

## MIC

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**THE RECENTLY UNVEILED PLANS** for a College of Computing (CoC) marks by far the largest reorientation of the Institute in the 32 years I have been on the faculty. I think the change will be much broader than is generally acknowledged.

To put it succinctly, it is likely that going forward we will be known as the:

**Massachusetts Institute of Computing  
or  
MIC**

The image of the organizational structure displayed by the administration in recent presentations has the “College” at the bottom, with the Schools riding on top of it. This is a perfect reversal of the traditional image, in which engineering subjects are regarded as resting on sound scientific and humanistic foundations.

This image replaces an earlier one, that several people independently have reported to me. In this image the Institute is viewed as a donut, made up of the existing Schools, with the CoC in the center. Perhaps a more flattering version of this image would be a flower, with the CoC in the middle, the focus and germinal center, and the five Schools arrayed around the periphery as petals, playing supporting roles. This probably accurately reflects the envisioned future.

Images are important. Traditionally, the five Schools have been carefully given equal status in any representation of the Institute. We all have equal responsibility for the education of our undergraduates and the promotion of scientific and technological research. I have treasured the characterization of the Schools as five nodes in a complete graph. In the forthcoming new order, we have a hub and spokes model. The important connections are declared to be between the center

and the periphery; other potential relationships are secondary.

The use of a novel noun for the new entity – “College” – is a further indication that the symmetry of the past order will be broken. Second-class citizenship will inevitably be reflected in many ways, starting with allocation of resources. We can see this happening already. It’s excellent news that the new MIC will have five percent more faculty than the old and discredited MIT. But rather than allow the many different parts of the Institute to

resources and infrastructure in place to assure students that they do not have to trim their choice of major to what apparently seems to them to be the only path to career security. But instead, the Institute has set its course in a direction that puts it in danger of being regarded (again!) as a technical training school. I would expect that the new organization will have a deep impact on the pool of undergraduate applicants, dramatically narrowing the range of interest of our undergraduate body.

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grow organically, responding to the development of the many disciplines traditionally represented here, the plan is to add 25 “computing” faculty and earmark 25 more as “bridge appointments” between the College and other entities.

The discussion of the meaning of a “bridge appointment” has only just begun. A deep concern is that the bridge will be thought of as a one-way street: Techniques from machine learning or the like will be exported to other departments. To the extent that this model is realized, we will be missing the chance to enhance the vigor of our development of computer science by challenging its practitioners to move beyond theory, and import into their practice responses to the vast array of real and specialized questions about real data sets.

A primary rationale for this radical redistribution of wealth and power is the ascendancy of EECS as a choice of major for our undergraduates. A responsible reaction to this might have been to put

The concerns I have given voice to here can be mitigated by abandoning the “bridge” imagery, and returning the power of appointment to the various Schools and departments. The bridge concept represents an unprecedented appropriation by the administration – or of a select group of the faculty – of authority that has traditionally been vested in departments. The question of exactly how it will work has been raised repeatedly and the administration has avoided responding. The best solution is to abandon the idea entirely. If computer science has penetrated the whole of the Institute as fully as is claimed, then many of these new faculty members will naturally be well versed in its methodology. Moreover, devolving this authority to departments may be the only way to avoid the kind of corruption that follows windfalls. ■

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