DIVERSITY IN COMPUTING

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Diversity in Computing - Outline

• Why should we care?
• What is the problem/status of problem?
• Why is there a lack of diversity in computing?
• What can we do about it?
Diversity in Computing: Why should we care?

It's where the good jobs are
“Best Jobs in America” Reports*

• US News: 5 of top 15 (including #1 and #2)
• Salary.com: 2 of top 10 (including #1)
• CNN Money: 3 of top 10

*Based on job satisfaction, stability, and salary
Jobs are Well Paid: Associate’s Degrees

- Associate’s Degrees by Median Salary
- Management Information Systems
- Electronics & Communications Engineering
- Dental Hygiene
- Computer Science
- Networks & Telecommunications
- Computer Programming
- Electrical Engineering Technology
- Nursing
- Mathematics
- Information Systems
- Computer Information Systems
- Medical Laboratory Technician
- Health Information Technology
- Veterinary Technology
- Early Childhood Education

Source: PayScale College Salary Report 2015-2016
Jobs are Well Paid: Bachelor’s Degrees

Bachelor’s Degrees by Median Salary

- Petroleum Engineering
- Computer Science
- Accounting & Computer Systems
- Computer Information Systems
- Accounting
- Computer Networking Systems
- Health Information Management
- Human Resources Management
- Communication and Journalism
- Liberal Arts
- Hospitality and Tourism
- Psychology and Sociology
- Health Administration
- Early Childhood Education

Source: PayScale College Salary Report 2015-2016
Computing Jobs Let You Work & Have a Life

Average Hours Per Week for Major Occupational Groups

- Healthcare Support
- Office and Administrative Support
- Personal Care and Service
- Life, Physical, and Social Science
- Computer and Mathematical
- Production
- Arts, Design, Entertainment, Sports, and Media
- Sales and Related
- Transportation and Material Moving
- Farm, Fishing, and Forestry
- Management

Average hours per week range from 37 to 45.
But computing has a problem. It attracts too few people.
2015 Intended Major (national sample)

- Biological and Life Sciences, 14.9%
- Business, 13.2%
- Engineering, 13.1%
- Health Professions, 11.3%
- Arts and Humanities, 10.1%
- Social Sciences, 10.8%
- Undecided, 8.9%
- Other Majors, 4.9%
- Computer Science, 3.8%
- Math and Other CS, 1.6%
- Physical Science, 2.6%
- Education, 4.2%
- Other Majors, 4.9%

Let’s compare...
Demand and low production explains the CS initiatives

• January 30, 2016: President Obama introduced the “Computer Science for All” initiative

• CS curricula will become compulsory in:
  • primary and middle schools in San Francisco
  • primary schools in New York City
  • for high school graduation in Chicago

• High schools in Arkansas, Texas, and New York City now must offer a CS course

• Washington Post Ad
But computing has a problem. It attracts a narrow range of people.
Women’s Presence in STEM Disciplines Varies

Percent of Degrees Awarded 2013, Major Occupations: Women and Underrepresented Minority Men

Source for Employment Data: NSF, Women, Minorities, and Persons With Disabilities: 2015, Table 9-7
Source for Degree Data: IPEDS via WebCASPAR, omit for-profits
Diversity in Computing

So, why should that matter?

Why does it matter to you?
The Value of Diversity to Computer Science

- Enhances innovation
- Expands the qualified employee pool
- Improves the bottom line
- Promotes equality/inclusion
- Reflects user/consumer base
- Global competitiveness

ncwit.org/businesscase
Why is there a lack of diversity in computing?

- Lack of knowledge of what computing is
- Misconceptions about what people in computing jobs do
- Stereotypes about who you “need to be” to do well in computing
What can we do about it?

• Actively recruit for diversity
• Utilize research based, best-practice retention strategies that will engage your students and sustain their interest
• Create an environment that fosters interest, confidence, learning, sense of belonging, and occupational identity.
• Some examples of what we’ll talk about in this workshop:
  • Inclusive pedagogy
  • Stereotype threat and how to avoid it
  • Case study on implementing workshop strategies
Questions?
Thank You!
Diversity in Computing: Activity

• What are the top 2 diversity concerns in your context?
• Share what you’ve identified with others at your table.
Diversity in Computing: Activity

• Explore computing education and workforce data in your area:
  
  NCWIT
  https://www.ncwit.org/edjobsmap

  ACT/The App Association
  http://arcg.is/1XYohqo
What’s next?

- Core Sessions:
  - Active Recruiting
  - Stereotype Threat & Inoculation
  - Inclusive Pedagogy
  - Chrestomathics
- Integration Sessions
- Evaluation Sessions
Diversity in Computing: Reflection

1. What did you learn in this session?
2. What, if anything, do you want to know more about?