

# Communiqué

Newsletter of the Southern Ohio Chapter, Human Factors & Ergonomics Society

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Mailing Address: Southern Ohio Chapter HFES, P.O. Box 31052, Dayton, OH 45437-0052

Web Site <http://www.cs.wright.edu/sochfes/>



Come “**feel**” better at the next  
HFES Chapter meeting!!!

At our last meeting we heard how *spatial auditory signals* can be applied as an intuitive display, thanks to Brian Simpson.



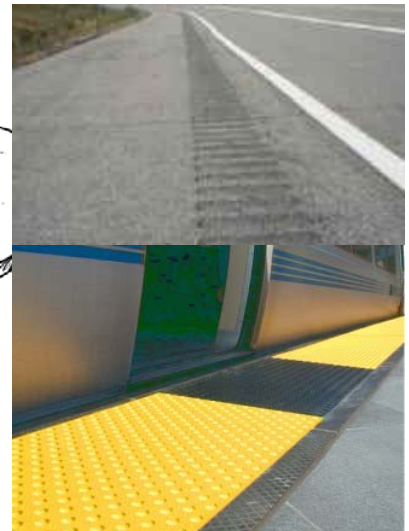
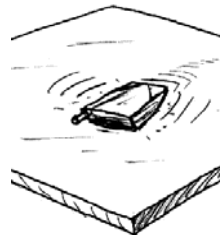
At our winter meeting, Kevin Bennett addressed *visual displays* in his presentation on interface design from a cognitive engineering perspective.



So, it's very appropriate, to now learn about **somatosensory** displays. “Tactile displays” transmit information through the skin and have great potential for a variety of applications because the operator does not need to be looking at a particular location to be alerted and the information can be received simultaneously to information transmitted through the visual and aural channels. One type of tactile display utilizes small, inexpensive tactors that are now commercially available. Their location on the human body can be varied as well as several vibration dimensions (amplitude, how fast it vibrates and how long, and the rate of turning the vibration on and off) to provide information.

I'm sure you've experienced several tactile displays already, for instance, from cell phones, highway rumble strips, and subway “Mind the Gap” platforms.

At that next Chapter meeting you'll have an opportunity to learn more about this exciting underutilized display technology, as well as **feel** a tactile display! Be sure to join us, Wednesday, May 18<sup>th</sup> at Wright State University, 1130, to hear Andy McKinley, a biomedical engineer at the Air Force Research Laboratory.



Hope to see you there! Gloria Calhoun



**Human Factors and Ergonomics Society/Southern Ohio Chapter**

**Andy McKinley**

**Air Force Research Laboratory**

## **Somatosensory Displays - Overview and Applications**

**Invited Speaker!!!  
Brown-Bag Lunch**

**Wednesday, 18 May '05, 1130-Wright State Univ.  
Rm 339, Fawcett Hall Presentation starting about 1145**

Modern aircraft place great emphasis on visually presenting information about the aircraft and the environment to the pilot through a variety of screens, dials, and meters. Because the cockpit is a highly task saturated, complex environment, the ability to quickly assess and interpret visual information from multiple sources can become a daunting task. To reduce this increased strain on the visual system, other modalities of presenting information are currently being investigated. One such modality is through the somatosensory system, namely discriminative touch. The sensation of touch acquires a large variety of information about the surrounding environment, through more than 10,000 parallel channels that are capable of responding to stimulus interruptions as short as 10 ms. This provides an opportunity to provide large quantities of information to the pilot.

Tactile displays have a large variety of applications from helping pilots to maintain spatial orientation, to providing sensory assistance to the disabled. Research has demonstrated that navigation can be performed faster with tactile cues than visual cues; 2-D visual displays can be accurately presented through tactile cues, ambient sound information can be conveyed through tactor arrays to the deaf, and an object's texture and edges can be conveyed to subjects without sensation in their extremities. In addition, tactile technologies have the potential to increase pilot situational awareness and reduce pilot workload by offering an additional modality for presenting information.

This presentation will offer an overview of the somatosensory system and a breakdown of the tactile sense. Furthermore, both civilian and military applications will be discussed. Ongoing tactile research being conducted at Wright State University will be briefly covered followed by a demonstration of the tactile display used in the study.

**Mr. McKinley** received a B.S. in Biomedical Engineering in 2002 from Wright State University, where he is currently a Ph.D. candidate. He is also a research engineer in the Aircrew Performance and Protection Branch at the Air Force Research Laboratory.

Mr. McKinley is a member of the Aerospace Human Factors Association, the Aerospace Medical Association (AsMA), the Life Sciences and Biomedical Branch of AsMA, and the Wright Patterson Chapter of SAFE.

Mr. McKinley's research interests include optimizing tactile displays for the flight environment, modeling the physiology and cognitive performance during high acceleration stress, as well as assessing the limits of tactile displays, and devising a G-Induced Loss of Consciousness Warning Device.

**Directions:** WSU campus is between visitor's parking lot on north side & Colonel Glenn Hwy on south side. Roads entering campus off Colonel-Glenn, University Blvd. (across Wendy's) & Center/Loop, have signs to Visitor Lot #6. From lot, walk towards campus, going between Rike & Allyn Hall towards mall area. Then veer left to get on east side of Oelman. Once there, Fawcett Hall is straight ahead (Room 339A). Bring Parking Ticket for stamping! Map available at [http://www.wright.edu/aboutwsu/maps/map\\_bw1.html](http://www.wright.edu/aboutwsu/maps/map_bw1.html). Questions: Greg Barbato at 937-255-6670.

***Spotlight on the Chapter's 2004-2005 SOH Secretary - Becky Singer***

For those of you who do not know me, I'd like to take this opportunity to introduce myself. I received my B.A. in Psychology from The Ohio State University and my M.A. in Applied Behavioral Sciences/Human Factors from Wright State University where I studied visual perception with Dr. Allen Nagy. I have worked at Wright-Patterson since the early 1980's (aside from a very early retirement and extended Arizona vacation) under the marquees of several contractors, the latest being General Dynamics where I work with the Human Systems group. In addition to program management duties, my current projects include conducting usability assessments for UAV control station interfaces, developing approaches for integrating real-time information in dynamic mission environments, and conducting the Strength Aptitude Test for the Air Force Personnel Center. This is my second term serving as secretary for the Southern Ohio Chapter of HFES. I currently live in Lebanon, OH where my off time revolves around participating in and planning trail runs.

***2006-2007 SOH CHAPTER OFFICERS***

***Nominations Due 30 May, Memorial Day!***

Speaking of officers, it's time to issue the nomination call for another slate of officers! Please nominate up to three names for each office. When elected, these individuals will serve as officers for one year starting in the fall of 2006 (and as Elect-officers for 2005-2006). Especially if you've never been an officer, *please* consider nominating yourself for any office! Don't be shy!!! None of the positions' duties are very difficult and it's a great way to network and meet new people. (Note: officers-elect, listed at the end of the newsletter, and Student Members are not eligible for nomination.)

By 30 May, Memorial Day, either snail mail your nominations to SOH/HFES, P.O. Box 31052, Dayton, OH 45437-0052 or email your input (any format) to [glenn.wilson@wpafb.af.mil](mailto:glenn.wilson@wpafb.af.mil).

<b>President-Elect</b>	
<b>Secretary-Elect</b>	
<b>Treasurer-Elect</b>	

***New Chapter Member - Welcome!!***

**Richard Doerr** is our newest member. Richard is employed with General Dynamics and is currently Program Manager for the new Air Force Research Laboratory Human Effectiveness Directorate support contract. His degree is in engineering and he is interested in advance human-machine interface research. Richard can be reached at [rich\\_doerr@gd-ais.com](mailto:rich_doerr@gd-ais.com) or 255-8162.

## ***Science Day 2005***

Five projects were recipients of the Fifth Annual **Human Factors/Information Display Awards** at the March 19<sup>th</sup> West District Science Day at Central State University.

### **\$125 Award**

**Anna Garrett** (9<sup>th</sup> grade) Miamisburg High school, “*Seeing, hearing, or a combination: Which has the greatest effect on short-term memory?*”

### **\$75 Award**

**Christopher Booker** (12<sup>th</sup>) Dayton Christian High School, 12<sup>th</sup> grader. “*How much affect does the lack of sleep have on your free throw percentage?*”

**Mary Runkle** (11<sup>th</sup>) Graham High School, “*Optical illusions and perception.*”

**Stacy Ulrich** (7<sup>th</sup>) Bellbrook Junior High School, “*Remember this.*”

### **\$50 Award**

**Kristina Buschur** (10<sup>th</sup>) Carroll High School, “*Neural networks and chaos.*”

Congratulations to these bright students! The winners also received a “suitable for framing” certificate. The local Society for Information Display (SID) Chapter covered award costs. Our Chapter provided judges: Bryan Calkin, Jeremy and Alexis Nelson, Mary Wesler, and Glenn Wilson.

A **big Thank You** to SID, the judges, and especially Glenn Wilson for honchoing this effort!

## ***National's Distinguished Service Award for Local Chapters***

As was mentioned in the last newsletter, the Chapter Executive Council is exploring distributing a Human Factors Brochure to young students (7<sup>th</sup> through 12<sup>th</sup> grade) next year in fulfillment of one of the requirements for a Chapter Award that will hopefully be in place at that time. The current draft brochure defines “human factors”, lists potential career fields that involve human factors, and describes our Chapter award process, listing titles of past winning projects. The brochure also has a column to provide information where students can learn more: relevant organizations, web sites, journals and textbooks.

This is where YOU come in! We'd love to have your recommendation on what relevant sources to list, as well as any other suggestions you have for the brochure (to: [Gloria.calhoun@wpafb.af.mil](mailto:Gloria.calhoun@wpafb.af.mil)).

## ***More Chapter Action Items!!!***

- While you are: 1) making an input for the “Human Factors Brochure”, why not:
- 2) submit a picture (cleared with your employer) illustrating “human factors work” to [scott.galster@wpafb.af.mil](mailto:scott.galster@wpafb.af.mil) to help make the Chapter web site snazzier, and,
  - 3) if you haven't already, update your directory information and **PAY YOUR DUES!!!** (Honorary members: Exempt; Full-time Students: \$5, Others: \$10; address on page 1)



## ***Usability Survey***

As part of her thesis at New Mexico State University, Shaun Hutchins is looking for usability subject matter experts with 30 minutes to spare to fill out an online rating survey, <http://www.bokardo.com/hutch/>. The purpose of the study is to look for an organizational structure to usability methods. If you have questions, Shaun can be reached at [shutchins@maad.com](mailto:shutchins@maad.com).

## *Upcoming Events Outside of SOH*

Jun 2-3, 2005	<b>Human-Computer Interaction Lab Symp</b> , College Park, MD, <a href="http://www.cs.umd.edu/hcil/soh/">http://www.cs.umd.edu/hcil/soh/</a>
Jun 15-17, 2005	<b>Naturalistic Decision Making</b> , Amsterdam, Netherlands, <a href="http://www.ndm7.org">www.ndm7.org</a>
Jun 20-22, 2005	<b>Human Systems Integration Symp</b> , Arlington, VA, <a href="http://cedm.hfes.org/HSISCall4Papers.pdf">http://cedm.hfes.org/HSISCall4Papers.pdf</a>
Jun 28-30, 2005	<b>AUVSI's Unmanned Systems 2005</b> , Anaheim, CA, <a href="http://auvsi.org/">http://auvsi.org/</a>
Jul 11-14, 2005	<b>Human-Computer Interaction Summer Institute: Perspectives in Emergency Crisis Management</b> , Penn State University, PA, <a href="http://si.ist.psu.edu/events/hciinstitute/">http://si.ist.psu.edu/events/hciinstitute/</a>
Jul 10-29, 2005	<b>Epidemiology, biostatistics &amp; data management</b> 1, 2 or 3 week course, MI, <a href="http://www.sph.umich.edu/epid/GSS/">http://www.sph.umich.edu/epid/GSS/</a>
Jul 18-21, 2005	<b>International Conference on Human Aspects of Advanced Manufacturing Agility &amp; Hybrid Automation</b> , San Diego, CA <a href="http://2005.haamaha.org">http://2005.haamaha.org</a>
Jul 21-25, 2005	<b>27<sup>th</sup> Annual Meeting of the Cognitive Science Society (CogSci)</b> , Stresa, Italy, <a href="http://www.cognitivesciencesociety.org/cogsci.html">http://www.cognitivesciencesociety.org/cogsci.html</a>
Jul 22-27, 2005	<b>1<sup>st</sup> Augmented Cognition International/HCI International</b> , Las Vegas, NV, <a href="http://www.augmentedcognition.org">www.augmentedcognition.org</a> , <a href="http://www.hci-international.org/">http://www.hci-international.org/</a>
Jul 31-4 Aug, 2005	<b>ACM Siggraph 2005</b> , Los Angeles, CA, <a href="http://www.siggraph.org/s2004/">http://www.siggraph.org/s2004/</a>
Aug 15-18, 2005	<b>American Institute of Aeronautics &amp; Astronautics (AIAA) Modeling and Simulation Technologies Conf &amp; Exhibit</b> , San Francisco, CA, <a href="http://www.aiaa.org/calendar/index.htm">http://www.aiaa.org/calendar/index.htm</a>
Aug 22-26, 2005	<b>23rd International System Safety Conference</b> , Providence, RI, <a href="http://www.system-safety.org">www.system-safety.org</a>
Sept 12-16, 2005	<b>Interac, International Conf on Human-Computer Interaction</b> , Roma, Italy, <a href="http://www.interact2005.org/">http://www.interact2005.org/</a>
Sept 14-17, 2005	<b>ICINCO 2005, Int Conf on Informatics in Control, Automation, and Robotics</b> , Barcelona, Spain, <a href="http://www.icinco.org/">http://www.icinco.org/</a>
Sept 20-22, 2005	<b>Safety Across High-Consequence Industries (aviation &amp; health care)</b> , St Louis, MO, <a href="http://parks.slu.edu/msasm/conf_home.htm">http://parks.slu.edu/msasm/conf_home.htm</a>
Sept 26-30, 2005	<b>49th Annual Meeting of the HFES</b> , Orlando, FL, <a href="http://hfes.org/">http://hfes.org/</a>
Oct 24-26, 2005	<b>43rd SAFE Symp</b> , Salt Lake City, UT, <a href="http://www.safeassociation.com">http://www.safeassociation.com</a> , <b>Abstracts Due 29 July</b>
Nov 14-16, 2005	<b>IASTED Conf on HCI</b> , Phoenix, AZ, <a href="http://www.iasted.org/conferences/2005/phoenix/hci.htm">http://www.iasted.org/conferences/2005/phoenix/hci.htm</a>
Nov 28-Dec 1, 2005	<b>Interservice &amp; Industry Training, Sim &amp; Education Conf</b> , Orlando, FL, <a href="http://www.iitsec.org/">http://www.iitsec.org/</a>
Nov 28-30 Nov, 2005	<b>International Conference on Intelligent Agents, Web Technologies &amp; Internet Commerce</b> , Vienna, Austria, <a href="http://www.ise.canberra.edu.au/conferences/iawtic05/">http://www.ise.canberra.edu.au/conferences/iawtic05/</a>
Nov 30-Dec 2, 2005	<b>Driving Simulation Conference</b> , Orlando, FL, <a href="http://www.catss.ucf.edu/pages/drivsimcftp.asp">http://www.catss.ucf.edu/pages/drivsimcftp.asp</a>
Dec 12-15, 2005	<b>MODSIM05 – International Congress on Advances &amp; Applications in Modeling &amp; Simulation</b> , Melbourne, Australia, <a href="http://www.mssanz.org.au/">http://www.mssanz.org.au/</a>
Jul 10-14, 2006	<b>IEA 2006 International Ergonomics Association</b> , Netherlands, <a href="http://www.iea2006.org/">http://www.iea2006.org/</a>

## *SOH Chapter Info*

**SNAIL MAIL:** Southern Ohio Chapter HFES, P.O. Box 31052, Dayton, OH 45437-0052

**WEB SITE:** <http://www.cs.wright.edu/sochfes/> — Includes Membership Application!!!

### **Executive Council**

President	Gloria Calhoun	255-3856	<a href="mailto:gloria.calhoun@wpafb.af.mil">gloria.calhoun@wpafb.af.mil</a>
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Treasurer	Scott Galster	255-8737	<a href="mailto:scott.galster@wpafb.af.mil">scott.galster@wpafb.af.mil</a>
President-Elect	Tim Barry	255-8848	<a href="mailto:timothy.barry@wpafb.af.mil">timothy.barry@wpafb.af.mil</a>
Secretary-Elect	Mary Wesler	427-0252 ext 136	<a href="mailto:mary.wesler@udayton.edu">mary.wesler@udayton.edu</a>
Treasurer-Elect	John Reising	255-8769	<a href="mailto:john.reising@wpafb.af.mil">john.reising@wpafb.af.mil</a>
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Past-Secretary	Laurie Quill	256-9243	<a href="mailto:laurie.quill@wpafb.af.mil">laurie.quill@wpafb.af.mil</a>
Past-Treasurer	Tom Hughes	253-4770	<a href="mailto:tom.hughes@wpafb.af.mil">tom.hughes@wpafb.af.mil</a>
Program Chair	Greg Barbato	255-6670	<a href="mailto:gregory.barbato@wpafb.af.mil">gregory.barbato@wpafb.af.mil</a>
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**Southern Ohio Chapter (SOH)**  
**Human Factors and Ergonomics**  
**Society (HFES)**  
 P.O. Box 31052  
 Dayton, OH 45437-0052

**Membership Form:**  
**Application, Renewal, and Update**

**DIRECTIONS:**

- To apply for new membership, fill all blocks, including those on the back of this form.
- To renew membership, fill first block only.
- To update directory information, fill first block and indicate changes in other blocks as appropriate.

**PLEASE TYPE OR PRINT CLEARLY!!**  
 Send completed form and payment to address on the left.

<b>Name:</b>		<b>YEAR</b>
	First name or initial, middle name or initial, last name.	200__

<b>Employer Address:</b>	Company	
	Street	
	City	
	State/Zip	<b>OH</b>
	Phone	

<b>Home Address:</b>	Street	
	City	
	State/Zip	<b>OH</b>
	Phone	

<b>Email Address:</b>	<b>Work:</b>
<b>Optional: Home email:</b>	
<b>Personal Website:</b>	
<b>Work/Company/Organization Website:</b>	
<b>Personal (resume) Website:</b>	

<b>Preferred Mailing Address:</b>	<input type="checkbox"/>	Work	<input type="checkbox"/>	Home
<b>Preferred Phone:</b>	<input type="checkbox"/>	Work	<input type="checkbox"/>	Home
<b>Preferred Email:</b>	<input type="checkbox"/>	Work	<input type="checkbox"/>	Home
<b>Send Email Meeting Reminders:</b>	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No

<b>Membership Status:</b>	<b>HFES</b>	<input type="checkbox"/>	Member	<input type="checkbox"/>	Associate	<input type="checkbox"/>	Affiliate
		<input type="checkbox"/>	Fellow	<input type="checkbox"/>	Not a member	<input type="checkbox"/>	Student
	<b>SOH</b>	<input type="checkbox"/>	Member	<input type="checkbox"/>	Associate	<input type="checkbox"/>	Student
<b>(Membership categories on back.)</b>		<input type="checkbox"/>	Honorary	<input type="checkbox"/>	New		

<b>Willing to Consult?</b>	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
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<b>Degree(s) , Major, College, Year:</b> (maximum of two)
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<b>Work Specialties/Interests:</b>
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<i>Office Use</i>	Date paid: ___/___/___	Amount paid \$ _____	Check # _____	Dues for 200 _____
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