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To: Division 771
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ACMD News (Vol. 5, No. 1, January 6, 2016)

This is an occasional digest of happenings of interest to ACMD staff. Unfortunately, it's been a while since I've assembled the news, so some of this news may be a bit stale. I'll try to keep these more frequent in the future.

Suggestions for topics to cover in future editions are welcome. (I'm sure I've missed something important in this issue. I always do!)

First, the headlines ...

1. Staff Departures
2. New Staff Members
3. Number 9 on the Top 25
4. Recent NIST Awards
5. Budget Outlook (this one is probably important for you to read)
6. New Educational Institute in Senegal
7. HPC As an Agent of Change: ACMD work highlighted
8. Congratulations to Oliver Slattery

Details can be found below.

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1. Staff Departures

In August James Shook, an NRC Postdoctoral Associate in ACMD since 2011, took a permanent position in the NIST Computer Security Division this past August. In ACMD James worked with Isabel Beichl and others on problems in combinatorics and graph theory. Back on May 15 James became a father when his son, Oliver was born.

Earlier this year Yvonne Kemper, another NRC Postdoc working with Isabel Beichl also departed NIST, accepting a postdoc position in the Mathematics Department at the University of Vienna. At NIST Yvonne worked on methods for approximating the chromatic polynomial.

Finally, I'm sure that everyone is aware that Ginger White has moved on to become ITL Deputy Director Jim St. Pierre's secretary up in the Lab Office. Thanks to Ginger for continuing to help out in ACMD while we searched for her successor (see below).

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2. New Staff Members

If you haven't already done so, please welcome our newest staff members:

Paul Patrone, who works in the areas of material modeling and uncertainty quantification, joined ACMD's Mathematical Analysis

and Modeling Group on August 24. Paul received a Masters degree in Applied Math (2012) and a PhD in Physics (2013) from the University of Maryland. He was most recently an Industrial Postdoc at the Institute for Mathematics and Its Applications at the University of Minnesota. As part of that program he spent a year working at the Boeing Company in Seattle.

Lochi Orr joined ACMD on December 14 to provide administrative support to the Mathematical Analysis and Modeling Group and the Mathematical Software Group. Lochi, who has a degree in Criminal Justice, was most recently employed by the Drug Enforcement Administration in Baltimore.

Sean Colbert-Kelly will return to ACMD on January 11. Sean was previously an NRC Postdoc in ACMD. He left in September 2014 to work in private industry (Noblis), but is returning as a term appointee supported by the NIST Fellows postdoc program. (The NIST Director has reserved funding that allows each NIST Fellow to employ one postdoc. Sean will be working with NIST Fellow and ACMD staff member Jeff McFadden.)

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3. Number 9 on the Top 25

Scott Glancy, Peter Bierhorst and Manny Knill of ACMD are part of a team that performed a landmark "loophole-free Bell test" this fall. Science News has included that work as number 9 in its top 25 science stories of 2015. See
https://www.sciencenews.org/article/top-stories-2015-pluto-gene-editing-new-hominid-and-more

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4. Recent NIST Awards

ACMD fared very well in this year's NIST Awards Ceremony, which took place on December 9. Congratulations to these staff members who were recognized:

Samuel Wesley Stratton Award ...

Manny Knill: “For pioneering research in the field of quantum information science and engineering"
(The Stratton Award, first presented in 1962, is granted for outstanding scientific or engineering achievements in support of NIST objectives.)

DOC Bronze Medals ...

Kamran Sayrafian: “For leadership in the advancement of body-area network technologies that will enable innovations in personal health care delivery and telemedicine.”

Barry Hershman, Paulina Kuo, Oliver Slattery and Xiao Tang: “For the development of upconversion single photon detectors and spectrometers for use in quantum information research and measurement science.”

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5. Budget Outlook

With the passage of a Federal FY 2016 budget the funding outlook for NIST has become clearer, but how this will impact ACMD still is not clear. For NIST the overall news seems good. The STRS budget, which funds the Labs, was given a $14.5M increase. But, the budget also requires NIST to fully fund five of its proposed initiative, totaling more than $32M. This means that NIST may need to do a good deal of reprogramming of existing work to meet these mandates. NIST has gone back to Congress for "clarification."

In the short term the ACMD budget remains unsettled at best. When we account for all existing committments our budget falls short by $750K. This is just 5% of our budget, but it is a large number nonetheless. Unless we are able to make this up somehow then there will need to be a severe cutback in other objects (everything other than salaries) and well as reductions of hours for intermittant staff. Ways in which you can help include:

* Actually responding to solicitations for proposals for things like the ITL Building the Future program. (That program is funded by a tax on Divisions and is one of the reasons we have a deficit.)

* Responding positively to any overtures from your NIST collaborators who may have funding to support our joint work.

* Providing accurate estimates of the leave that you will be taking during the year when asked. (We pay for leave as you earn it, so you are free to us when you are actually on leave.)

* Reducing requests for travel and other purchases to only those that are absolutely critical.

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6. New Educational Institute in Senegal

Yes, you are right: why does this concern us? It doesn't really, but it is interesting to note the outside activities of our research associates. Assane Gueye, a Research Associate at the University of Maryland who has been a guest reseacher in ACMD since 2011, is one of the founders of a new educational institute which is being spun up in Senegal (his home country). It is called Institut Professionnel pour la Securite Informatique (IPROSI). See http://iprosisn.com/. We wish him luck with this new venture!

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7. HPC As an Agent of Change: ACMD work highlighted

In an October 2015 blog post associated with the technical publication Scientific Computing, Paul Messina of Argonne National Laboratory described three examples that demonstrate how high performance computing is chaning the way in which R&D is carried out. One of his examples is the work on the modeling of concrete being undertaken by ACMD's High Performance Computing and Visualization Group in collaboration with the NIST Engineering Lab. See http://www.scientificcomputing.com/blogs/2015/10/hpc-transforms-three-examples-hpc-agent-change

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8. Congratulations to Oliver Slattery

On December 8 Oliver Slattery of ACMD's Quantum Communications Project became Dr. Oliver Slattery, as his PhD in physics was officially conferred by the University of Limerick in Ireland. Congratulations to Ollie for his persistance in working on his degree, quite a challenge when one has a full-time job and is the father of two!