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**CCICADA Newsletter: March-April 2013**

**Notes from the Director**

In the vernacular of the US Department of Homeland Security, the term ‘Homeland Security Enterprise’ or HSE is a common way of describing those agencies and entities that comprise the effort to protect the American home front from attack and harm. HSEs are not limited to government alone; the HSE is much broader than agencies of the US DHS (e.g., USCG, DND, CBP, ICE, FEMA, etc.), various first responders and state and local law enforcement. The private sector is also engaged in anti-terrorism activities in protection of their customers, infrastructure and physical plant.

One such private HSE entity is the National Football League and its organizational arm that is charged with stadium security. Beyond the large financial interests that represent the NFL franchise, the NFL is unique like many professional sports in American society in that it has iconic value. Watching football at home, in a neighborhood tavern or at the stadium during Sunday afternoons and evenings in the Fall (and Monday and Thursday nights) is an American way of life for many in this country. Terror tragedy would have far-reaching impact.



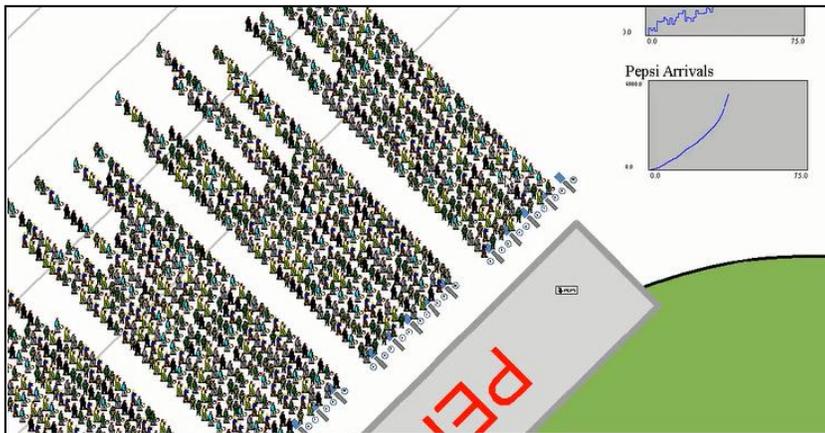
SOURCE: Fred Roberts

Leveraging the relationship built at various NFL stadiums, CCICADA was invited to brief the NFL on its research in the area of stadium security and provide input on policy considerations for patron screening (see article below). In addition to building a partnership with a private based HSE in the fulfillment of US DHS goals and objectives, this briefing shows the external HSE and other interested stakeholders the value of data analysis and research in answer to real world problems and decision support.

Just like most Americans, CCICADA researchers are also football fans. An added bonus to visiting NFL headquarters was the entrance lobby where all the Super Bowl rings are displayed (in very secure cases!). The above picture is the championship ring from Super Bowl X (Steelers 21 – Cowboys 17).



Fred S. Roberts, Director



## CCICADA Invited to Brief NFL Headquarters on Stadium Security

On April 17, 2013, CCICADA Director Fred Roberts, Robert ‘Bobby’ DeMarco and Alper Almaz, CCICADA Post-doctoral Associates attended a meeting hosted by the National Football League at their headquarters in New York City. CCICADA was joined by Michael Tobia, US DHS and Daniel ‘Danny’ DeLorenzi, Security Director, MetLife Stadium.

Building on the ongoing review of the patron screening procedures at NFL and other league stadiums, CCICADA had been asked to brief the NFL security leadership on the merits and impacts of various screening processes. Included in these is wandering with a hand-held metal detector, pat-downs of patrons and bag searches. The NFL is also interested in the implementation of walk-through magnetometers as a possible option.

Using patron arrival data and observed and otherwise documented screening times for various inspection methods, CCICADA researchers used simulation methods (see insert above) to gain insight as to the impact of implementing different screening options. This impact is measured in queue length (which in turn equals volume of patrons forming a crowd at entry; a vulnerability highlighted by the April 15 Boston Marathon bombing) and time to clear the patron entry relative to the game start time (equals a measure of patron satisfaction).

The CCICADA team was able to show whether the measures improved, stayed equal or worsened compared to actual game-day arrivals when various screening scenarios were considered. The NFL security leadership were very pleased with the presentation and had many follow-up questions. In particular, Raymond DiNunzio, Director of Strategic Security Programs for the NFL, has this to say: **“The analysis you and your team of experts presented to our security staff at the NFL office was very well received. Thank you for giving us the opportunity to see how valuable computer modeling can be in evaluating more effective and efficient technologies to secure our stadiums.”** Further dialogued is planned, both with the NFL and other sports leagues.

Since the NFL Security briefing occurred two days after the Boston Marathon bombing, there was considerable discussion of the lessons from the bombing that might affect security of more enclosed sports stadiums, and this has led since to emphasis on this question in some of the CCICADA research on best practices for stadium security.

## CCICADA 2013 Research Retreat: Texas Southern University

The Office of University Programs, US Department of Homeland Security is the sponsoring agency for the CCICADA award. Part of its mission is to “[s]trengthen U.S. scientific leadership in homeland security research and education” and “[d]evelop a permanent homeland security science and engineering workforce.” In fulfillment of this mission, CCICADA involves many students in its research work and homeland security related projects.

Each year, faculty, students, post-doctoral associates and other researchers from the CCICADA lead and partner institutions gather at the CCICADA sponsored Research Retreat. The goal of the Retreat is to bring together those involved with CCICADA research projects and activities to present their work and network in discussion, development and idea-sharing across the wide array of project areas and research concepts. For this retreat, we also hosted guests from our sister center VACCINE, and in particular VACCINE students and faculty from the University of Houston-Downtown. The 2013 Retreat was held on April 18-20, 2013 on the campus of CCICADA partner, Texas Southern University in beautiful downtown Houston, Texas. The Retreat, which was opened by CCICADA Director Fred Roberts and Program

Committee members Professors Lila Ghemri, TSU and Eduard Hovy, CMU, included 23 presentations over the two-and-one-half day event by CCICADA students, faculty and staff. The presentations were included within four primary topic areas: 1) Models and Algorithms; 2) Decision Making; 3) Social Media and 4) Natural Language Processing and Risk Analyses. Two poster sessions provided opportunity to all presenters to interact with the Retreat participants and have detailed discussions on their work.



Visiting the Houston Office of Emergency Management

The Retreat also featured special invited speakers including Dr. David Ebert, Purdue University and Director of VACCINE and John Dyess, Chief Administrative Officer for the Sheriff of Harris County. The group also toured the TSU Museum that features the world famous John Biggers Murals and participated in a site visit to the City of Houston Office of Emergency Management.

By all measures, the 2013 CCICADA Research Retreat was a huge success.

### **2013 Bring Your Children to Work Day**

The children of faculty, staff and students from CCICADA, its parent Center, DIMACS, and the Rutgers Football coaching staff participated in the annual Bring Your Children to Work Day program at the university on April 25, 2013. The specific departments included Mathematics, Statistics, Computer Science, RUTCOR and Rutgers Football; a total of 28 children ranging from ages 6 to 13 participated in this year's program.

After a 'meet and greet' session, a presentation on how fingerprints are different and how they are used to solve crimes was given. The group then toured the studios and control room of RU-tv, the on campus television production unit; the kids met and got to ask questions of on-air personalities (RU students). After lunch at the student dining hall, the participants were given a behind the scenes look at the dining hall kitchen and operations.

The afternoon program included a visit to the Rutgers observatory where view of the sun and solar activity were given. Then, the highlight of the day was a demonstration of robotics by the Computer Science Department. The day would not be complete, however, without a ride on the campus bus system.



Plans are already in the works for next year's program.