

# Letter to the Rice CS Community

## *Luay Nakhleh*

Today I complete my first year as Chair of the Department of Computer Science. I want to take this opportunity to summarize briefly some of what we did as a department in 2017, plans for 2018, and more generally, how best I think we can move forward given the challenges that are specific to our department.

### **2017 in a nutshell.**

We hired three outstanding faculty members: Dr. Ang Chen, Dr. Anastasios “Tasos” Kyrillidis, and Dr. Risa Myers. These three faculty members will add tremendously to our research and teaching efforts. I encourage all the students to get to know them and talk to them about their research and courses (Tasos will be arriving in July 2018, but he’s reachable by email). Several of our faculty and students received awards, grants, and fellowships. We had by far the largest and most qualified pool of applicants to our MCS program and in May 2017 we graduated the largest class of computer science students. Three of our faculty (Drs. Keith Cooper, Chris Jermaine, and Devika Subramanian) played central roles in both committees of the Data Science Initiative aimed at recruiting faculty members through the initiative, as well as creating a new data science minor. I held two town hall-style meetings with the undergraduate and graduate students in our department and listened to the issues they had and already acted on some of those issues. For our PhD students, we have already decided on a regular review of their stipends, and gave a 7% stipend increase this year. Furthermore, in response to their requests for improvements to COMP 600, we asked Dr. Tracy Volz, who has extensive experience in teaching communication at Rice, to lead the course; she graciously agreed and the response from students and faculty has been outstanding. I am glad to report that Tracy has agreed to continue leading the course in Spring 2018. I started working with faculty members on offering new courses to diversify our course offering and deal with the increasing enrollments. Under the leadership of Dr. Mack Joyner, we started monthly lunch meetings for our MCS students. Last but not least, with the great help and initiative of Carlyn Chatfield, we started our alumni outreach efforts by traveling to Austin and Seattle and meeting with our alumni. I enjoyed this activity very much and we received very positive feedback from the alumni themselves. In addition to all this, many other successful activities organized by our faculty and students took place, but are too numerous to list here.

### **2018 in a nutshell.**

We are already in the midst of reviewing faculty candidates for our new season of faculty hiring, which is very exciting. I hope that we can repeat the success we just had and manage to hire 2-3 new faculty members. The success of the process depends heavily on active participation from all of us—faculty and students. I call on everyone to attend the candidates’ talks and interact with them (announcements and multiple reminders will be sent out to the entire community once candidates’ visits are scheduled). I expect and look forward to seeing new courses being offered in our department. I plan to continue my meetings with the undergraduate

and graduate student communities in our department (a second meeting with the graduate students is already scheduled for mid January). We plan to revisit the structure of our PhD program and some elements of our undergraduate curriculum. In order to add flexibility to our MCS program, we will study the possibility of adding an online component to it. I will also continue the alumni outreach activities as I believe this is essential for our long-term success as a department. As part of this effort, we are planning a pre-graduation ceremony in May for all our 2018 graduates (more details will be announced as the plans get finalized) which I hope will become an annual event. A major activity that will take place in Fall 2018 is the visit by the Advancement Committee to our department. This is a committee of external senior members of the CS community at large who visit us for 1-2 days to review our department and provide feedback on the state of the department.

### **Our department: We're all in this together.**

In the mid 1980's, the late Ken Kennedy founded and served as first Chair of the Department of Computer Science at Rice University (Rice CS). Since its inception, Rice CS has been true to Ken's vision by staying at the forefront of research, education, and service in the computing community. This is all the more remarkable when accounting for the fact that ours is, by far, one of the smallest top CS departments in terms of the faculty size. However, despite the young age of our department, CS has changed very rapidly in the last three decades. While we are in a great position, even maintaining the same position is not easy, especially as our peers continue to grow. Remaining at the forefront of research and education in the face of increasing interest in CS from students, coupled with the modest potential for growth in the faculty as compared to most of our peers, is our biggest challenge.

CS today crosses all boundaries and intertwines with all other disciplines, including those in natural sciences, social sciences, humanities, and medicine. Furthermore, computing has already permeated almost all sectors of the economy, and automation, which is fueled in large part by computing, has forever changed the nature of the job market. Demand for computer scientists is at an all-time high. Indeed, while producing graduates continues to outpace job openings in all of the STEM fields, CS remains the exception to that trend. All these factors make the huge interest in CS this time around very different—it is here to stay.

We need to innovate in our research—what we work on and how we go about it—and in education—what we teach and how we deliver it. Our own Moshe Vardi has been a leading voice and instigator in discussions on the future of work. Given that future STEM jobs are mostly in computing, the future of work inherently intertwines with the future of CS. Questions are already being asked, for example, on whether humans will even write code in the near future. Regardless of your thoughts on this question (and I can imagine how “peaceful” a faculty meeting on this question would be!), the fact that it is being debated gives the impetus for all of us to start thinking now about where CS is heading, both in terms of research and education. Adding to the urgency is the rapid growth in demand, by students and employees from all backgrounds, for professional training in CS (our MCS program is by far the largest in the School of Engineering). Needless to say, CS courses with hundreds of students is an old story by now.

I will continue to make the case for more faculty hires to the Dean of the School of Engineering and, through him, to the University's administration. I will continue to work with my colleagues to offer new courses and to innovate in delivery mechanisms. We will work to add an online component to our MCS program and wherever else that it makes sense. We will

continue to generously staff our larger courses with teaching assistants. We will continue to assess the workload of our administrative staff and the need to hire more people to help with the day-to-day operations of the department.

But let's face it: The philosophy and mission of Rice as a university mean that we won't grow to become a department of, say, 50 faculty members and 15 administrative staff members (at least I'm realistic enough not to expect that to happen during my tenure as Chair!). Therefore, while we continue to grow, albeit modestly, we also need to rethink how we all can help the department. We are all privileged to be at a place like Rice University and, in particular, at Rice CS. We all—faculty, students and staff—need to be patient as we deal with all the challenges that we find ourselves facing. We need to be open-minded as computer science—its technical aspects and the way it is taught and practiced—and computer scientists continue to evolve, often in ways that challenge old notions of what computer science is or who “the” computer scientist is. We all need to keep reminding ourselves that we are part of a larger immediate community—Rice University. The university's success is our success and we need to contribute to it. If we truly believe that computing is the new literacy, let us think of creative ways to educate the Rice community in computing. Let us play a central role in ensuring the success of the Data Science Initiative and any other initiative that depends on computing. Last but not least, let us all collaborate in ways that make the department much larger than the sum of its parts.

So, as I opened this message with one Kennedy, let me close with another by paraphrasing one of our more eloquent Presidents: And so, my fellow Rice CS community members, ask not what your department can do for you; ask what you can do for your department. This is *our* department; it is great, but can become even greater when all of us—faculty, students, and staff—contribute to it, each in the way that he or she feels they can contribute most effectively.

With my best wishes for a happy and successful new year.

Sincerely,  
Luay