand training and outreach activities to serve several populations, including non-CSc majors at Georgia State, industry, and the local community. The department proposes workshops for private sector employees and the creation of certificate programs in various areas such as database management and basic coding. I would appreciate your thoughts on the feasibility of these objectives. How can the department increase its outreach activities in such a way that strengthens mutually beneficial relationships with the private sector, in particular, to pave the way for internship programs and fundraising opportunities?

I look forward to your analysis and insights on the state of the department and its future directions.

Sara Rosen, Dean
College of Arts and Sciences