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Shock & Vibration Information Analysis Center (SAVIAC)

"Training the Next Generation Tester" Education Project

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Presented at the
21st Transducer Workshop
June 23, 2004
Lexington Park, MD

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What is SAVIAC

- is a jointly-funded activity sponsored by the Army, Navy, Air Force, DTRA, and the DOE laboratories.
- serves as a central information resource for Government activities, contractors, and academics concerned with structural dynamics design, analysis, and testing; and shock physics and weapons effects.
- focuses on the engineering tools and techniques needed for the design, analysis and testing of systems subjected to dynamic conditions and loading, including water shock, vibration, blast, impact, crash, and mechanical/climatic environments.
- encompasses ships, aircraft, spacecraft, ground vehicles, ground structures, machinery and humans; any area where Government engineers have a responsibility for the design, analysis or testing of mechanical or structural systems.
- is specifically chartered to perform information research and analysis tasks for requesting activities.
- is staffed by experienced mechanical and aerospace engineers with backgrounds in structural dynamics.
- is operated by HI-TEST Laboratories, Inc. in Columbia, MD under contract to the US Army Engineer Waterways Experiment Station. The SAVIAC Team consists of some of the top names in Shock & Vibration from the SAVIAC community. Technical direction is provided by the SAVIAC Director who is advised by a multi-agency Technical Advisory Group consisting of members from DOD, NASA, DOE, and commercial organizations.

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What we will do in the next 30 minutes

- Discuss the need to train the next generation of testers/experimenters
- Decide on the appropriate vehicle for the training
- Develop a list of topics
- Create a fantasy team (active or retired) you would like to see teach the topics
- Discuss how long it would take and the cost to develop
- Pass a motion that this type of paper will not be accepted at future workshops

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Is there a need?

- Forget that you are too busy, this is an exercise in wishful thinking
- In this room is a significant body of knowledge and expertise in testing
- Lets take a poll
  - How many were taught by a senior person?
  - How many struggled without help?
- What education is out there now?

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How would you do it?

- Short Course
- Web Based
- Conference
- Distance Learning
- Home Study
- Reference Book
- Other
- Hand on Training
- Field Exercises
- Small Groups
- Apprenticeship

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What would be the topics?

- Transducers
  - How they work
  - Selection
- Cables
- Signal Conditioning
- Data Acquisition
- Test Planning
- Test Set-up
- Test Reports

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What would be the Topics

- Sensor placement
- Data validation/sanity check
- Matching sensor to requirements
- Samples of use
- Specific transducers
- Test lab/QA
- Measurement integrity
- Basic methodology checklist
- Data presentation
- Lessons learned
- Technical writing
- EMI/RFI
- Grounding/noise
- Reality based customer communication
- Measurement uncertainty

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In an idea world, who would you want to teach the topics?

Active

Semi-active

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Who would teach

- Larry Brown – fielding instrumentation
- Terry Sharton – safety, best practices
- Current users
- Manufacturers
- Strether Smith
- Guys in back row
- Jeff Schmidt – data quality

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What would be the cost and schedule?

- Could we have something ready to discuss at next year's workshop?
- Do some (most) of you already have pieces almost ready to go?
- Can we find a funding source (gov't or commercial)?
- Or should we select a project manager and project team?

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75th Shock & Vibration Symposium

- Featuring PCB Piezotronics, Northrop Grumman Newport News Shipbuilding & Naval Surface Warfare Center, Dahlgren Division
- October 17 – 22, 2004
- Cavalier Hotel in Virginia Beach, VA
- Still accepting abstracts

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Thank you for your time and indulgence in doing this exercise

Call me if you would like to participate in this project

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