Position Specification

University of Pittsburgh
Dean, School of Computing and Information

September 2016
Computing and information are increasingly important to much of what we do as a society, whether in science, medicine, engineering, business, government, or individual lives. Today, computing is everywhere, and the degree to which computing and our physical and social worlds are entwined is having a profound effect on research, education, and innovation. The transformation that is underway will transcend current notions of interdisciplinary research and education. Important to this transformation is the fact that computing is becoming deeply integrated in the context in which it is done, and no longer simply stands alongside other domains. Such "contextually situated computing" is about the importance of the deep embedding of computation and data into research, education, and innovation throughout many domains. By symbiotically transferring and creating knowledge, the progress and impact of computing and the domains in which it is embedded will be dramatically accelerated and strengthened in ways that cannot be achieved in isolation.

The University of Pittsburgh (Pitt) is creating a new School of Computing and Information to be an internationally renowned leader in contextually situated computing. This new school will serve as the nexus for computing and information science throughout Pitt. Applications and nominations are invited for a visionary and entrepreneurial builder to serve as the School’s founding Dean. The Dean will play a pivotal role in working with university leadership and faculty to create and expand the School to grow Pitt’s efforts in disciplines within computing and information, and also integrate this expansion with other strengths of the University in research, education, and innovation. The founding Dean will lead an expansion of the School’s faculty, growth in research activity and funding, and development of programs that reflect a vision of the School as a hub of computing. This expansion will include a dramatic rethinking of the ways in which computing and information scientists conduct research, education, and innovation. The founding Dean will also be expected to play a major role in fundraising for the School and related activities of the University, and in articulating the vision for the importance of computing and information in research and educational efforts at the University.

The School of Computing and Information will be initially formed by combining the current Department of Computer Science and the School of Information Sciences. The creation of this new School represents a decision to dramatically extend research, educational, and innovation efforts in computing and information sciences to be tightly integrated with other significant strengths of the University in areas such as biomedical and health sciences, learning sciences, engineering, physical sciences and digital humanities. In addition, the School is strongly supported by leading academics, including Pitt’s neighbors at Carnegie Mellon University, due to the significant opportunity it presents to engage in innovative collaboration beyond the University. The School is a key priority of the Provost and Chancellor and a critical element of two initiatives of the University’s strategic plan. The new School is expected to be an important focus of a future capital campaign that will seek to raise resources for endowing faculty chairs, providing support for initiatives in research, education, and innovation, and supporting infrastructure in the form of space and research infrastructure. To achieve the vision of contextually situated computing, we anticipate that the School will grow significantly with tenure stream faculty increasing from 42 at the time of founding to between 55 and 60 in the next five years.

Ranked among the top 25 U.S. public universities according to U.S. News and World Report, and 39th in Thomson Reuters' list of the world's 100 most innovative universities, Pitt is a member of the prestigious
Association of American Universities. Pitt is one of the top ten most research active universities in terms of federally funded research with particular strengths in biomedical and health sciences, engineering, and learning and educational sciences. As articulated in the University strategic plan, the Provost and Chancellor strongly support the strengthening of expertise in data and computationally intensive science as a key to expanding the scope and impact of research, education, and innovation across the University and beyond. The School of Computing and Information will be the keystone of this expansion.

The University of Pittsburgh
Since its founding in 1787, the University of Pittsburgh has established itself as one of the finest public research universities in the nation. With an enrollment of more than 34,000 students, the University is one of the largest and oldest institutions of higher education in Pennsylvania and is a member of the Association of American Universities. The University is internationally respected as a center for learning and research that supports the needs and interests of more than 13,000 faculty members, research associates, and staff members. The University is composed of 16 undergraduate and graduate schools, including nationally recognized schools of health sciences, engineering, law, and business, as well as the four regional campuses.

Under Chancellor Gallagher’s leadership, the University of Pittsburgh recently launched The Plan for Pitt, the University’s strategic plan, which focuses on creating internal and external collaborations and partnerships to deliver impact; harnessing information in pursuit of grand challenges; and shaping a more entrepreneurial, innovative and inclusive culture. The Plan builds on Pitt’s rich history of community support and global impact, and its exceptional research strength and academic programs that prepare students for productive and meaningful lives. The Plan also builds on more recent strategic initiatives, such as the creation of the Innovation Institute to advance Pitt’s successes in entrepreneurship, commercialization, and economic development. The Innovation Institute’s establishment was part of a broader effort to cultivate an environment that empowers faculty, students, and staff to reach greater heights in their innovative research and entrepreneurial activities.

The University of Pittsburgh has served as an integral partner and key player in driving the growth of the education and health services supersector in the Pittsburgh metropolitan region. Pitt and its affiliate, the University of Pittsburgh Medical Center (UPMC), have been major contributors to that economic sector; the “eds and meds” sector now is responsible for more than one out of every five local jobs. Pitt is the fifth largest employer in the city of Pittsburgh. University of Pittsburgh research has been a key source of economic growth, and since 1995, Pitt has attracted nearly $9.5 billion of sponsored research support into the region.

Pitt ranks 10th overall and sixth among public institutions in the National Science Foundation’s most recent ranking of federally-funded research and fifth in NIH funding. In 2016, Pitt was 39th on Reuters’ list of the world’s 100 most innovative universities, and was 13th among public universities in the inaugural Wall Street Journal/Times Higher Education ranking of institutions based on student success and learning. The University is also the highest ranked public institution in the state of Pennsylvania on Kiplinger’s Best Value Colleges list.

The University of Pittsburgh’s research has provided the foundation for future-oriented technology-based economic development initiatives. The growth and dynamism of the region is due in large part to
the relationships forged by Pitt, UPMC, Carnegie Mellon, private industry, and the community. While other regions struggled through the great recession, the Pittsburgh area was able to continue on its path of growth and diversity.

From research achievements to the quality of its academic programs, the University of Pittsburgh ranks among the best in higher education. Faculty members have expanded knowledge in the humanities and sciences, earning such prestigious honors as the National Medal of Science, the John D. and Catherine T. MacArthur Foundation’s “genius” grant, the Lasker-DeBakey Clinical Medical Research Award, and election to the National Academy of Sciences and the National Academy of Medicine. Pitt students have earned Rhodes, Goldwater, Marshall, and Truman Scholarships, among other highly competitive national and international awards. Alumni have pioneered MRI and TV, won Nobel and Pulitzer prizes, led corporations and universities, served in government and the military, conquered Hollywood and The New York Times best sellers list. Pitt graduates have also won Super Bowls and NBA championships.

The University comprises five campuses. The 132-acre main campus is located in the city of Pittsburgh, a few miles from the city’s downtown business district. The University’s four regional campuses are located in Western Pennsylvania in Bradford, Greensburg, Johnstown, and Titusville. The University employs nearly 5,300 faculty and approximately 7,000 staff. Pitt has an endowment of over $3.5 billion and has more than 300,000 living alumni worldwide.

**School of Computing and Information**

The University of Pittsburgh foresees an emerging new era of computing which requires understanding and applying computing and information in the *context* in which it is being used. With the pervasiveness of computing and digital information, *computing and information* has become and will be even more interwoven with disciplinary domain areas. Contextually situated computing will transform how universities approach research, education, and innovation. The new School of Computing and Information, initially comprised of the Department of Computer Science and the School of Information Sciences, will serve as the nexus for computing and information science throughout Pitt, and will lead this transformation. The new School will provide an environment enabling larger scale computing and information-related research, thus leading to new scientific discovery, deeper and broader education of undergraduate and graduate students, and greater impact on society. Having well recognized research groups in unique and future-facing areas will benefit the entire University by enabling large interdisciplinary research projects, since computing and information technology are becoming pervasive themes in almost all aspects of the sciences and humanities. The new School will create a center of excellence that will broadly influence research, education, and innovation efforts throughout the University by facilitating internal partnerships and bringing computing into disciplines across campus. The School and its faculty are also expected to play a central role in efforts to expand entrepreneurship activities and external partnerships.

The creation of this new School was motivated by the widely held belief that the University of Pittsburgh’s institutional strength in the increasingly important areas of computing and information sciences could be enhanced through a structure and investment that allows for greater integration and coordination of the research, academic and innovation programs across campus. The School aspires to facilitate and accelerate computing and information-fueled discovery and creativity throughout the University. Computing enables the integration of computational thinking and data-intensive discovery.
into a range of natural, physical and social fields to explore new approaches and develop efficient solutions to a wide range of grand challenges critical to our lives. The integrative approach to scientific discovery, enabled by computing, has ushered in a paradigm shift within and across academic disciplines, triggering a rethinking of how research in essentially every discipline is conducted and how knowledge can be discovered.

New scientific discoveries and innovations increasingly lie at the intersections of traditional disciplines; information and computing technologies are often intrinsically embedded within these disciplines. Domain scientists and educators require sophisticated understanding of what computing can provide, and computing scientists and educators need a deep appreciation of the requirements of the application domain. The School will focus on research and education leading to innovative solutions to complex problems in computer and information science, driven by opportunities and grand challenges that impact such key areas as healthcare, national security, and personalized education.

The School will:

- Become the intellectual hub for interdisciplinary research, teaching and outreach activities in computing and information. It will build on existing synergies to create a critical mass of faculty in several research areas and foster collaborations across and between constituencies in research and innovation.
- Enhance and transform existing programs and develop new multidisciplinary programs, focused on fundamental knowledge, insights, and skills from other domains to educate outstanding students and next generation scientists in information and computing technologies.
- Catalyze and support collaborative research activities and industrial, cultural, and community partnerships. Foster close collaboration not only with the Innovation Institute and key university partners, but also rich engagement with visiting scholars, researchers, entrepreneurs, and industrial partners. The objective is to enable the collective thinking, managed coordination, and spontaneous communication critical to fostering creativity and building shared knowledge.
- Build programs to accelerate innovative uses of computing and information throughout the University and to transfer technological discoveries through the Innovation Institute to foster the creation of companies and related entrepreneurial ventures among faculty and students.

The School will support the Chancellor and Provost by advancing two key initiatives of the University strategic plan: Partnering for Impact, which involves both fostering internal collaboration across campus and building partnerships with private, public and government organizations; and Harnessing Information, which will facilitate transforming the scale and impact of research, education, and innovation efforts throughout the University.

Organizational Structure and Faculty

At its founding, the structure of the School of Computing and Information will be a fusion of the Department of Computer Science and the School of Information Sciences. The founding Dean will be expected in the first few years to develop a structure that facilitates contextually situated computing, an entrepreneurial and collaborative culture, and high standards for excellence in research and teaching, thereby bringing together disparate parts into a cohesive whole.
The faculty of the new school will be initially composed of faculty with appointments in the Department of Computer Science (CS) or in the School of Information Sciences (SIS).

The administrative restructuring supporting the new School is to begin during the spring term of 2017, enabling the School to be formally established on July 1, 2017, with the first cohort of students matriculating in the new School for the fall term of 2017.

Academic Programs
The departments in the new School initially will offer the current academic programs of SIS and CS including undergraduate, Masters, 5-years combined BS/MS, and Ph.D. degrees, as well as Certificates of Advanced Study. In the future, the new School anticipates developing a set of additional interdisciplinary certificates, specializations, and degrees in collaboration with other Pitt schools. The Computer Engineering degrees, the Intelligent Systems degree and the Computational Biology degree are three current examples of such interdisciplinary degrees. These programs will be maintained after the creation of the new School and will provide a model for the development of others.

In 2015, there were 504 undergraduate majors between SIS and CS. The Master of Library and Information Science (MLIS) program had 109 students in 2015 while the Master of Science in Telecommunications (MST) and Master of Science in Information Science (MSIS) had combined enrollment of 328. PhD enrollment between the two units was 124 in 2015.

At inception, three undergraduate pathways are envisioned:

- **BS in Computer Science** – mathematically rigorous, laying the foundation for exploring advanced topics. Computer Science students study solving problems using computational methods, notably those that could be practically implemented by machines. (The CS department currently offers this degree.)

- **BS in Information Science** – provides knowledge and skills needed to build information systems, design user interfaces, secure digital environments, and synthesize IT solutions and applications. The emphasis on people, information, and technology enable IS students to integrate technical, cognitive, and social aspects into design and development of socio-technical solutions. IS students develop an understanding of how to build information systems and an understanding of their impact, by studying their usage, ethics, dynamics, and social consequences. (SIS currently offers this degree.)

- **Interdisciplinary BS** – strong foundation in computing and information while simultaneously gaining expertise in a domain discipline.

The graduate program in the Department of Computer Science awards degrees at both the Master’s (MS) and Doctoral (PhD) levels. The MS Program has a project-based track for students planning for careers in industry, and a thesis-based track for students wanting to hone their research skills. The PhD program combines formal coursework with both supervised and independent research to prepare students for careers in research and/or teaching in computer science.

Founded on the core principle of connecting people, information and technology, the School of Information Sciences currently offers MS and PhD degree programs in Information Science and
Technology (MSIS, PhD-IS), Library and Information Sciences (MLIS, PhD-LIS), and Telecommunications and Networking (MST, PhD-TEL). The Master’s degree programs prepare students who are planning for careers as information professionals in industry. The PhD level programs engage students in independent, high quality theoretical and applied research, as well as in teaching. PhD students conduct research as part of their dissertation within a wide range of multidisciplinary topics spanning information science, telecommunications and networking, and library and information science.

The Intelligent Systems Program (ISP), a multidisciplinary graduate degree program dedicated to applied artificial intelligence, is also expected to be part of the new School. The ISP provides interdisciplinary graduate research education, and serves as the center of expertise in intelligent systems within the University. The Intelligent Systems Program represents international leadership in applied artificial intelligence research in five innovative areas: Human Language Technologies, Artificial Intelligence in Education, Machine Learning and Decision Making, Social Computing, and Biomedical Informatics.

Students need to be educated to become computational thinkers, creating new technologies by incorporating context and the end goals of computing, rather than being only technologists. Students also need to learn how to cross boundaries, interacting with people outside their discipline, understanding domain problems, and synthesizing concepts and knowledge. Faculty in the new school envision developing new programs to accomplish this that leverage the unique advantages of the University as identified in its strategic plan.

**Budget and Resources**

The budget and resources for the new School will reflect the combined resources of the current School of Information Sciences and the Department of Computer Science. In addition, over the next five years it is expected that the new Dean will be able to expand the faculty by 20% over the current head count of 42 and also recruit an additional 20% into current and anticipated vacancies for approximately 16 new hires over that interval. Also within the next five years, the School of Computing and Information should have all units co-located in new, or newly renovated, space. The Dean will have significant input into the design of the new space.

**Dean, School of Computing and Information**

The Dean of the School of Computing and Information reports to the Provost and Senior Vice Chancellor. The Dean will provide visionary leadership to establish the School and build its national and international reputation. The Dean plays a key leadership role in advancing the mission, operations, and service of the School, with complete line responsibility for personnel, general administration and management, budget, and academic and development functions.

**Key Priorities (not in rank order):**

- Provide bold vision and leadership for building the School and advancing the School’s and the University’s national and international reputation;
- Integrate two academic units to establish a new School with a shared vision, mission and culture;
- Develop the financial resources of the School, especially through fundraising from public and private sources;
- Recruit and retain the best faculty, and enhance their career development;
- Strengthen research infrastructure to further enable and promote productivity;
Strengthen the undergraduate, graduate and professional student experience;
Connect with other Pitt deans to create strong collaborations across campus, with industry partners and within the city of Pittsburgh;
Demonstrate commitment to diversity and inclusion and to supporting a collaborative culture that values the strength of differing views and experiences; and
Sustain and advance the School’s standing among international peers, research organizations, and accrediting bodies.

Specific Responsibilities:

Visionary Leadership: Establish a bold and forward-looking vision to ensure that Pitt’s School of Computing and Information is viewed as a progressive and innovative leader among schools of computing and information, with a focus on impact and excellence. Realize the concept of contextually situated computing on Pitt’s campus, facilitating a transformational change in research, education, and innovation. Provide leadership in establishing the School’s strategic objectives, align with the University’s strategic plan, and develop and manage all resources essential to the achievement of these objectives. Work with faculty, academic leadership and University leadership in pursuit of broader institutional goals.

Academic Oversight: Recruit, retain and promote top faculty who will attain high standards of excellence and enhance the diversity of the School and University. Evaluate faculty for appointment, tenure and promotion. Strengthen excellence in programs, curriculum and classroom teaching. Support, enhance and promote faculty research and productivity.

External Relations: Lead the development and implementation of strategies to build strong relationships with a wide range of stakeholders, partners and collaborators within and outside of the University. Articulate, communicate and advocate the School’s vision. Represent and promote the School through active participation at external events. Cultivate and solicit individual donors, foundations and corporations.

Financial Management: Ensure a strong financial future for the School. Manage the financial resources of the School through an effective annual operating budget and long-term financial plan. Oversee School-wide resource acquisition and utilization. Lead the School’s fund-raising and development efforts.

Administration: Oversee the organizational structure, policies and procedures of the School. Provide opportunities for professional development for faculty and staff. Foster a diverse and inclusive educational and work environment. Promote a collaborative, collegial culture throughout the School.

Qualifications:

Leadership: An established record of effective, inclusive and collaborative leadership. The capacity to formulate and articulate a shared vision, to persuade a wide range of audiences of its value, and to engage others in its implementation. Ability to recruit outstanding new faculty as well as retain and promote the School’s strongest faculty. Capacity to motivate and inspire others to strive continuously for excellence. Strong interdisciplinary ethic. A builder with an entrepreneurial spirit and experience.
creating, growing and expanding an organization or entity. A demonstrated openness to new ideas and a record of intelligent risk-taking.

**Academic Credentials**: PhD degree required. Distinguished record of achievement and professional credentials consistent with appointment at the rank of full professor. Demonstrated success in promoting, fostering and conducting funded research. Experience in working on research problems in areas of strength at the University of Pittsburgh, particularly the biomedical and healthcare domains would be a strength.

**Focus on Students**: Genuine understanding of the teaching mission and the importance of providing students with the highest quality educational experience as well as opportunities for experiential learning. Demonstrated commitment to student success. Must understand and value the importance of a diverse student body.

**Diversity and Inclusion**: Strong commitment to diversity and inclusion and a personal interest in building and promoting a collaborative culture that values the strength of differing views and experiences.

**Fundraising Ability**: Demonstrated success in strengthening philanthropic support from individuals, foundations and corporations, or a strong desire to engage in such fundraising.

**Financial Management and Administrative Experience**: A well-developed record of operational leadership demonstrating excellence, growth and financial effectiveness. Demonstrated experience in fiscal management. Proven success in managing a leadership team within a complex organization. Ability to manage resources strategically.

**Personal Qualities**: Unquestioned, unassailable personal and academic integrity. A commitment to the mission of a global public research university. Strong interpersonal, oral and written communication skills. Innovative and creative problem-solver, with a willingness to take risks and make timely and difficult decisions. Ability to foster a collegial, collaborative, inclusive and respectful work and educational environment.

**University Leadership**
**Chancellor Patrick D. Gallagher**
Patrick Gallagher has served as the University of Pittsburgh’s eighteenth chancellor since August 2014. In this position, he works to advance the University’s legacy of academic excellence, collaboration, and research innovation.

Prior to his installation at Pitt, Gallagher spent more than two decades in public service. In 2009, President Barack Obama appointed him to direct the National Institute for Standards and Technology. While in this role, Gallagher also acted as the deputy secretary of commerce until leaving for Pitt in the summer of 2014.

In addition to his duties as chancellor, Gallagher is one of 12 inaugural members appointed by the president to serve on the Commission on Enhancing National Cybersecurity. He is active on a number of
community boards, including United Way of Allegheny County and Internet2, as well as the Association of Public and Land-grant Universities.

Gallagher holds a PhD in physics from the University of Pittsburgh and a bachelor’s degree in physics and philosophy from Benedictine College.

**Provost and Senior Vice Chancellor Patricia E. Beeson**

Patricia Beeson has served the University as provost and senior vice chancellor since 2010. She is the chief academic officer of the University, exercising general oversight over academic affairs on all five Pitt campuses. She works closely with Chancellor Patrick Gallagher and the University’s leadership team on long-range strategic planning efforts that emphasize diversity and innovation. This work has already led to the establishment of the Innovation Institute.

Before assuming her current position, Dr. Beeson served the University as associate dean for undergraduate studies in the Dietrich School of Arts and Sciences, vice provost for graduate studies, and vice provost for graduate and undergraduate studies.

Dr. Beeson is chair of the University Planning and Budgeting Committee, the Council of Deans, and the Information Technology Steering Committee. She is also co-chair of the University’s Facilities Planning Committee, and the principal liaison to the Academic Affairs and Libraries Committee of the Board of Trustees.

She serves on several national and local committees and boards. She is on the Executive Committee of the Council of Academic Affairs of the Association of Public and Land-grant Universities (APLU), the APLU task force on Managing University Intellectual Property, and the Accreditation Task Force. She is a member of the International Women’s Forum.

Dr. Beeson earned a BS in economics from Oregon State University and a PhD in economics at the University of Oregon. She came to Pitt as a member of the economics faculty in 1983.

**The Community**

Pittsburgh is in the midst of a remarkable transformation from an industrial capital to a center of education, medical research, and new technology. The city hosts a high concentration of diverse and influential nonprofits and, as an international center of emerging information technology, is home to many small start-up companies, one of Google’s national offices, Facebook’s Oculus virtual reality research center, and Uber’s autonomous vehicles development effort. Pittsburgh also is emerging as a leader in advanced manufacturing technologies and nanotechnology. While still a work in progress, the city’s reinvention of itself has garnered widespread attention and has become a model for other cities seeking to replicate its success. As Rhode Island’s governor put it while on a recent fact-finding mission to study Pittsburgh’s economic renaissance, “Pittsburgh is an impressive model of how an old-economy steel town transformed itself into a cutting-edge medical and educational center of excellence.”

Pittsburgh rose to the top of Places Rated Almanac’s most livable city list in 2007. In 2010, Forbes crowned Pittsburgh the nation’s “Most Livable City.” Forbes also named Pittsburgh “Best Housing Market” in 2010 and among the “10 Best Cities for New College Grads in 2016.” Pittsburgh ranked No. 1
on Zagat’s list of “The Top 17 Food Cities of 2015.” Pittsburgh has all of the advantages of a large city in combination with the friendliness of the Midwest and the cultural sophistication of the East Coast.

The city has a wonderful array of distinctive neighborhoods with an urban flavor, city neighborhoods that are equivalent to suburbs in other communities, and nearby beautiful suburban areas with large lots and rolling lawns. There is an abundance of residential choices ranging from unique lofts to living in the “country” while being only 20 minutes from the city. Housing is affordable and, as noted by Forbes, presents the second most stable housing market in the country. The city and its surrounding suburbs take pride in high-quality public, private, and parochial schools. Statistically, Pittsburgh is a safe city compared to other urban communities of its size. No longer a smoky steel town, Pittsburgh is clean and green and a model for its efforts to become pollution free.

Nomination and Application Process
Inquiries, nominations and applications are invited. Interested candidates should submit confidentially, in electronic form (Microsoft Word or Adobe PDF files preferred), a curriculum vitae and letter of interest to Pitt.SCI@russellreynolds.com.

All materials and inquiries will be held in strict confidence until the final stages of the search, at which time the express permission of the finalists will be obtained before making their candidacies public. References will not be contacted without the prior knowledge and approval of the candidate.

The University of Pittsburgh is an Equal Opportunity, Affirmative Action Employer and values equality of opportunity, human dignity and diversity. EEO/AA/M/F/Vets/Disabled.

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