

SAB Conference Call Minutes

Department of Computer Science
North Carolina State University
Minutes of Call
October 30, 2006

The Department of Computer Science Strategic Advisory Board met via conference call bridge on Monday, October 30, 2006.

Members in Attendance: Nicholas Bowen, Wayne Clark, Keith Collins, Jesse Fearington, Jo Goodson, Satish Gupta, Gopal Kakivaya, Gayle Lanier, Kathy Markham, Rudy Puryear, Bill Riddick, Kristopher Tyra, Bill Weiss and Steve Worth.

Member Regrets: Rowland Archer, Chris Crump, Chris Evans, Chester Fennell, Dennis Flynn, Ken Hibbard, Vivien Joklik, Steve Kuekes, Gerhard Pilcher, and Juan Vargas.

Opening Comments – SAB chair, Steve Worth & Ken Tate welcomed those in attendance, and set stage for the call commenting that many SAB members had expressed interest in holding working sessions throughout the year. In particular, board members have expressed an interest in:

- Having adequate discussion time for topics of Dr. Vouk's choice,
- Staying abreast of current department activities & successes, and
- Identifying engagement opportunities that would allow interested board members a chance to increase their involvement with the department.

With this as a backdrop, this call is the first of two planned calls prior to the annual face-to-face meeting next spring. The agenda for the call includes a brief update on CoE and departmental successes by Dr. Vouk, a review of potential engagement opportunities, and a continuation of the discussion from the annual meeting around globalization and its impact on computer science programs.

Department / CoE Update – Dr. Vouk provided updates on a number of departmental and college related items of interest including:

- **Enrollments** - The incoming freshman class (with transfers) this fall is slightly above the totals we graduated last academic year, presenting the first tangible signs of the anticipated cyclical upswing in CSC undergraduate enrollments. The department now has 628 undergrads and 395 graduate students.
- **40th Year Celebration** – The department officially celebrates its 40th Year in the fall of 2007. Plans are in the works for a technical symposium and other celebratory events in the October / November 2007 timeframe.
- **New Faculty Recruitment** – Recruiting efforts underway to hire as many as three new faculty for the coming academic year. Targeted areas include computer systems, database & data mining, security, and software engineering, with offers going to the best possible candidates.
- **Institute for Advanced Analytics** – The department is working with NCSU IAA to develop an advanced analytics curriculum. The intent is for this to become a terminal M.S. degree in Analytics. The necessary funding of over \$1M per year is sponsored ½ by SAS and ½ by NCSU over 3 to 4 years.
- **Computer Science Strategic Committee** – Dr. Vouk has established a new department strategy committee formed of 4 members selected by faculty vote. The purpose of this committee is to assist him with setting and driving high level department strategy. The members of the committee are Drs. Savage, Ma, Doyle, and Lester.

- **Dean's Vision** – Since starting his new role in August, Dean Louis Martin-Vega has spent a great deal of his time meeting with faculty and department leaders across the CoE, sharing and refining his vision. Strategic (or thrust) areas defined by Dean Martin-Vega include: Bioengineering (CSC involved via Bioinformatics, AI, Systems, and Software groups), Nanotechnology, Information and Communications Technology (spans all of CSC), Critical Infrastructure (Security, Software, AI, Networking, Systems), Energy & Environmental Systems, Advanced Materials & Manufacturing, Robotics and Sensors Technologies (Software, Security, Networking, AI groups), and Engineering the Services (Service Science Management and Engineering program, Networking, Software, AI). A comprehensive list, with expanded definitions, is enclosed as **Addendum 1**. While these are not set in stone and are still being formulated, the general scope is there. The idea is to form funding, engagement, and COE strength thrusts around the topics rather than around specific departments. A series of "Meet the Dean" events are being planned for the spring 2007, and our SAB are encouraged to attend to gain a better insight into the Dean's vision and plans for the CoE. He has indicated that a key goal of his administration is to propel NCSU into the top 10 in engineering in the US.

Engagement Opportunities – In response to SAB members' request for increased involvement within the department throughout the year, Ken & Dr. Vouk provided a sampling of potential engagement opportunities including:

- Branding & Image Committee
- Awards Committee
- SSME External / Industrial Feedback
- 40th Year Celebration Committee
- Undergraduate Curriculum Committee
- CSC Concentrations Task Force

Again, this is intended to be a sampling and not a comprehensive list of engagement opportunities. Because slots available for external participation are limited, and based on mutual interests and appropriateness, **SAB members with a specific engagement interest are asked to contact Ken or Dr. Vouk directly for assistance in identifying and coordinating participation.**

SAB Discussion on Globalization and its Impact on CSC – The remainder of the call was dedicated to a continuation of the globalization impact discussion from last spring's face-to-face meeting. A sampling of the comments and discussion points by members include:

- CSC will both impact and be impacted by globalization trends.
- Five years out, we may see more of a "power grid" model for computing resources. Resources may be shared with a limited number of distributed data centers.
- This may mean that we need to teach students a whole new set of skills. For instance, how do we optimize provisioning, quality of services, etc., for these very large data centers?
- Globalization may have implications on "ethics" courses.
- Off-shoring continues to be a complex issue. Much of work that has been "off-shored" is now being brought back, due to high attrition off-shore and talent shifts. Some companies are offering equity ownership to combat these issues.
- Jesse Farrington fears it might take a catastrophe to reverse the overall trend.
- Bill Weiss suggested that the department might want to explore collaborative opportunities in the globalization space with another university, namely the Jacobs School of Engineering at UCSD where he has strong contacts. He suggested we consider cross-pollinating our executive boards,

and explore other ways to further our international engagement to enhance our overall learnings and exchange in this space. He agreed to help facilitate contacts if Dr. Vouk has an interest.

New Member Nominations – With current board membership of 24, we have only one official opening for a new member to join us for our next face-to-face next April. However, since we have at least six board members whose terms will conclude with the April meeting, and because our attendance at the face-to-face meetings traditionally hovers around 75%, **we will consider adding as many as three – four new board members** beginning with the April meeting in Raleigh. **Nominations should be submitted to Ken no later than Friday, January 5th.** Nominations Forms and Membership Guidelines, Duties, & Expectations can be found online at http://www.csc.ncsu.edu/corporate_relations/sab.php.

Spring Face-to-face Meeting – Based on member feedback, our annual face-to-face meeting in Raleigh is tentatively scheduled for **April 12 & 13. Please reserve the dates on your calendar now.** More details to follow.

Next Conference Call – Our next conference call has been scheduled for **3-5 pm on Friday, January 12th.** The **conference bridge number is (919) 515-7150.** Our tentative agenda includes:

- Department Update (Awards, 40th Year Plans, Faculty Recruitment Update, etc.)
- Meet the Dean Events Update
- Undergrad Concentrations Update
- Naming Rights (open discussion of what we might be able to do to secure more named spaces within our new building)
- Committee Involvement (update on available opportunities)
- New Member Nominations (discussion of nominees & selection process)
- Annual Meeting Planning (requests for agenda items, special topics, etc.)

Addendum 1
Dean's Vision – CoE Strategic Thrust Areas

The areas that were illustrated at previous meetings were the following.

Bioengineering: The integration of engineering and the life sciences to contribute to the understanding of living systems and the development of new and improved devices and products for human health care. This includes research and educational efforts in bio-informatics, bio-materials, rehab engineering, bio-manufacturing and other areas of biotechnology.

Nanotechnology: Although one-millionth the size of a pinhead, the measurement nano and the technology it implies has ushered our world into a technological revolution. Defined to include nanomaterials and nonmanufacturing and their application across a broad spectrum of research, educational and development areas.

Information and Communications Technology: The processing, storage, retrieval and distribution of information as well as advances in communications technologies that allow us to transmit information anywhere in the world. The objective is to stress the pervasiveness of information and communications technologies across all of our engineering disciplines.

Critical Infrastructure: Infrastructure can be seen as a framework of interdependent networks and systems that provide for the reliable and secure functioning of society as a whole. This area encompasses both physical and information infrastructure. It would also include our efforts in structures, transportation, logistics and distribution as well as research and educational efforts related to homeland security and defense.

Energy and Environmental Systems: Discovering new ways to generate power while keeping our environmental systems healthy reflects the delicate balance associated with research and education in this area. The interdisciplinary nature of the design, provision and maintenance of energy and environmental systems makes this a college-wide opportunity.

Advanced Materials and Manufacturing: Advanced materials research is achieving new levels of complexity as researchers develop ways to blend existing materials into new materials with very strong, unique, previously non-existent properties. This is particularly the case for polymer materials and their role in the design and development of next-generation products and processes. Research in advanced manufacturing includes better monitoring and advanced diagnostic tools and state of the art automated systems and industrial processes.

Robotics and Sensors Technologies: Robotics has captivated society for decades. Today, intelligent, human-engineered robots carry the latest in sensor technology and artificial intelligence. These technologies suit a number of purposes from biomedical to environmental and energy systems, advanced manufacturing and national security.

Engineering the Services: The objective is to support the expansion of our engineering research and education into areas such as health systems, transport systems and financial systems. This includes information technology infrastructure and solutions for implementation and researching of service-based solutions.