ACM Education Board
Annual Report for FY07 (DRAFT)
Andrew McGettrick, Chair

This report summarizes the activities of the ACM Education Board in FY07 and outlines our priorities for the coming year. Our major accomplishments for this past year included contributing to:

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**Appendix A  Roster of Education Board and Education Council members**

**Challenges for FY08:**
- Hosting a summit on the crisis in computing education
- Further advancing the curricular guidance in Computer Science, Information Systems and Information Technology
- Having a new initiative involving guidance to the community on Masters provision
- Providing support for CPATH activity
- Increasing web based support for the community to keep them more involved with curricular developments
- Continuing to monitor and, where possible, enhance international collaboration

1. **Summary of FY 07 Activities:**

1.1 **Accomplishments and Changes**

Over the last 12 months a number of individuals belonging to the Education Board and/or Council have been recognized for their respective roles/service. In June'07 at the ACM annual Awards Banquet in San Diego, the following individuals were presented with an award:
• Jan Cuny (Education Council) of the NSF received the CRA Nico Habermann Award for her dedication, effectiveness, national scope, breadth of impact, vision, and leadership in broadening the participation of all underrepresented groups in computing.
• Peter Denning (Education Council) received a special recognition for 40 years of service
• Eugene Spafford (Education Council) received the ACM President’s Award

Moreover, at the SIGCSE annual conference held in Cincinnati in March 2007, John Impagliazzo (Education Board) received a Lifetime Award for extraordinary services to computing education, with particular contributions to the SIGCSE Bulletin, to international conferences on computing history, to accreditation leadership, and to curricula development; and both Owen Astrachan and Peter Denning of the Education Council were recognized as Distinguished Educators under the NSF funded CPATH initiative; only two such awards were made.

At the level of the leadership of the Education Board and the Education Council, Eric Roberts stood down due to pressure from other commitments. At a recent meeting of the Education Board the following motion was passed to show appreciation for Eric’s work:

Motion: The Education Board wishes to express its deep appreciation and sincere thanks of Eric Roberts’s hard and diligent work as Education Board Chair. His energies, insights, wisdom and inspiration have been of enormous benefit to us all; the Board looks forward to [and encourages] his continued valuable contributions as Education Board Past-Chair.

Bob Campbell also stood down after many years of valuable and sustained service to the Two Year College Committee. Again the Education Board wished to show its appreciation and passed a motion:

Motion: The Education Board wishes to express its sincere thanks to Bob Campbell for his diligent and hard work as Chair of the Two-Year College Education Committee.

In terms of membership of the Board, Laura Hill, of Sun Microsystems stood down and was replaced by Kevin Scott of Ad Peter Denning moved to the Education Council and Eric Roberts is now Past Chair.

1.2 Reversing declining enrollments in computing disciplines

Declining enrollments continued to be an extremely worrying feature of admissions in higher education. This matter remains of deep concern, not only to those in education, but to employers and to industrialists. Given the strong link between information technology and innovation, this matter is vital to the continued leadership role of this country and beyond.

Members of the Education Board and Education Council produced the following deliverables:
• A computing careers brochure went out to high schools in the fall of 2006. We designed a careers brochure that was sent out to approximately 62,000 high schools in the United States. Each school received multiple copies of the brochure along with a letter asking the principal or head of the appropriate department to assist with drawing the contents of the brochure to the attention of all appropriate students, teachers, counselors, parents, and so forth. Working together with CSTA, we tested the brochure with teachers and students and believed that it would catch the attention of today’s more visually-oriented students. We also included in the cover letter a number of suggestions designed to increase the audience for the brochure, such as making the brochure available to classes outside of the computing area, particularly in science and mathematics. Our hope is that broader distribution would encourage some students—particularly women and students from disadvantaged communities—to consider studying computing fields, even if they might otherwise have given little or no thought to that possibility.

This brochure can be downloaded from the companion careers website (link below). The original brochure can be downloaded as well as a revised 8-1/2’x11” version. And, there is also a version in Spanish.

• A web site for further guidance and information. The brochure includes the address of a companion web site at www.computingcareers.acm.org that includes additional material on educational and career options in the computing field. The web site also links back to the brochure and makes it easy for interested parties to obtain additional copies.

This activity is being undertaken with the help, support, approval, and guidance of Chris Stephenson, Executive Director of CSTA, and her colleagues. It is important that this close partnership continues. To be certain that we start to make an impact, the initial web site is informative but somewhat rudimentary. At this point it seems inevitable that this has the potential to become an extremely important mechanism for communicating with aspiring computing students as well as their parents, teachers, counselors, and so on.

An important aspect of this activity was obtaining funds to support the printing and the initial distribution of the brochure. Despite approaches to various groups, in the end the ACM and the IEEE Computer Society shared the costs which came to around $60k overall for the first printing. To date, the brochure has been reprinted twice.

The opportunity was taken to draw these developments to the attention of the community, e.g. by sessions at conferences such as SIGCSE. In terms of evaluating the effectiveness and impact of the brochure and the web site, feedback to date is entirely positive. Around 500,000 copies of this have been produced and distributed via meetings and as a result of requests from institutions; the brochure has also been used (with some element of customization) in Canada, and in Scotland and there is now a Spanish version which can be downloaded from the careers web site.

1.3 Fostering a positive image of computing among young people

One of the factors contributing to the current enrollment crisis is that young people do not see today’s programs of study in computing as being sufficiently attractive or offering attractive career opportunities. The reasons given for this loss of interest in the popular press include the phenomena of offshoring and outsourcing, a poor understanding of the discipline among the general public, problems with the teaching of the discipline in high school, the teaching of the discipline in higher education (especially introductory courses), inadequate attention to the achievements of the discipline, and a lack of diversity in the field that reduces its appeal to women and minorities. These factors are
complex and interconnected. The Education Board and Council have continued to analyze the situation to try to gain a better understanding of the dynamics and relative importance of these issues.

Turing Award winner Grady Booch gave an inspiring keynote address at this year's SIGCSE, in which he talked about the need to rediscover the wonder and awe of computing and to make its joys more evident to the next generation. Several members of the Education Board spoke with Grady at SIGCSE, and we later organized a conference call so that more of the board could be involved. We believe that Grady will continue his involvement and, in particular, will help us to connect with other people in industry who have similar interests in education.

It has seemed clear that any action plan we develop would need to include a campaign to foster more positive images of the discipline among young people. That campaign would probably involve developing new curricular offerings that hold greater appeal and greater promise. We expect that it will be important over the next several years to experiment with different models intended to increase the attractiveness of the discipline. It is unlikely that any single model or any single remedy will meet the needs of all students. Individual members of the Board / Council have developed ideas in this regard and are experimenting in order to gain a better understanding of the factors that shed light on the situation or contribute to success. The metrics for success in this endeavor must include both increased admissions and increased retention rates in degree programs.

1.4 Promoting new curricular themes and strategies

The continuing decline in enrollments and poor retention rates suggest that there are problems with the image and effectiveness of computing education, which seems to have limited appeal to current students and its ongoing popularity. This is true at all levels in the world of education. It is appropriate to address this head-on as a matter of some considerable urgency.

One of the major challenges to be addressed in the coming year is to look at the nature of computing education at all levels and to decide how we can re-conceptualize computing education in a way that will make it more appealing. Can we create at least one image of computing education that is new and different and does not suffer from the ills of the present situation? Members of the Board held a special session at SIGCSE 07 in Cincinnati to open up debate on these issues and to seek possible positive directions for progress. That session was well attended and produced a lively and stimulating debate.

[Andrew: do you want to say a little more about the session feedback?]

1.5 Establishing connections with other disciplines

As computing becomes more integral to a range of disciplines, it seems likely computing education will increasingly become more closely tied to education in other areas. These developing connections may develop in several ways:

- By absorbing aspects of other disciplines into computing, which continues to evolve as a discipline
• By expanding the breadth of training we offer to computing students so that graduates can provide effective support in other areas, including science, engineering, economics, business, and education.
• By encouraging students to take a broader set of electives as part of their overall program of study
• By increasing the number of computing courses designed for students in other disciplines who will require those skills

These developments have the potential to lead to new kinds of degree programs.

The importance of taking this broader view is confirmed by the following quote from Nature in February 2006:

Applied computer science is now playing the role which mathematics did from the seventeenth through the twentieth centuries: providing an orderly, formal framework and exploratory apparatus for other sciences.

For some disciplines, the Internet itself has become a research tool: grid computing has been used to exploit the power of millions of Internet-connected machines. Building on the popularity of SETI@home—an experiment that uses Internet-connected computers to search for extraterrestrial intelligence—and prime-number hunts, there are now physics, medical and proteomics projects enlisting the enthusiasm of people (and their computers) across the world. For linguists and sociologists, new questions can be investigated simply by observing what occurs on the publicly available Internet. Even experimental sociology is possible: in their study of social influence on music preference, Salganik et al. recruited more than 14,000 subjects through a popular website, ran online trials on these subjects, and then obtained results directly from their experiment website.

The value of computing to other disciplines—which has long been clear to those who have been involved in computing-intensive projects but which has become increasingly evident to specialists in a wide range of fields—provides an incentive for providing curricular recommendations that will encourage this sort of cross-disciplinary study.

This issue remains important and remains part of the Board's broad agenda. Over the last 12 months little progress has been made here although this topic has featured strongly in discussion. Jeannette Wing’s paper on computational thinking (see CACM, March 06) has contributed to this debate and has served as a catalyst for new thinking on this issue. Over the last 12 months, the priority has been to defend and even strengthen the basic discipline and to improve its attractiveness to potential students.

1.6 Broadening European participation in computing education activities

We had a number of projects in progress to expand our activities in Europe:

• Two members of Council (Gordon Davies and Andrew McGettrick) were involved in the planning and implementation of the second European conference for European heads of departments, which took place in Zurich in October 2006. It had been envisioned that this would result in the creation of a CRA-Europe, though on this occasion interest in education was far more apparent than at the first meeting. The latter reflected a recognition of concerns related to enrollment, public perception, and so on. Recently this group has adopted the name Informatics Europe.

• In late 2005 an education conference—entitled Informatics Education Europe—supported by ACM had been planned for early November 2006 in Montpellier, France; this took place. The event provoked a very positive response from participants who saw it as a valuable forum for the discussion of matters of
concern to Europeans as they progressed towards the creation of the Higher Education Area in 2010. [what’s this?] Aspects of this included sharing an understanding of one another’s problems but also exploring possibilities for co-operation and collaboration (including student mobility). ACM’s leadership role in supporting this was widely recognized and praised.

- During the last 12 months there has been an EU funded project called Euro-Inf project managed by ASIN in Germany with main partners the University of Paderborn and the University of Applied Sciences in Hamburg in Germany and involving CEPIS in Brussels. The main purpose of this project is to devise criteria for the accreditation of degrees in Informatics across Europe, both at the undergraduate level and at Masters level. Education Board / Council members are involved in this in an international advisory capacity. At these meetings, ACM’s publications on curricular issues have met with very positive comment.

These various events reflect an increased realization in Europe of the need for discussion and co-operation on educational matters. They have the potential to become annual events. The success of these meetings will be monitored closely with the intention of broadening the involvement and appeal of ACM in Europe. An institution in Greece has already raised the possibility of initiating activity in Eastern Europe as a follow-up to the Montpellier conference. We are looking into whether ACM should become more involved in that initiative.

Other activities in this area that are worth mentioning: in June 2007, the ITICSE conference took place in Dundee; members of the Education Council and CSTA were involved in a workshop in Scotland in May 2007 on computing in secondary schools.

1.7 Enhancing the effectiveness of the reorganized Education Board and Education Council

The range of activities in which we are engaged is considerable. To meet the many challenges we face, it is essential to maximize the efficiency of our internal processes and structures. The primary role of the Education Board is to manage and guide the work of the Education Council. To date four Task Forces have been established: enrollment crisis and public image, technology and tools, curriculum, and accreditation. Each of these groups identified both short-term and long-term goals, and developed concrete strategies for achieving those goals. Such is the rate of change in the general area of computing that there will need to be regular review of the structures and responsibilities and to consolidate. [there should be some words added here]

To ensure progress was being made, we held a second meeting of the Education Council on December 2 and 3, 2006. As was clear from the first meeting in June, the energy level of the Education Council is extraordinarily high. The participants share a sense of urgency about the state of computing education and a strong commitment to attracting more students to the field. The members of the Council are actively engaged during the meetings, although we have had trouble maintaining that energy in the intervening times. We are convinced that harnessing that energy will require face-to-face meetings more regularly than the once-a-year schedule originally proposed. At the EC budget meeting in February, we proposed increasing the frequency to two meetings a year and compromised on an eight-month schedule that will alternate between one and two meetings in each fiscal year. The next meeting of the Education Council is set for September 29-30 in Seattle.
Over the next six months, we will focus significant energy on strengthening this structure and finding ways in which to empower the individual Task Forces to be effective in their activities on an ongoing basis.

Another strategic goal toward increasing the effectiveness of the Education Board and Education Council consists of promoting public awareness of our work. Increasing our visibility is important for two reasons:

- The community needs to be informed about the changes that have occurred and the reasons underlying those changes
- At this time in which so many people in computing education feel threatened by declining enrollments, it is important for the ACM to be seen as an organization that not only cares about the problems but also as one that can marshal the resources necessary to have an impact. By showing our support for the community, we will also be in a better position to enlist their aid in solving the many problems we all face.

Much can happen via conferences and public meetings. But it is the intention to provide two articles that tell the community about

- The new arrangements [what new arrangements?] in an article, possibly for *Communications of the ACM*
- The new memorandum of understanding between the ACM and the Computer Society

We also intend to investigate via the Education Council the feasibility of producing enough high-quality material to support the notion of a regular education column in the new and revamped *Communications*.

In terms of further aspects of dissemination, the Two-Year College Group intends to continue its dissemination and outreach activities, including mailings, website improvements, conference poster sessions and exchanges with colleagues (especially with regard to individuals external to the United States), as well as continuing our *SIGCSE Inroads* column and participating in the [words missing here]

### 1.8 Updating the computing curriculum guidelines

With five volumes of curricular guidelines now published, we had to put in place a process that demonstrated ACM’s commitment to keeping these curricular models up to date. The following sub-sections points additional comments about how that work was expected to proceed in each of the major areas.

*Computer Science*

The CS volume in the *Computing Curricula 2001* series was published in December 2001 and has therefore been in place for nearly six years. The joint ACM/IEEE-CS Executive Committee initiated a review of the Computer Science volume in the spring of 2006, led by Larry Snyder. That group has offered a preliminary report on strategic options that the Education Board discussed. This review is being carried out jointly by ACM and the IEE Computer Society. Interim reviews are a new concept, and this is the first such effort. It is intended to be less resource intensive that a full review but should aim to keep the curricular guidance up-to-date and in the process address
matters of major concern to the community. Thus, for instance, it is likely that the structure of the original volume will be retained. But this effort must be seen as something of an experiment and the findings will feed through to other such efforts.

The Interim Review Task Force consists of: from ACM Andrew McGettrick, (co-chair, University of Strathclyde, UK), Boots Cassel (Villanova University), Gordon Davies (formerly Open University in UK, consultant), Mark Guzdial (Georgia Tech), Larry Snyder (University of Washington); from the Computer Society Renee McCauley (co-chair, College of Charleston), Alan Clements (University of Teesside, UK), Joe Hummel (Lake Forest College), Bob Sloan (University of Illinois at Chicago) and Bruce Weide (Ohio State University). Note: Renee has recently replaced Ann Sobel (Miami University, Ohio) as co-chair. A special Advisory group is being set up to provide guidance on all matters; importantly that will include substantial industrial representation involving those with an interest in these curricular developments as well as Two-Year College representation.

The current status of the Review is that: following a public consultation (which involved use of a web site to gather comments, a public meeting at Estes Park in Colorado, and very useful input from a number of individuals) a set of comments have been received. The web site activity itself drew a total of 163 comments from some 68 individuals, from academia and industry. Work is underway to address these comments.

Part of this activity is the development of a methodology for having a web-based mechanism to engage the community in ongoing involvement with this kind of curricular guidance. Delicate balances have to be drawn here, part of the challenge being to avoid creating confusion but to genuinely provide something that helps.

**Information Systems**

The existing version of the Information Systems report dates back to 2002. A thorough review and revision of this work is now needed, particularly in light of the fact that the 2002 report consists largely of updates to the previous IS curriculum. This is a review of the undergraduate Information Systems volume. That document was last reviewed in 2002 but a more comprehensive in depth review is now under way and making good progress. The work is a joint effort between ACM and the Association for Information Systems (AIS). By way of background, the mission of that organization is to advance knowledge in the use of information technology to improve organizational performance and individual quality of work.

The ACM/AIS Undergraduate Revision Task Force consists of Heikki Topi (Bentley College) and Joe Valacich (co-chairs). The ACM representatives are Heikki Topi from Bentley College, Jay Nunamaker from the University of Arizona, and Janice Sipior from Villanova University; representing AIS is Joe Valacich, College of Business and Economics at Washington State University, Kate Kaiser from Marquette University, and Gj de Vreede University of Nebraska at Omaha.

The Americas Conference on Information Systems was held in Colorado State University in August 2007. At this event there was a panel session on the curriculum activity: the panel consisted of Heikki, Joe, Jay and Janice. There were around 80
attendees and generally feedback is reported as being very positive [about what?].

As part of this activity a wiki has been set up, the purpose being to encourage the community to participate in the ongoing review process. So for further details see blogsandwikis.bentley.edu/iscurriculum'97 report. We expect to put in place a review process for this report within the coming year. However, because Information Systems does not fall within the locus of the Computer Society, we need to establish a new arrangement between ACM and AIS to carry out this work. We have developed a draft management plan based on the existing agreement between the ACM and the Computer Society.

**Information Technology**

This report will be the final component of the *Computing Curricula 2001* effort. A presentation on the IT volume was made at the Education Council meeting of December 06. Members of the Council have offered help and support to the SIGITE group to bring their work to a speedy and effective conclusion. We fully expect to complete that review and publish the document within in the next 12 months. In addition, we expect the Two-Year College Committee to undertake a major revision of their previous report in Information Technology that will incorporate material from the current Information Technology report.

### 1.9 Two-Year College Education Committee

Robert D. Campbell, outgoing chair, and Dr. Elizabeth K. Hawthorne, incoming chair, provide the following report on 9th July, 2007 on the activities of the Two-Year College Education Committee (TYCEC). The TYCEC achieved the following milestones in FY07:

- Finalized the *Guidelines for Associate-Degree Transfer Curriculum in Computer Engineering* report which was approved by the Ed Board and is now posted on the Committee's website.
- Produced and distributed (in collaboration with ACM Headquarters staff) an informational brochure detailing the resources available to the two-year college community via the ACM TYCEC.
- Updated and enhanced the acmtyc.org website and associated resources, including a structured overview that unifies the TYCEC curricular guidelines for end-users, provides guidance on the distinctions between the computing sub-disciplines and links to associated curriculum guidelines.
- Executed activities in preparation for updating the associate-degree Information Technology curriculum report.
- Continued to inform constituents of its activities via the regular column in the *SIGCSE Inroads* publication and related activity.
- Furthered the internationalization of its work, including a poster session presented at the June 2007 ITiCSE conference in Dundee, Scotland.
- Supported the goals and objectives of the ACM Education Council.
Section two

Priorities for FY08

2.1 Further Evolution of the Education Board and Education Council

The membership list for each body appears in Appendix A.

The Education Board is now functioning properly in its new role with great emphasis being placed on managing the work of the Council. But it does need to be more effective in terms of making a difference that is visible to the wider community and all members of the Board are working together to address this.

In addition there is a need to build up greater sense of momentum in the Council and efforts there are under way. For instance the concept of a Newsletter has been initiated and that aims to keep members updated and engaged.

Much greater attention to web based communications underpin the work of the Board and Council.

Attention needs to be given to leadership succession, and in part this will mean identifying new blood who can be groomed to come through and contribute; all members of the current Board need to be involved Operation needs to evolve further all members of the Board have specific responsibilities need to address very specifically the seamless inclusion in Board activities of industrial colleagues; them greater attention to making them feel values and to them making a difference [not clear, awkward]

2.2 Exercising a Leadership Role

Given its new role it is important that the Education Board takes on new challenges and in particular seeks to extend its leadership role. Over the next 12 months there is the intention to call a Summit to consider the enrollment crisis. This will involve a meeting between the Education Board and parties such as the National Science Foundation. Initial contacts have been made and have been greeted with some enthusiasm. The intention here is twofold: 1) To share our ideas and understanding of the crisis – its origins, its manifestations, etc; and 2) To see how we can better work together to find a way ahead in which the various parties cooperate. Members of the Board will prepare an initial position paper regarding aims and objectives to ensure they meeting produces useful outcomes. The Education Board [whoops, not a sentence....]

2.3 Support for CPATH

The Directorate for Computer & Information Science & Engineering (CISE) of the National Science Foundation (NSF) launched the CISE Pathways to Revitalising Undergraduate Computing Education (CPATH) initiative around the start of October 2006. This followed reports of 4 different NSF sponsored workshops that had been held throughout the US in the preceding 12 months. Submissions were due by 23rd January 2007.
To provide a brief overview (taken from CPATH web site)

*The CISE Pathways to Revitalized Undergraduate Computing Education (CPATH) vision is a U.S. workforce with the computing competencies and skills imperative to the nation’s health, security and prosperity in the 21st century. The workforce includes a cadre of computing professionals prepared to contribute to sustained U.S. leadership in computing in a wide range of application domains and career fields, and a broader professional workforce with knowledge and understanding of critical computing concepts, methodologies and techniques.*

To achieve this vision, NSF’s Directorate for Computer and Information Science and Engineering (CISE) is challenging colleges and universities to work together and with others with a stake in undergraduate computing education, including industry, professional societies and other types of organizations, to formulate and implement plans to transform undergraduate computing education to meet the challenges and opportunities of our 21st century world. Critical to this work is the full engagement of faculty and other individuals representing CISE disciplines. Common challenges – such as fluctuating enrollments in traditional computer science programs, changes and trends in workforce demographics, the imperative to integrate fast-paced computing innovations to the curriculum, and the need to integrate computing concepts and methodologies into undergraduate curriculum at large – must be identified, and plans developed to address them.

In FY 2007 (starts on July 1st 2007), CISE planned to support four different kinds of projects. The majority of funding in 2007 will be directed towards community building and distinguished fellows (first and fourth below).

- Community building projects
- Evaluation, Adoption, and Extension Project
- CPATH Transformation Projects
- CISE Distinguished Education Fellow Project

The latter are for recognizing ‘accomplished, creative, and talented computing professionals who have the potential to serve as national leaders or spokespersons for change in undergraduate computing education.’

In the event only two Distinguished Education Fellows were appointed, namely Owen Astrachan and Peter Denning, both members of the Education Council. At the forthcoming Education Council meeting in Seattle it is intended that there should be an overview of the results of CPATH, and both Owen and Peter will make presentations on their ideas to the Council. More generally, it will be important for the Council to monitor all CPATH activity and where possible and desirable to support it.

2.4 An initiative involving Masters provision

The Board has decided to embark on an initiative to provide curriculum guidance on
Masters degrees in computing. Masters degrees are a topic of major concern and discussion in the UK, in Europe via Bologna, and in Russia where there is a British Council supported QUEST [what's this?] initiative. To date the Education Board and the Education Council have not been active in this area.

This is a potentially difficult task, but an important one. The effort is not likely to be about producing curricula for particular flavours of computing degrees but about more general issues associated with Masters degrees in the computing area. Having said this, a preliminary task is to scope such an activity and draw a plan on how to proceed. That is likely to be discussed at the next Council meeting. When the plans become firm, other bodies such as the Computer Society will be invited to join. Indeed preliminary contact has been made and there is a firm conviction there that this is an important activity and they would welcome being involved in such work.

2.5 Building on the Success of the Careers Brochure

The production of the careers brochure and the linked web site has been a high profile activity that has had a very highly beneficial impact. Every piece of feedback has been entirely positive. There are certainly indications from the top institutions that there is a recent alleviation of the enrollment problems. However, it is far too early to make sweeping claims; moreover there are still indications of considerable problems in other institutions. The Board is currently seeking to gather statistics to provide a true picture of the computing disciplines situation.

Meanwhile developments of the web site are continuing. The oversight for the ongoing development and evolution of the web site has been vested in one of the Task Forces of the Education Council. It is important for that Task Force to keep in mind the specific issues facing K-12 education and the need to work closely with CSTA. We have sought to populate the Task Force with people who are imaginative, forward-looking, and action-oriented. The material on the web site is being refined to provide more helpful information; profiles of students from different institutions including pictures and quotes are being included; cross links to other relevant sites (e.g. to include video) are being provided; and, generally efforts are being made to make it more attractive to the younger generation. This work will continue.

It remains important to consider how to build on this successful collaboration between the Education Board / Council and CSTA to drive home benefits. In the first instance, a decision needs to be taken on whether a second mailing of the brochure to high schools would be beneficial. It also has to be a primary goal to identify ways in which the web site can be made more effective in reaching its audience. We plan to continue open discussions at upcoming conferences and meetings. This will be wasted effort unless we can be certain that the web site is being used and drawing its existence to the attention of interested parties has to be a key consideration.

2.6 Continuing to Foster a Positive Image

Work on developing a positive image for the discipline has to continue. Now certain important curricular developments are under way, e.g. the Information Systems review and the Interim Computer Science review. Within these activities the opportunity has to be taken to make comments or observations that will be of genuine
help to the community. There are delicate issues here about protecting the discipline, about not creating a 'dumbing down' in terms of expectation, about better meeting the needs of industry, and yet creating a real difference. Considerations of this kind will continue to challenge the teams working on these issues.

This vision must be appealing and stimulating to the community, it needs to offer advantages over existing possibilities, and it must lead to a measurable reversal of recent enrollment trends. We see the Education Council taking the lead in this activity, but it will also be important to engage the broader community in this discussion and debate. We believe that this process will proceed by identifying new curricular models and approaches that have proven to be effective in the institutions at which they were developed and then helping to promote the distribution of those new models by developing new curricular recommendations around those themes. The overall success of this endeavor will almost certainly require us to experiment with many models, not all of which will succeed individually. The goal is to promote a diversity of strategies and then to let individual institutions choose models that are likely to work well in that environment.

At the Council meeting in Sept'07 it is intended that there will be a special session to consider industry needs; it is rather important that there should be a deep dialogue with industry to address matters such as their needs. More specifically: currently what are graduates not able to deal with; what modern engineering techniques, etc. should they know, what tools might they be expected to be able to use, what is the nature of current, academic enhancement programs, and so on. But additionally such a meeting should serve to provide concrete information to dispel negative images associated with working in the discipline. Some of the output here can feed through to curriculum developments but hopefully also to the careers website.

2.7 Continuing to broaden European activities

The second Informatics Education Europe conference will take place in Thessaloniki in Greece on 29th – 30th November, 2007. A third conference in the series is being considered and preliminary discussions are due to take place in Venice in October with a view to holding a further conference there in 2008. As before the emphasis for ACM will be on providing support for a European activity whose main agenda revolves around the particular problems of Europe. The choice on Venice means that the event is likely to be larger in scale than previous such events, but it does seem timely to make such a move.

The third Informatics Europe conference is taking place in Berlin in October, 2007. Again, the Education Council will be represented and indeed have been involved in putting together a document on enrollment issues which is due to be made available at that event.

In addition members of the Council will keep a watching brief on developments related to Euro-Inf and CEPIS, and to preliminary discussions that are due to take place in Korea in November with a view to international recognition of certain accreditation activities.

2.8 Ongoing curricular guidance

Work will continue on the interim computer science review (CC2001), on the full