

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
- 08 May 02:** Tentative: U.S. Emergency Response Satellite (USERS) Concept
-- Dr. Lubo Jovic, The Aerospace Corporation
- 12 Jun 02:** TBD
- 24 Sep 02:** Wireless Communications
-- Prof. John Proakis

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

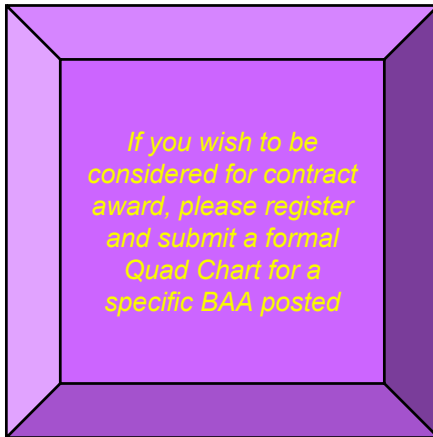
- **Goal:** This program calls on Section and Society members to nominate qualified Members for Senior Member Grade
- **This initiative**
 - **Simplifies the application process:** On-line forms available: <http://www.ieee.org/membership/upgrade.html>
 - **Offers incentives for approved applications**
 - **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

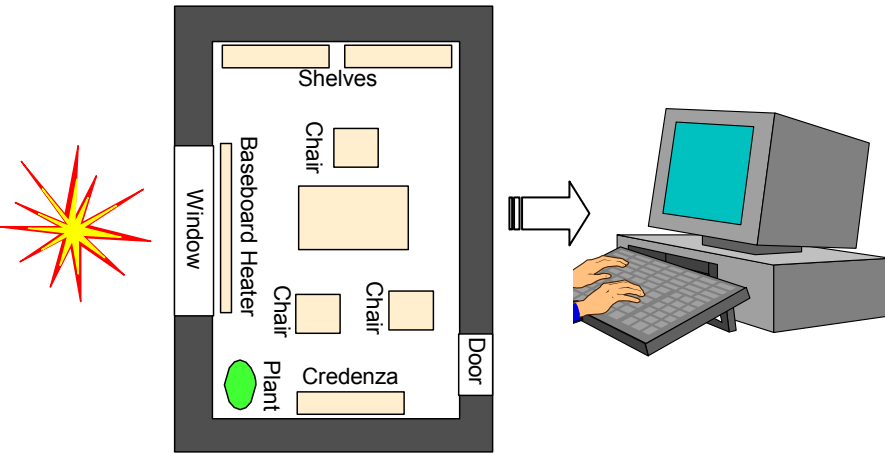
Number of White Papers Requested = 585

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**

SAMPLE

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 & compiled 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

SAMPLE

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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- xx July 02: TBD**
- xx Aug 02: TBD**
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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

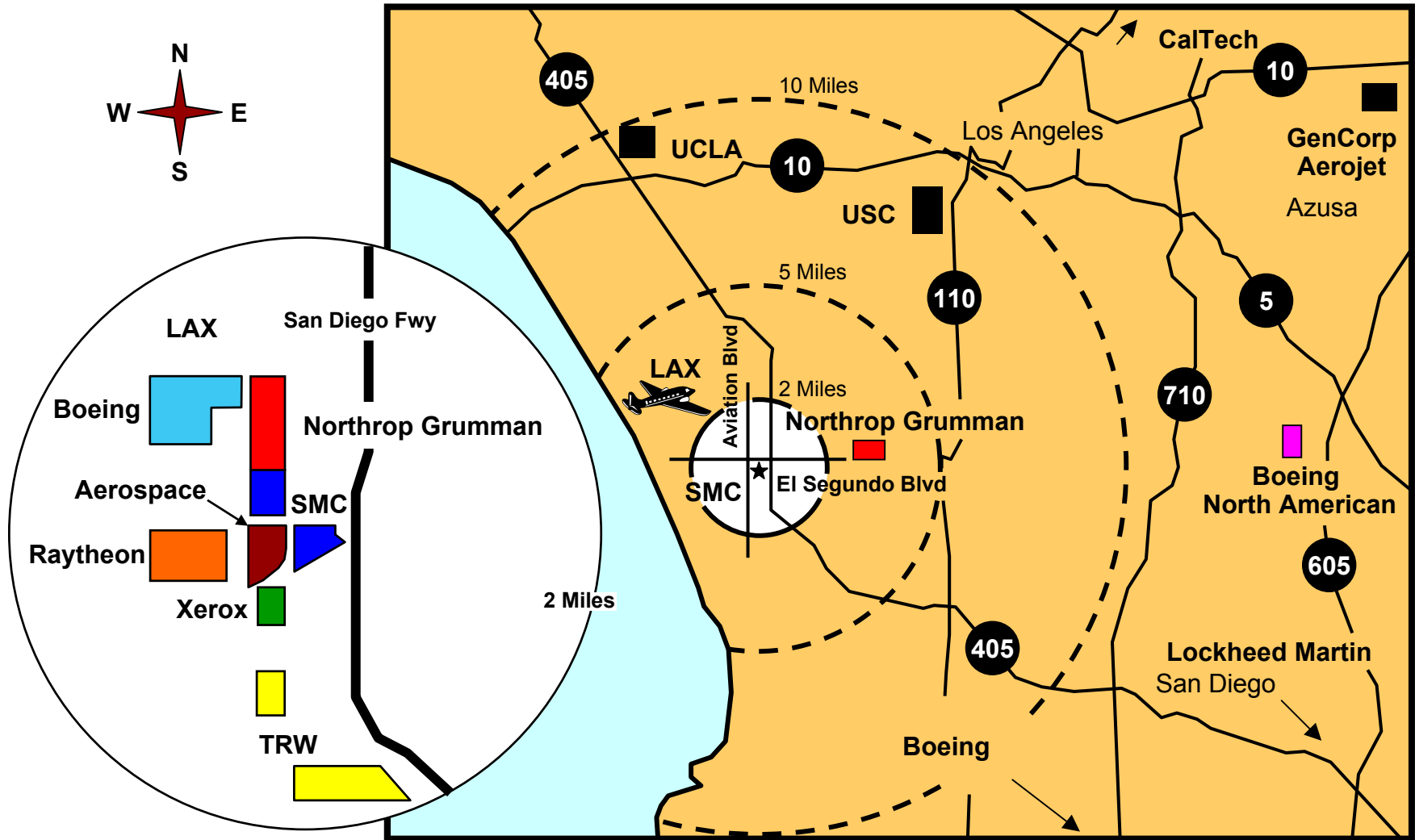


Process (Cont.)

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

Venue Considerations



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
 - <http://www.ewh.ieee.org/r6/lac/csspsvts/IEEE.htm>
- **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 you useful suggestions

Any Other Topics?