NC STATE UNIVERSITY

JOB PROSPECTUS FOR

DEPARTMENT HEAD
DEPARTMENT OF COMPUTER SCIENCE

College of Engineering

Academic Year 2017 – 18

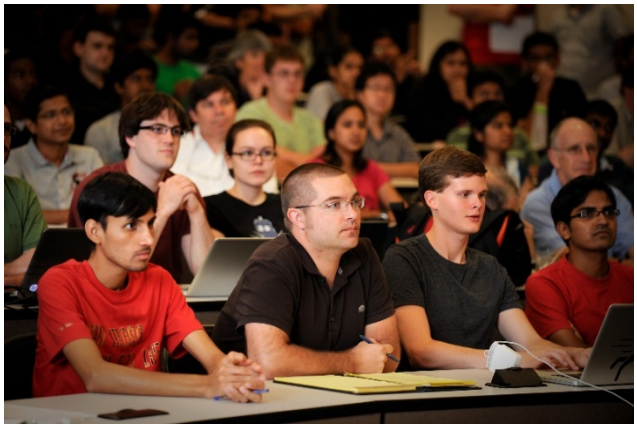
About the Opportunity

Position of Department Head

NC State University's College of Engineering invites applications and nominations for the position of **Department Head for the Department of Computer Science**. The Department Head will hold the rank of Professor with tenure and provide energetic and visionary leadership to a department with very high expectations and goals in the areas of teaching, research and service. The Department Head will report to the Dean and oversee all academic, administrative, and budgetary matters for the Department, and will represent the Department to the College, University Administration, and external groups and stakeholders.

The Department Head will also be expected to:

- Proactively lead departmental academic, research and outreach activities in the context of a broad vision of computer science;
- Promote an inclusive and welcoming environment with a strong commitment to recruiting and retaining diverse students, faculty, and staff;
- Support faculty development; promote, recognize, and reward faculty research, excellence in teaching and mentoring, and excellence in outreach;
- Create high expectations among faculty regarding student success; provide programs and opportunities for students to develop research and leadership skills;
- Effectively link programs within the department to the broader college and university mission; foster a culture of high-impact interdisciplinary collaboration in research, teaching and service within the College and across the University;
- Provide leadership in advancing departmental and College academic excellence within the university as well as relative to peer institutions;
- Engage alumni, industry, and other potential supporters; participate in increasing understanding and support for the College as a contributor to the well-being of the state, nation, and world; and
- Respect and adhere to university policies and the principles of fiduciary responsibility and stewardship of resources.



Requirements and Preferences

The Department is seeking an outstanding individual who will be expected to have a strong commitment to academic and research excellence commensurate with the expectations of a major research university. Candidates shall possess a doctoral degree in computer science or a related field and credentials to be appointed at the rank of Professor with tenure in the department. The successful candidate will possess an outstanding record of research, teaching, administrative and leadership accomplishments along with a strong record of commitment to human and intellectual diversity.

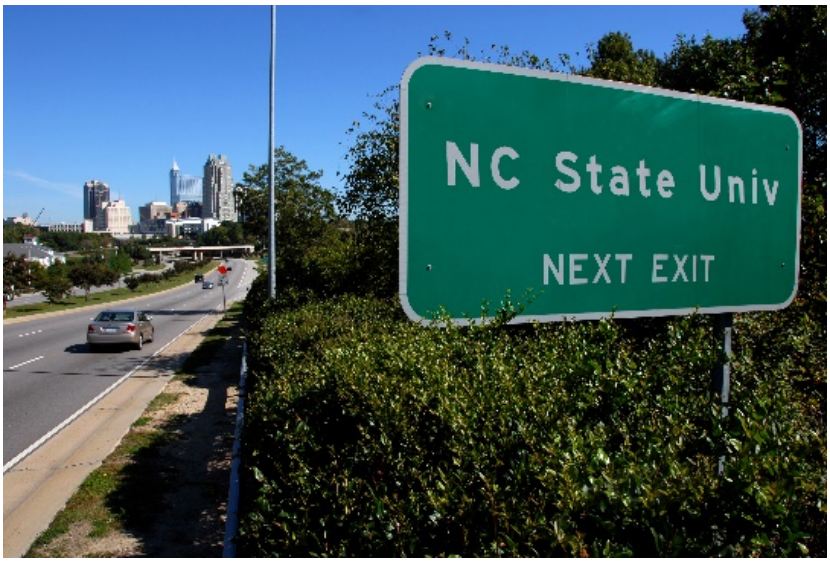
Candidates should have experience and demonstrable skills in leading and managing programs, people, and positive change in environments similar to those found within research extensive universities. The Department Head must have a track record of working effectively with faculty, students, staff, administration, industry and departmental partners, and funding agencies. Excellent communication and interpersonal skills are essential to success.

Candidates from groups traditionally underrepresented in Computer Science are especially encouraged to apply.

How to Apply

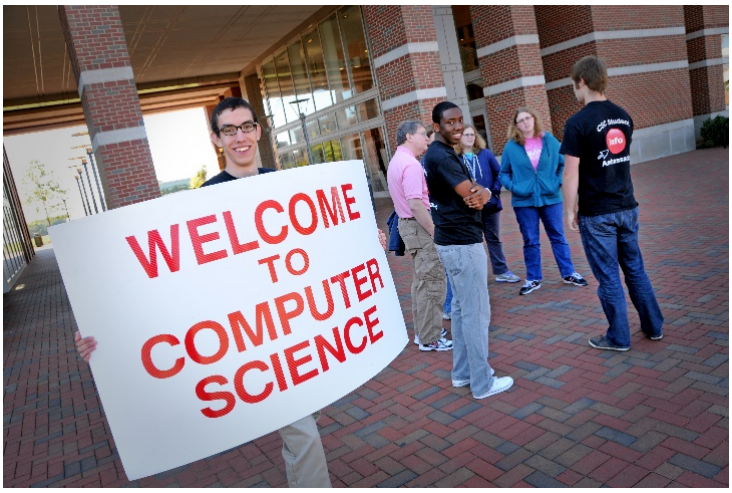
The Nominating Committee invites applications to be submitted online at https://jobs.ncsu.edu (position #00004392). Applications should include a cover letter, resume, and contact information for three professional references. Confidential review of materials will begin in October 2017, and will continue until the appointment is made. To guarantee review by the committee please submit all materials prior to January 1st 2018. For additional information please visit: go.ncsu.edu/csc_search. Any inquiries or nominations can be provided to:

Frank Barragan, Executive Recruiter
NC State University
919-515-4365 • fbbarrag@ncsu.edu



About the Department of Computer Science

This fall, 2017, NC State University's Department of Computer Science is celebrating its 50th anniversary. From its inception in 1967 until today, the department has a history of numbers – growth in enrollments, research dollars, and other data – and is a story of people who make it all happen. These both have allowed the department to grow and prosper into one of the top computer science departments in the nation. The Department strives to achieve further growth and success in the future.



Faculty and students benefit from the outstanding infrastructure and research facilities located on NC State's Centennial Campus and in the Research Triangle – both home to leading technology companies. The Department's main building is located on NC State's Centennial Campus and, currently, there are approximately 47 faculty, 6 emeritus faculty, 8 lecturers and adjuncts, 37 research, IT and administrative staff. **The Department ranks 1st in tenure-track female faculty among all Computer Science departments in Colleges of Engineering.** In addition, the department had an enrollment of 918 undergraduate, 507 Master's, and 203 Doctoral students during the 2016-17 academic year. The Department also has a number of teaching and research laboratories, centers and other facilities that support its educational and teaching mission.

With key areas of expertise in **Theory, Systems, Artificial Intelligence, Networks, Security, Software Engineering, and Computer-Based Education**, the Department of Computer Science strives to create and disseminate knowledge by constituting a scholarly community focused on research and education. Its research in the science and technology of computing betters state and nation and its educational programs equip students to be competitive, to succeed in their profession, and to contribute to society. The department continues to be among the top in the nation in number of awarded degrees.

Another area of importance to the Department is the fostering of strong multidisciplinary and collaborative interactions and long-term ties with a number of other NC State departments, programs, centers and divisions, and with other universities, industry, government agencies and laboratories, and other partners on campus and beyond. This includes joint appointments and/or faculty affiliation in the NC State Bioinformatics Program, Biomedical Engineering Department, Electrical and Computer Engineering Department, Genomics Program, Information Technology Division, Operations Research Program, Mathematics Department, Statistics Department, as well as with Duke University, University of North Carolina at Chapel Hill, Oakridge National Laboratory, and several national centers of excellence.

It is truly an exciting and exceptional time at the University and the Department of Computer Science. You are invited to read further points of interest by referring to Appendix A of this job prospectus.

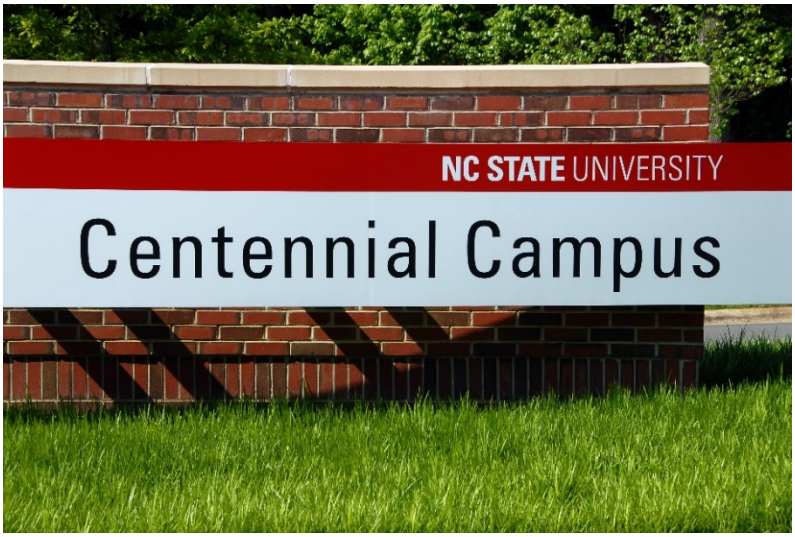
About the College of Engineering

The College of Engineering at NC State is one of the world's finest engineering and computer science schools dedicated to creating an environment in which both faculty and students can excel. Our highly ranked College educates more than 10,000 undergraduate and graduate students, and is one of the largest colleges in the UNC system, supporting 18 bachelor's, 21 master's and 13 doctoral degree programs.

In academic departments, state-of-the-art laboratories and research centers, faculty and students, undergraduates and graduates alike, engage in vital areas of research and technology transfer, pursuing some of the most important education initiatives and engineering research of our time in energy, health care, computer systems, nanotechnology and other important and emerging fields. Our extension and outreach programs share the fruits of many of those initiatives and research with the community.

The College's commitment to excellence is evidenced by the success of our faculty and students. Each year, both faculty and students receive numerous scholarly and professional awards for their teaching and technological achievements, and our graduates find top-notch careers in research and development, design, production and management. Many of our 57,700 alumni hold leadership positions in government, and both private and public sector institutions around the world.

Central to much of the College's academic, research and entrepreneurial activities is the innovative Centennial Campus; a model for university campuses everywhere. Located on a 1,334-acre site adjacent to NC State's main campus, Centennial is home to more than 130 companies, government agencies, NC State research and academic units and the state-of the-art James B. Hunt Jr. Library. More than 2,200 corporate and government employees work at the campus alongside more than 3,400 faculty, staff and students. The College's presence is cast across three dedicated buildings housing six departments, the Monteith Engineering Research Center, the Golden LEAF Biomanufacturing Training and Education Center, the Constructed Facilities Laboratory, the FREEDM System Center, which is in the Keystone Science Center and the ASSIST Center. Centennial Campus puts academic buildings in close proximity to companies such as ABB, LexisNexis and Juniper Networks, providing an environment where students and faculty collaborate with industry and government agencies.



About NC State

NC State was founded with a purpose: to create economic, societal, and intellectual prosperity for the people of North Carolina and the country. We began as a land-grant institution teaching the agricultural and mechanical arts. Today NC State is a pre-eminent research enterprise that excels in agriculture, science, technology, engineering, math, design, humanities and social sciences, textiles and veterinary medicine.

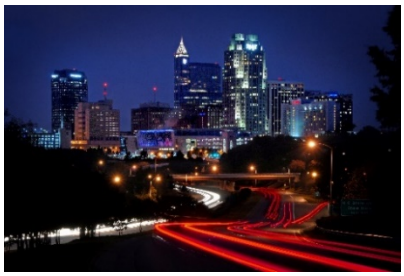
NC State students, faculty, and staff take problems in hand and work with industry, government, and nonprofit partners to solve them. Our 34,000-plus students apply what they learn in the real world by conducting research, working in internships and co-ops, and performing acts of world-changing service. That experiential education ensures they leave here ready to lead the workforce, confident in the knowledge that NC State consistently rates as one of the best values in higher education.

Each year, NC State adds $6.5 billion to the statewide economy, equivalent to creating more than 90,000 new jobs. That represents **significant return on investment** for the citizens of North Carolina in the form of research advances, innovative technologies, successful companies, skilled graduates and new jobs waiting for them.

Our 9,000 faculty and staff are world leaders in their fields, bridging the divides between academic disciplines and training high-caliber students to meet tomorrow's challenges. Together, they forge powerful partnerships with government, industry, nonprofits and academia to **remake our world for the better**.

About Raleigh and North Carolina

North Carolina is one of the fastest-growing states in America. Agriculture is the top industry in the state, producing $84 billion in revenue each year. A leading state in diversity and a top spot for young professionals and families, Raleigh is nationally recognized as a city on the rise:



No. 1 among the top 10 best cities for jobs (CNN Money, 2015)

No. 3 among the best places for business and careers (Forbes, 2016)

No. 5 among the best midsize U.S. metro areas for college students (American Institute for Economic Research, 2017)

No. 5 among best U.S. cities for raising a family (Forbes, 2017)

No. 6 among America's best cities for young professionals (Forbes, 2017)

With Durham and Chapel Hill, Raleigh anchors the Research Triangle, a national hotspot for high-tech enterprise. The top companies in the region — including IBM, Cisco Systems, SAS Institute, Biogen Idec and GlaxoSmithKline — are among the country's best employers. NC State also has strong agricultural partnerships with Bayer, BASF, and Syngenta. They also lead the way in hiring new NC State graduates. Celebrating its 130th year in 2017, NC State continues to make its founding purpose a reality. Every day our career-ready graduates and world-leading faculty make the fruits of learning and discovery available to people across the state, throughout the nation, and around the world.

Appendix A

POINTS OF INTEREST

ACADEMICS

Undergraduate degree programs

- Bachelor of Science in Computer Science*
- Game Development Concentration
- Undergraduate Minor, Computer Programming
- Certificate in Computer Programming

Graduate degree programs

- Ph.D.
- Master of Science (Thesis and non-thesis options)
- Master of Computer Science (Professional degree, non-thesis, with on-campus or Distant Education options)
- Master of Computer Science - Tracks in Data Science, Security, and Software Engineering
- Master of Networking (Thesis and non-thesis options) with available concentration in Service Sciences, Management and Engineering (SSME)

KEY STATISTICS

- Established in 1967 - one of the first official Computer Science Departments in the U.S.
- Approximately 48 faculty, 7 emeritus faculty, 23 lecturers and adjuncts, and 39 research, IT and administrative staff
- Rankings:
  - 3rd among Online Master's Degree programs (Best Buy Online Degree) [1]
  - 9th in Computer Science M.S. enrollment [2]
  - 11th in Computer Science Ph.D. enrollment [2]
  - 15th in Computer Science undergraduate enrollment [2]
  - 19th in Computer Science BS degrees awarded [2]
  - 12th in Computer Science research expenditures [2]
  - 4th in Computer Science MS degrees awarded [2]
  - 9th in Computer Science PhD degrees awarded [2]
  - 6th in Best Online Graduate Computer Information Technology programs [3]
  - 1st in Tenure-track female faculty among all CSC depts. in Colleges of Engineering [2]
  - 5th on Go Grad's 2015-2016 List of Best Master's Programs in Computer Science
  - Engineering Online Ranked Nation's Best Online Graduate Engineering Program for Veterans and Active-duty Military Personnel (2013) [3]
- Enrollment 2017-18 Academic Year
  - Undergraduate 1,049
  - Master's 507
  - Doctoral 197
- Incoming Freshmen Fall 2017
  - Average GPA: 4.66 (weighted scale) Most admissions between 4.37-4.95
  - Average SAT: 1399 (reading and math only) Most admissions between 1244-1458
- Facilities
  - Engineering Building II (EB2), state-of-the-art teaching and research facility, opened in fall 2006
  - Numerous research and teaching centers, institutes, laboratories and groups (e.g., Center for Educational Informatics, Digital Games Research center (DGRc), etc.)
  - Leading-edge networking and computational infrastructure
  - Corporate and Career Services Suite
- Designated by NSA and DHS as a National Center of Excellence in Information Assurance Research (CAE-R)
- Academic Alliance Member of National Center for Women and Information Technology
- Recognized as a Laureate in Computerworld Honors Program in 2007 and 2009
- Video Game Design and Development program recognized by *The Princeton Review* as #7 among public universities, and #38 overall.

OPPORTUNITIES

- Research with faculty - research centers and groups, undergraduate opportunities, scholars and honors programs
- Applied learning - award-winning capstone Senior Design Center projects
- More than 100 companies actively partner with the department via sponsored programs, research, scholarships, projects and initiatives.

- The department has a variety of student organizations providing leadership skills, service, networking, and informal learning opportunities, including:
  - ACM/AITP
  - Graduate Student Association
  - Honors Program/Honor Societies
  - Linux Users Group
  - STARS Student Leadership Corps
  - Women in Computer Science (WiCS)
- National competitions and recognition: student honors include 1st place in CSIDC World Finals, ACM Grand Award, Google Anita Borg Scholarship, IBM's Extreme Blue Internships, USA Today, Academic All American.
- Computer science students are eligible for College of Engineering and University-wide scholarships. Details available at www.csc.ncsu.edu/academics/undergrad/scholarships.
- Computer science-specific scholarships: 26 endowed and numerous sponsored and external

AREAS OF EXPERTISE

- Artificial intelligence
- Bioinformatics and computational sciences
- Computer-based education
- Graphics and visualization
- High-performance & power aware systems
- Networks
- Security
- Software engineering
- Theory and algorithms

The faculty foster strong multidisciplinary and collaborative interaction with other disciplines at NC State (e.g., Bio-informatics, eCommerce, serious games, etc.), other universities, industry, government agencies and laboratories, and other partners in the Research Triangle Park (RTP) and beyond.

CAREERS

- Average starting salaries, May 2017[4]
  - BS CSC - $70,000
  - MS CSC - $108,000
- Proximity to world-famous Research Triangle Park (RTP) provides many opportunities for internships and co-ops. Approximately 25% of all NC State Engineering co-ops are from the department of Computer Science.
- NC State is a top supplier of new graduate talent to Cisco, IBM, SAS, NetApp, Fidelity Investments, Amazon, and many others.
- Computer Science related careers listed among US News & World Reports "Best STEM Jobs of 2017"[5]:
  - #2 - Computer Systems Analyst
  - #3 - Software Developer
  - #9 - Web Developer
  - #12 - Computer Network Architect
  - #16 - Database Administrator
  - #19 - Information Security Analyst

FACULTY HONORS

- 28 National Science Foundation CAREER Award recipients and one NSF Young Investigator Award recipient
- National Academy of Engineering member
- Emmy Award recipient, National Academy of Television Arts & Sciences - for plasma screen technology
- Consumer Electronics Hall of Fame Inductee
- National Inventor's Hall of Fame Inductee
- DOE Early Career PI Award recipient
- 2 American Association for Artificial Intelligence Fellows and a Senior Member
- American Mathematical Society Fellow
- 7 Institute of Electrical and Electronics Engineers (IEEE) Fellows
- IEEE Dist. Service Award recipient
- 3 IEEE Golden Core members
- IEEE Computer Society Dist. Scientist, Dist. Visitor, and 2 Dist. Lecturers
- ACM SIGSOFT Inaugural Influential Educator Award recipient
- 3 ACM Distinguished Scientists
- Computing Research Assoc. (CRA) Digital Government Fellow
- NCDS Data Science Faculty Fellow
- 2 Senior Research Ethics Fellows
- Microsoft Research Oustanding Collaborator Award winner
- Center for Democracy & Technology Fellow
- IBM Smarter Planet Innovation Faculty Award winner
- Gordon and Betty Moore Foundation Moore Investigator Award winner
- 2 NC State University Faculty Scholars
- 3 recipients of the NC State Alumni Association Outstanding Research Award
- 11 members in the NC State Academy of Outstanding Teachers
- NC State Academy of Outstanding Faculty Engaged in Extension member

SELECT DISTINGUISHED ALUMNI

- **David Burke** - Director of Cyber Warfare for Naval Aviation
- **Marshall Brain** - Founder of HowStuffWorks.com; NC State Distinguished Engineering Alumnus
- **Keith Collins** - EVP and CIO, SAS Institute; NC State Distinguished Engineering Alumnus
- **Brenda Crutchfield** - Deputy Director of Future Operations, US ARCYBER
- **Nirmit Desai** - Research Staff, IBM and Creator of Mesh Network Alerts
- **Suzanne Gordon** - Retired CIO, SAS Institute
- **Dr. Larry Hodges** - VR Expert and Professor of Human-Centered Computing at Clemson University
- **Richard Holcomb** - Serial Entrepreneur
- **Bobby Johnson, Jr.** - Former CEO and Co-founder of Foundry Networks; NC State Distinguished Engineering Alumnus
- **Dr. Elizabeth Mynatt** - Distinguished Professor; Executive Director, Georgia Tech Institute for People and Technology
- **Rudy Puryear** - Partner and Director, Bain & Company IT practice
- **Troy Tolle** - Co-founder and CTO, DigitalChalk, Inc.
- **Erik Troan** - Serial Entrepreneur
- **Donna Troy** - Retired EVP and General Manager, Epicor Software
- **Josh Whiton** - Founder and Former CEO, TransLoc, Inc.
- **Dr. Pinar Yolum** - Entrepreneur and Professor, Bogazici University

Our 9,000+ alumni are located in all 50 US states and in 24 countries

*Accredited by CAC/ABET
[1] www.geteducated.com/rankings/best_computer.asp
[2] ASEE data, 2016-2017
[3] U.S. News and World Report, 2017
[4] NC State University Career Center
[5] money.usnews.com/careers/best-jobs/rankings/best-stem-jobs

(Published: September 2017)

NC State University is an equal opportunity and affirmative action employer. All qualified applicants will receive consideration for employment without regard to race, color, national origin, religion, sex, age, veteran status, or disability. In addition, NC State University welcomes all persons without regard to sexual orientation. The University welcomes the opportunity to work with candidates to identify suitable employment opportunities for spouses or partners.