Name of Society/Organization

Association for Computing Machinery

URL

www.acm.org

What is the mission of your organization?

To advance computing as a science and profession worldwide

Please describe the membership of your organization: number of members, demographic profile, and common interests.

The Association for Computing Machinery has some 91,700 members worldwide; some 61% are based in the US. Of these, some 69,000 are professional members. Of the professional members, practitioners constitute some 40%, academic around 20%, researchers 16%, managers 19% and others about 5%.

How does your organization influence computing education?

The ACM has an Education Board and a much larger Education Council. In large part the Board manages the activities of the Education Council, the latter being a body that draws together educational interests from all parts of the ACM, including the Computer Science Teachers Association (CSTA) and the Education Board’s Two Year College Education Committee. Through the Education Board a number of activities occur: curriculum development at undergraduate level and at master’s level (together with the Computer Society and AIS), support for international conferences, and support for new publication initiatives such as the new Transactions in Computing Education. Members of the Education Council are involved in the activities of CSAB.

ACM publishes 45 periodicals in computing; it has some 500 student chapters and 110 professional chapters; it runs around 170 sponsored conferences / symposia / workshops per year.

ACM hosts and sponsors CSTA, the Computer Science Teachers Association; the Education Board supports this and has involvement with AP activity.

The special interest groups within ACM run successful annual conferences. The SIGCSE (Special Interest Group in Computer Science Education) annual conference has recently attracted in excess of 1,200 delegates. The SIGITE (Special Interest Group in Information Technology
Education) is also gaining in popularity. Others SIGs, such as SIGGRAPH and SIGCHI, also have significant educational activities.

The ACM also has an Educational Policy Committee, which places an emphasis on influencing US policy in computing education.

What do you see as the most significant three challenges facing computing education in order to achieve the goals that your organization wants for computing education?

In no particular order:

1. Establishing a positive public image for the discipline, which would address the enrollment problem across the sector;
2. Establish computing as a ‘first class discipline’, with an importance on a par with more traditional disciplines such as mathematics, English, etc;
3. Promoting computing as a discipline that is important and offers exciting opportunities to all sectors of the population, in particular to women and minority groups.

What are the top three things that should be done to improve computing education?

Again in no particular order:

1. Address the problem of the image of computing at middle and high school levels with the goal of achieving the above and increasing the attractiveness of the discipline as a career choice;
2. Develop a variety of truly effective computing curricula for students in higher education, an essential aim being to engage them, to motivate them and to encourage them to innovate so preparing them for true leadership roles in the future;
3. Have mechanisms for supporting teachers at all levels to ensure that teaching materials are of high quality and up-to-date.

If all the groups coming to this meeting got behind a common goal or strategy, what would you suggest that it would be?

Attracting students into computing.

What concrete outcome would you hope this meeting to achieve?
1. To produce a report which:

- identifies one or possibly two visions about possible ways ahead that are novel and address the crisis;
- for each vision, details of an action plan which identifies steps to be taken to achieve the vision;
- includes a commitment to come back and report so that results from each Society can be compared.

2. Given the need for new approaches to education, there would be interest in each institution being asked the following (and it would be interesting to see the outcomes reported):

- devise a single course (perhaps relatively small but at least two or three lecture hour equivalents) on any computing topic which does not use the traditional lecture format, but instead employs online resources made available by your Society, possibly augmented with industry input; highlight the role (if any) of the faculty member(s) involved.

What would you want representatives from your organization to learn from the summit?

That solutions are possible, but that we must work together to find out which is most appropriate in any particular situation.

What would help your organization the most at this workshop?

Insight, inspirational thinking, innovative contributions augmented by support for good ideas; commitment from industry could be a major factor but the most important outcome is clear – the meeting needs to make a positive difference.

We will be able to invite at most two representatives from each participating society/organization. Could you please provide names and short bios of two representatives from your organization?

Two names to be included