



February 15, 2012

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Dear Search Committee Chair

Please consider me for the Editor in Chief (EIC) position at Computing in Science and Engineering (CISE) Magazine. As an interdisciplinary computer scientist, I believe my background, interests, and activities are ideally suited to the expectations and responsibilities of an EIC.

In terms of specific editorial experience, I have been responsible for leading the direction of the Scientific Programming department since Paul Dubois retired in 2001. In this role, I have been successful at striking a balance between writing and soliciting high-quality articles for the Department. Over the past year in particular, my co-editor, Konstantin Läufer, and I have been successful to shift the focus from having to author and solicit articles ourselves to one where authors actively seek out opportunities to write for us.

In addition to the Scientific Programming department, which continues to generate significant interest among readers, I have also been influential in organizing special issues. I was the guest editor of a special issue on Cluster Computing and have worked with Norman Chonacky to get two exciting special issues organized by leaders in the exciting areas of HPC Education and Reconfigurable Computing. These three examples of special issues are truly representative of the type of content I think is important to maintaining and growing interest in CISE: (a) bringing state-of-the-art research to computational scientists, and (b) reaching out to educators and other new communities.

In terms of what I would like to accomplish as EIC, these are just a handful of ideas that come to mind:

**expanding our online presence** Bill Feiereisen and I have drafted a document as part of an ad hoc task force to explore ways that CISE can best utilize the web. The three dimensions of getting online include following the online journal model (e. g. Science Online, <http://www.sciencemag.org/>), forming a computational science portal, and department blogs. I would like to see us begin putting this plan into place, subject to concurrence of the board.

**broadening our impact, then our impact factor** My recent efforts with the HPC Education initiative at SC 2007 <http://www.sc-education.org> have convinced me that our community in general has a long ways to go, especially when it comes to the various on-ramps to CISE education itself. We should invite to the board new board members from K-12, community colleges, and non-traditional institutions as part of a long-term strategy to broaden our

impact. While not all of our content is ideally suited to undergraduate and secondary education, I am convinced that we must be doing whatever we can to reach these levels. I want as many people as possible to know of the CISE acronym first and foremost as CISE Magazine. (Most of my friends who do computer science research ask, “Is CISE part of NSF?”, because NSF has a CISE directorate.)

**improving collaboration and communication within the board** Having been in attendance at all board meetings since becoming a department editor, I cannot help but notice that we are great at generating ideas but not able to act on them in a timely manner (if at all). Oddly enough, much of the business world has already found ways to deal with these sort of productivity problems using issue tracking systems and discussion forum software, among others. Much of this owes to our inability to collaborate beyond e-mail, which by its nature is not conducive to multicast (group) communication. I will work hard—possibly with the help of a new associate editor—to ensure a robust plan is in place to collect the various ideas and track progress with a finer degree of granularity than has been in place since I joined the board.

**involvement of associate editors** The previous point highlights this need. In general, an EIC really cannot do everything, despite his/her best intentions. Having served as the chair of university councils (our Graduate Council, in particular) gave me the opportunity to learn firsthand the importance of delegation. Virtually all aspects of being the EIC can be delegated, save perhaps the ultimate judgment call of what is *fit to be printed or appropriate to the mission of CISE*. It is my intention to involve the associate editors in all aspects of the magazine, including the iterative planning and execution of the editorial calendar.

**advertising not necessarily harmful** I still have a lot to learn about this particular issue but sometimes find myself perplexed as to how there can be zero advertising in CISE. While we are possibly too small to reach a meaningful market, our future online initiatives might well require us to rethink the role of advertising. There is a great value proposition in the *keywords* of CISE, and it strikes me that technologies similar to Google AdWords and AdSense could have significant potential to raise revenue for CISE online, given our relatively small circulation. At a minimum, Analytics software (created for online advertising) can help us to understand what topics truly interest our readers and have significant impact.

**putting the engineering back in CISE...or remove it from our name** At SC '06, I was sitting with Jeff Bebee at our booth and decided to do an experiment to learn something about the most frequent keywords that appear in all CISE articles within the past 5 years. I took the PDF versions of all articles, which Jeff distributes on a CD at various conferences (including SC), and imported them into a tool that builds an index of all non-noise words. My analysis revealed that the term *engineering* seldom appears in the articles we publish in CISE, while in contrast the term *science* does. This is either a manifestation of a possible problem or a sign that we might need to sharpen our focus.

**international outreach** Computational science and engineering is practiced worldwide, especially as a result of worldwide activities arising from the Internet itself and (more specifically) grid computing. In addition, China and India in recent years have been graduating more computer scientists and engineers than any other countries in the world. Norman Chonacky has done a great job of expanding the composition of the board; however, there is a great need to expand beyond North America with at least one board member from every continent, save Antarctica. Given our likely budgetary situation, we will need to explore ways to involve

more international members, especially if funding does not allow us to support their travel to annual meetings. (In other words, fostering collaboration and online presence will become all the more important, especially in the next few years, until we find other ways to fund our existence.)

**reaching underrepresented and under-served groups** This is more of a personal item. I am a professor at a university with a 65% female population and a significant population of underrepresented groups. Yet even at my university, the trend for these groups enrolling in computer science (traditional or applied) and engineering-related subjects remains low. CISE need not be entirely about addressing the national problem but certainly could address these issues through special issues and/or a new department. I will work personally as EIC to ensure that CISE is among the leaders at promoting and encouraging diversity.

These are just a handful of ideas that come immediately to mind. I am willing to work with the selection committee and editorial board to address other items of interest and concern. So the above list is hardly cast in stone. I welcome the opportunity to serve in this role and will do whatever I can to leave CISE in an even better position than I found it.

A handwritten signature in blue ink, reading "George K. Thiruvathukal". The signature is written in a cursive, flowing style.

George K. Thiruvathukal, Ph. D.