IEEE Distinguished Lecturer Series

Homeland Security

Sponsored by the IEEE LA Chapters of: Communications, Signal Processing, and Vehicular Technology Societies

Prof. Marty Roden, Co-Chair
Dr. Sumner Matsunaga, Co-Chair

27 Mar 02
This meeting is UNCLASSIFIED
Homeland Security Technology Series

20 Feb 02: Homeland Defense in Perspective
           -- Mr. Denny Quine, The Aerospace Corporation

27 Mar 02: Network Architectures to Satisfy the Communications Assistance for Law Enforcement Act (CALEA)
           -- Mr. Matt Holdrege, Sonus Networks

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           -- Dr. Lubo Jocic, The Aerospace Corporation

12 Jun 02: TBD

24 Sep 02: Wireless Communications
           -- Prof. John Proakis

IEEE
Current Events

• New LA Council and Coastal LA Section Officers
  – LAC Chair—Ray Aker
  – CLAS Chair– Don Mayer

• IEEE Radar Conference, 22-25 April, @ Hyatt Regency, Long Beach, CA

• Two new Counter Terrorism Broad Area Announcements released

• Fellow nomination deadline has passed (15 Mar), however…
2002 Nominate a Senior Member Initiative

• Goal: This program calls on Section and Society members to nominate qualified Members for Senior Member Grade

• This initiative
  – Simplifies the application process: On-line forms available: http://www.ieee.org/membership/upgrade.html
  – Offers incentives for approved applications
    – Sections and Societies awarded $10 for each nomination
      – Please type in LA Joint Chapters of ComSoc, SPS, and VTS in the “Nominating Society” box
    – New Senior Members will receive coupon worth up to $25 (to join one new IEEE Society) and an engraved plaque

• High likelihood of success: In 2001, 788 of 814 nominations resulted in successful elevations

• Deadline: Completed applications must be received at IEEE no later than 8 November 2002
Broad Area Announcements (BAA)

Technical Support Working Group (TSWG)

- The primary mission of TSWG is to conduct rapid research, development, and prototyping for the National Inter-Agency R&D Program

- The TSWG solicits proposals via Broad Area Announcements (BAAs) in specific mission areas with the intent of identifying technologies and approaches that may provide near, mid, and long term capabilities critical to solving multi-agency requirements

- The BAA Information Delivery System (BIDS) web site is provided as a tool for dissemination and receipt of data related to active solicitations for the TSWG

- Open to the general public

https://www.bids.tswg.gov/
Recent BAAs on Combating Terrorism

• COMBATING TERRORISM TECHNOLOGY SUPPORT OFFICE (BAA DAAD05-02-T-0215)
  – Chemical, Biological, Radiological and Nuclear Countermeasures
  – Investigative Support and Forensics

• COMBATING TERRORISM TECHNOLOGY SUPPORT OFFICE (BAA-02-Q-4702)
  – Explosives Detection
  – Improvised Device Defeat
  – Infrastructure Protection
  – Personnel Protection
  – Physical Security
  – Tactical Operations Support

Due Date for Receipt of Quad Charts: April 4, 2002
BAA Update

BAA 02-Q-4655 (ATL) Update:
Reviews to be completed on or around April 5, 2002

Current status as of 3/26/2002:
Number of Quad Chart Reviews Completed=6,039
Number of White Papers Requested = 585

Technical Categories:
1. Combating Terrorism (e.g., Automated Speaker Recognition System, Tagging/Tracking/Locating and Remote Sensors)
2. Location and Defeat of Hard or Difficult Targets
3. Protracted Operations in Remote Locations
4. Countermeasures to Weapons of Mass Destruction

IEEE
Blast Distribution Modeling for Buildings

Operational Capability to be Provided:

- Compile database of blast debris generated from actual events and field testing.
- Empirical model that will predict size, mass, velocity and distribution of debris produced inside buildings by bombs.
  - Model will consider windows, walls, utility systems, office equipment, and furnishings as sources.
  - Model will use charge weight, location, building characteristics, and equipment as input data.
- User friendly windows version of model will add credibility to force protection vulnerability assessments, show benefit of upgrades to facilities.

Proposed Technical Approach: New effort

**Task 1:**
- **Gather data** from actual blast events and tests. (Embassy Bombings, TSWG-sponsored wall studies, British, Israeli tests).
- **Evaluate and tabulate data** into categories with like characteristics and distribution patterns as a function of charge weight, location, building characteristics, and source of debris.

**Task 2:**
- **Develop debris distribution model(s)** that replicate debris data showing size, mass, velocity, & distribution.
- **Validate model against new tests and other data sources.**
- **Develop user friendly Blast Debris Model** software and manual to run in Windows 98/NT environment.

**ROM Cost & Schedule:**
- Task 1 period of performance is 4 months; Task 2 begins after the completion of Task 1 for a period of 8 months.
  - **Total Period of Performance is 12 months**
- Task 1 - ROM Cost of $20,000
- Task 2 - ROM Cost of $100,000; $20,000 for Govt Validation
  - **Total Cost is $140,000**

**Deliverables**
- Technical Report describing debris data sources & complied results
- Technical Report describing model and techniques to replicate compiled data and blast debris response scenarios
- **Software model** for rapid distribution and use by force protection teams
- User Manuals; Database Description; Computer Program End Item; Progress/Status Reports; Final Report, Video; Transition Plan

**Corporate Information:**
- ABC Inc, Jane Doe, 111 Main Street, Anytown, VA 22102
- Phone: (703) 222-8888, Fax: (703) 222-8889
- Email: jane.a.doe@abcinc.com
Volunteers Needed

Industry Committee Chairs
Meeting and Speaker Coordinator
VTS Conference
Industry Committee Chair Responsibilities

- **Advocate, sponsor, and/or lead IEEE activities at your company**
  - Modest time commitment, but with considerable individual and corporate payoff

1. **Sponsor and coordinate IEEE lectures and meetings at your company, preferably by a company employee**
   - The topic could be an area of company strength or interest

2. **Disseminate IEEE-related information such as lectures/meetings, conferences, grade advancements, and awards**
   - Facilitate local IEEE awards issued by the LA Council and Engineer’s Council based on nominations from the Chairs
   - Grade advancements and awards can be ceremonially presented to the recipients by a corporate officer
Industry Committee Chair Volunteers

• Some discussions with:
  – Boeing Satellite Systems (HSC)
    – John Gervargiz
  – TRW Space and Electronics
    – Dick Croxall
    – Ron Smith
    – Roger Davidheiser
  – JPL
  – Raytheon
Homeland Security Technology Series Speakers Needed

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VTS Conference Proposal Summary

• Proposal:
  – LA Joint Chapters for ComSoc, SPS, and VTS propose to organize the (unclassified)
    
    IEEE VTS-04/Fall Conference
    on Wireless Technologies
  – The Aerospace Corporation will be the Co-Sponsor

• Benefit:
  – Greatly increase local exposure to a rapidly growing technology area
Process

1. Form a Local Conference Committee (LCC)
   - Now:
     ✓ Conference Co-Chairs (must be IEEE and VTS member)
       - Dr. Sumner Matsunaga, Prof. Marty Roden
     ✓ Finance Chair (must be IEEE member): Lim (TBC)
   - Soon:
     - Technical Program Chair (must be IEEE member)
       - Call for Papers, speaker invitation, review procedure, etc.
       - Presides over Technical Program Committee (15 to 30 members)
     - Symposium Chair (for Vendor presentations)
     ✓ Publicity Chair (incl., Conference web site):
       - Elaine Ignacio and Barbara Bickham (TBC)
     ✓ Local Arrangements Chair (includes hotel liaison, transportation, entertainment, audio-visual, etc.)
       - Elaine Ignacio (TBC)
   - IEEE will provide:
     - Registration, Hotel Selection/Negotiation, Abstract Processing, Secretarial Tasks, Advance and Final Programs, Conference Record
2. Initial Planning

- Estimate the Budget (fill out Budget Forms)
  - Committee Expenses, Operating Expenses, Social Functions, etc.
  - Request that VTS loan advance funds ($10-15k), cover any deficit, provide insurance, etc.

✓ Determine

- Title: “IEEE VTC-XX (Fall 2004) Conference on Wireless Technologies”
- Location: LAX/South Bay
  - Convenience, availability of lodging and transportation, cost, recreation, breathable air, etc.
- Dates: 5-8 Oct 2004 (TBC), after Wescon (mid-Sep), before Milcom (early Nov)
- Expected attendance: historically, 700-1100
- Estimate of number of papers (impacts review process and meeting planning): typically, 500-1000
Process (Cont.)

3. Determine Sponsorship
   ✓ Obtain agreement from IEEE that The Aerospace Corporation can be a co-sponsor

4. Meetings with IEEE and LA Council
   ✓ Met VTS Conference Coordinator (Tom Rubinstein) in Feb
     • Will meet with LAC soon

5. Submit Budget Form, Proposal Letter, and MOU to VTS Conference Coordinator

6. IEEE and VTS agrees

7. The fun begins
Web Master

• Any trouble finding our site?
  – Local Activities, Western USA, LA Council, Chapters

• Some briefings from previous meetings are posted there

• Suggestions are appreciated
  – e.g., items of interest to be posted
  – Thank you Dr. Hector Erives for your useful suggestions
Any Other Topics?