16TH ANNUAL NCSSSMST STUDENT RESEARCH SYMPOSIUM
SCHOOL OF ENGINEERING AND APPLIED SCIENCE
UNIVERSITY OF PENNSYLVANIA

ABSTRACT & POSTER PRESENTATION GUIDELINES

ABSTRACT & POSTER GUIDELINES FOR PUBLICATION
For participation in the research symposium, a 300 word (max); one page; double-spaced abstract is required. Please submit this abstract electronically to your teacher/adviser by May 7, 2009. Your teacher/adviser will forward this information to UPENN. Be sure to include the following information:

- Student name
- High School
- Mentor(s) name(s)
- Title
- Text Including: purpose of experiment, method used, results, and conclusions
- Optional: include any possible research applications (minimal reference to previous work may be included)

Please see sample abstract below.

PRESENTATION GUIDELINES
Student participants are expected to arrive at UPENN with:

- Visuals (PowerPoint presentations) which will be used to help communicate projects during the 10-12 minute oral presentations. If using PowerPoint, please bring a Microsoft Office compatible presentation on a CD or jump drive. If your presentation requires special graphics interface, bring your own computer.
- Pre-printed text and graphics to be used in the construction of a display for the poster sessions (see Poster Guidelines).

Oral presentations are 10-12 minutes and are expected to adhere to the following format – 10 minute presentation and 2 minute question/answer. Please be prepared to describe your hypotheses, research design, findings, and conclusions.

*Students who choose to bring laptops are responsible for their security.

POSTER GUIDELINES
- Anything attached to the poster should be matted. It is best to bring materials that are already matted and ready to mount. Photo/graphics of set-up and results are encouraged.
- Lettering must be standard; no stencil or freehand.
- UPENN will provide white, tri-folding poster board for each student (36" X 48"). Please DO NOT bring a completed board from a science fair. This is a professional forum with standard boards.
• If you have large laminated composite poster printed from a large ink plotter you can use it. Please let the symposium coordinator know, and we will make sure you get the tri-fold section dimensions.
• Each poster must contain the sections listed below. Each section must be clearly labeled, but the actual label names are up to the participant, as each discipline has its own conventions.

**Title**

*Student Name & School*

**Introduction:** rationale, null hypothesis, assumptions

**Methodology:** instrumentation, overview, photographs (if appropriate)

**Findings:** graphs, data tables, charts, statistics

**Conclusion**

**References** (up to 3 depending on space)

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**Poster Tips:**

• Keep text to a minimum.
• Consider use of bullets for clearer presentation of information.
• When using graphs or figures, be sure they are completely and accurately labeled.
• Make font size large so people can easily view what is being presented.
• Be professional and dress appropriately.

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**SAMPLE ABSTRACT FROM UNDEGRADUATE RESEARCH PUBLICATION**

Scott Kyle, Erika Sanchez, Meredith Skolnick

University of Pennsylvania

Dr. Kenneth Laker, research advisor

**Personal Memory Assistant**

Facial recognition and speaker verification systems have been widely used in the security field. In this area the systems have to be very accurate to prevent unauthorized users from accessing classified information. The extensive list of possible uses of these technologies in the commercial world has not been taken advantage of yet. It is often difficult to remember the name of a person who is encountered out of context or infrequently. This situation can prove to be very embarrassing for the forgetful person. It can also be insulting to the person who is not remembered. The Personal Memory Assistant uses facial recognition and speaker identification to help avoid this situation.

A user discretely collects images and voice samples of the person to be identified. The facial recognition component analyzes the image to identify the three closest facial matches in the system. The speaker identification component does the same to identify the top two voice matches. The top ranked IDs are compared using an algorithm that was developed through testing. If the IDs match, a picture of the person and personal profile is displayed to the user. If no match is made, the user has the option to add the subject to the database. In addition to the identification process, the system also gives the option of searching for and updating entries in the database. The Personal Memory Assistant will prove to be very useful not only as a memory backup but also as an organized database of acquaintances. Users without memory trouble will find the system equally valuable.

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