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## ACM REPORT CONFIRMS CONTINUING GROWTH IN GRADUATES WITH ADVANCED COMPUTING DEGREES

### *Follow-up Study Captures Programs that Generate Majority of Graduates with Computing/IT Skills to Meet Rising Workforce Demand*

**NEW YORK, NY**— September 11, 2014— In its second annual report on computing education trends, ACM reports continuing growth in enrollment and degree production at participating not-for-profit US academic institutions that grant bachelor's and/or master's degrees in the major computing disciplines.  The report, ACM NDC Study, is based on a survey of nearly 1,000 non-doctoral-granting academic departments and institutions in computing (NDC).  The study also offers valuable pipeline data to businesses and industries that are competing in the job market for workers with skills in these areas. In addition, the report, published  in the September issue of *ACM Inroads*, tracks ethnicity and gender data in these computing programs, and shows that increases in bachelor's degrees are more pronounced at public institutions.

"The ACM NDC study once again shows growth in the number of graduates with computing skills," said Stuart Zweben, an author of the report.  "This data, when coupled with similar trends reported by the Taulbee Survey of institutions that have computer science, computer engineering, and information doctoral programs, presents a positive picture of qualified candidates needed to meet critical requirements for the workforce of the future.  The ACM NDC study presents a valuable snapshot of the students and faculty at institutions that produce the majority of graduates with an educational foundation in computing skills." Zweben, a professor emeritus at Ohio State University, conducts the annual Taulbee Survey for the Computing Research Association (CRA).

The NDC survey, inaugurated last year to create a baseline report of enrollment and degree production for 2011- 2012, is conducted with support from ACM, Google, and CRA.  It measures 2012-2013 bachelor's and master's degree production and 2013-2014 enrollments, and includes ethnic- and gender-related data for these categories.  It also tracks trends in faculty demographics and salaries for participating computing programs.

Jodi L. Tims of Baldwin Wallace University, a report co-author, said the results are an encouraging sign of the growing interest in pursuing computing disciplines that are increasingly

in demand in our digital world. "Students are seeing the value of the problem-solving skills offered by courses not just in computer science, but in computer engineering, information systems, information technology, and software engineering, which represent the majority of skilled computing graduates," said Tims, a professor and chair of the Department of Mathematics and Computer Science at Baldwin Wallace.

The ACM NDC Study compares and contrasts data reported in the Taulbee Survey and presents a more complete view of the academic landscape in computing. It also spans a range of computing disciplines including computer science (CS), computer engineering (CE), information systems (IS), information technology (IT), and software engineering (SE).

Among its findings are:
- Anticipated double-digit increases in CS bachelor's degrees (12.3%) and all discipline degrees (11.4%)
- More favorable gender growth among female bachelor's CS graduates in NDC institutions (15.9 %) than Taulbee (14.5%) but the difference is less than reported last year (16.2% vs 13.3%)
- Higher percentages of females in IS and IT programs (19.6% and 19.5%) than the overall group
- Higher percentage of female graduates in private institutions than public institutions for all disciplines except SE.
- Significantly higher percentage in NDC institutions than Taulbee institutions of white/US resident graduate (65.8% vs 60.6%); Black/African American graduates (7.5% vs 4.5%); and Hispanic/Latino/US residents (9.6% vs 6.5%)
- Higher female diversity in tenure-track faculty at all ranks in NDC institutions than Taulbee institutions for full professors (19.7% vs 13.5%); associate professors (22.3% vs 19.8%); and assistant professors (30. 5%) vs 26.3%)

The ACM NDC Report authors include Jane Chu Prey of the University of Colorado, Boulder and Yan Timanovsky, ACM Education Manager.

**About ACM**
ACM, the Association for Computing Machinery www.acm.org, is the world's largest educational and scientific computing society, uniting computing educators, researchers and professionals to inspire dialogue, share resources and address the field's challenges. ACM strengthens the computing profession's collective voice through strong leadership, promotion of the highest standards, and recognition of technical excellence.  ACM supports the professional growth of its members by providing opportunities for life-long learning, career development, and professional networking.

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