MESSAGE FROM THE CHAIR

By Ellen J. Bass, Ph.D., Drexel University
CEDM Technical Group Chair

Welcome to our Fall 2014 issue. As election day in the United States draws near, I am thrilled to announce the outcome of our election cycle. Zarrin Chua will continue as our newsletter editor and Ziho Kang will be our new Student Awards and Affairs Officer. Thanks to everyone who was willing to serve as well as everyone who voted. Please note that next year Jennifer Ockerman will be the new Technical Group Chair and Mark Pfaff will be the new Program Chair. Four positions in our technical group will be open for nominations:

- Technical Group Chair Elect,
- Program Chair Elect,
- Secretary & Treasurer, and
- Electronic Communications Director.

If you would like to learn more about these positions, please feel free to contact our officers listed on the last page of the newsletter or to catch up with us at the annual meeting.

I want to thank Karen Feigh, our Program Chair, and Shi Cao, our Student Awards and Affairs Officer, for leading the charges on our annual meeting program and our student paper competition respectively. I also want to thank everyone who submitted, those who volunteered to review, and those who volunteered to serve as session chairs.

Thinking about our technical group, there could not be a more important time. For example many agencies, organizations and institutions continue to write about the opportunities that “big data” can provide. Big data means big opportunities with respect to acquiring, managing and using data. We know that the growing availability of more and more data means that there is a need for “even bigger” information analysis and decision support automation. Other related concerns involve supporting those who are responsible for the data including data management and curation.

Also in the news there is an ever increasing number of reported cyber security breaches at retailers and other institutions. To try to mitigate these threats, we need to work with the cyber security community to help understand the behaviors of bad actors as well as how to develop systems that balance security and privacy for everyone else. We need to help the general public understand cyber security concerns and to keep their assets and information safe. The proliferation of passwords and the need to constantly manage device software updates are not sustainable answers to cyber security problems.

While more data are available and systems are becoming more vulnerable, every day technology is becoming more capable. For example, with the Internet of Things we can have smart homes that support greater efficiency and convenience and smart clothes that can monitor our movements to enhance health and safety. We have smart technology that allows us to interact using more natural user interaction methods as well as multisensory input. With the proliferation of every day technology comes opportunities for better integration.

Don Norman wrote about the design of everyday things, but now with technologies like 3D printing we can have everyday designers. 3D printing provides opportunities to produce designs very inexpensively. Thus we now need to develop tools to help designers build systems and not only user interfaces.

I encourage participation in our CEDM activities and venues and to encourage others to become more involved with the growing needs in cognitive engineering and decision making.

Visit the CEDM website to view announcements, job postings, newsletters, and more! http://tg.hfes.org/cedm/

Please also visit (and join!) the CEDM-TG on LinkedIn - http://www.linkedin.com/groups?gid=44516&trk=myg_ugrp_over
By Amy R. Pritchett, Ph.D.

Next year, we're looking at a special issue "Situation Awareness: 20 Years On" in March. This will be a novel format for us, with opinion papers contrasting the different perspectives in our community -- a good give-and-take intended to foster further friendly debate within our community. Then, in June, we look forward to a special issue on Cyber-Security, which Anita D'Amico and Emilie Roth are guiding through the review process now.

Thoughts and comments are welcome at any time -- ways to improve the journal, ideas for special issues or particular papers, or generally showing your interest as to how you can get involved. And, my gratitude to all who give of their time to keep our operations fair and efficient, even as we strive for the highest standards in our publications. Amy Pritchett

amy.pritchett@ae.gatech.edu

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By Farzan Sasangohar

CEDM TG Electronic Communications Director

CEDM TG's LinkedIn (www.linkedin.com/groups/Cognitive-Engineering-Decision-Making-CEDM-44516/about) membership has been growing steadily. As of August 2014, the LinkedIn group has more than 2300 members (a 10% growth since February 2014). We encourage members to post discussion topics, interesting news, and job announcements. To ensure proper usage of the media, the TG executives regularly monitor requests to join and posts.

Current trending topics on LinkedIn include:
- Metacognitive thought experiment
- Do your cognitive support tools do their job?
- Behavioral decision theory: A useful reading list
- Ergonomics perception across cultures: The role of cognitive mechanisms
- Shared mental models and situational awareness: How to measure?
- Work-focused analysis and design

The LinkedIn page is also home to the CEDM TG Student Group, which currently has 54 members. This page is administered by CEDM’s Student Affairs Officer and is restricted to student members of the TG. We encourage all TG members to visit the LinkedIn page and invite the current members to post discussion topics and announcements.

TG also maintains a Facebook page (www.facebook.com/groups/7636301315/), which currently has 205 users. In addition, TG’s website (tg.hfes.org/cedm/) provides the most up to date TG news, job announcements, and access to the newsletter archive.

As a reminder, the CEDM-TG listserv is for announcements only. All discussions should be posted on LinkedIn. TG members who are not LinkedIn users but are interested to join can visit (www.linkedin.com/reg/join). Please note that the CEDM-TG does not control enrollment on the listserv and cannot neither add nor remove recipients. All members of CEDM are automatically added to the TG mailing list. Those wishing to leave the list must contact HFES Member Services (info@hfes.org).

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By the Cognitia Editor

The purpose of Cognitia is to serve the members of CEDM, primary by dispersing relevant news and information. We’re interested in knowing what you read, why you read, and where we can make improvements. This survey should take just a few minutes of your time and it would help us greatly. Results will be published in the next edition.

http://tinyurl.com/Cognitia

This link will be made available until 7 November 2014.

New management and a focus on training for MacroCognition

By Gary Klein, Ph.D.

A company with a reputation for cutting edge research in the applied cognitive sciences is expanding. MacroCognition LLC,
COGNITIA

Volume 20, No. 3, Fall 2014

UX DAY
Oct 29 2014

2014 International Annual Meeting of the Human Factors and Ergonomics Society

CHICAGO
Hyatt Regency Chicago
Chicago, Illinois, USA
October 27–31, 2014

Imagine...
Evangelism for User Experience (UX) professionals.
• Share Insights
• Turbocharge passion to innovate
• Network and Build Relationships

Sprint!
To UX Day!

UX Day is a dedicated programming track geared for UX professionals.

But What Is It?

Where?

Registration Is Open!
Create a notification or write yourself a sticky note—Early-Bird Registration ends September 15th!

http://userexperiencedayhfes.com

Expect The Unexpected!
Our programming will surprise you!

Remember!
If you make it, make it UX Day!

Start The Buzz!
Spread the word about UX Day to your colleagues and students in meetings, lectures, workshops, meet-ups, etc.
• Tweet It
• Share It
• Text It
• E-mail It
• Post It
• Announce It

Drop me a line for any questions!
Farilee Mintz :: farilee@mintz@gmail.com :: UX Day HFES 2014 :: Promotions Committee

END

Destination UX Day

See You There!
We look forward to seeing you in the Windy City!
a research and consulting firm (Helen Altman Klein is the President/CEO and Gary Klein is a Senior Scientist), recently announced the hiring of Corinne Wright. Corinne is the new Managing Director and Deputy Senior Scientist for the company. In this role, Mrs. Wright is responsible for the day-to-day operations of MacroCognition as well as business development and experimental design and analyses.

Corinne also is leading the company’s expansion into the training domain. ShadowBox LLC, a subsidiary of MacroCognition, provides lo-tech and high-tech capabilities to identify, capture, and develop expertise. Corinne is Chief Executive Officer for ShadowBox and part owner, along with Helen Altman Klein, and majority stakeholder, Gary Klein. Corinne expects to complete her Ph.D. in Human Factors Psychology from Wright State University in December 2014. She brings more than a decade of finance, marketing, project management, and startup experience.

New Digital Book Highlights the Best of Forensic Human Factors/Ergonomics Research


The book gathers the highest-rated HFES Annual Meeting Proceedings papers and helpful overview chapters by top experts in their fields:

- **Slip, Trip, and Fall Issues in Forensic Human Factors/Ergonomics** (Kenneth Nemire & H. Harvey Cohen)
- **Transportation Issues in Forensic Human Factors/Ergonomics** (Paul L. Olson & Rudolf G. Mortimer)
- **Consumer Product Safety Issues in Forensic Human Factors/Ergonomics** (Shelley Waters Deppa & Carol Pollack-Nelson)
- **Warnings Issues in Forensic Human Factors/Ergonomics** (David R. Lenorovitz & Edward W. Karnes)
- **Workplace Issues in Forensic Human Factors/Ergonomics** (Marc L. Resnick & Joseph Cohen)
- **Practice Issues in Forensic Human Factors/Ergonomics** (David A. Thompson & H. Harvey Cohen)


Newly Elected Officers and Executive Council Members Announced

HFES is pleased to announce the results of the 2014 election and congratulates the following newly elected officers and Executive Council members. Their terms will begin at the 2014 HFES Annual Meeting in Chicago.

**President-Elect**

William S. Marras, The Ohio State University

**Secretary-Treasurer-Elect**

Robert G. Radwin, University of Wisconsin, Madison

**At-Large Executive Council Members**

Ann M. Bisantz, University at Buffalo, State University of New York

Raja Parasuraman, George Mason University

American Avalanche Association

*By Keith Gale*

I am a volunteer national ski patroller and avalanche instructor attempting to solve a problem I think your organization may be able to assist.

In the backcountry, more and more recreationalists are entering the environment and perishing from avalanches. Though the American Avalanche Association provides excellent training and we have a Human Factors component, I sense that our level of applied cognitive knowledge is insufficient to increase the safety of those entering avalanche terrain.

I have been researching Cognitive Psychology intensely though it seems to describe the problem, it does not focus on practical solutions and even less to a risky environment.

This is where I wonder if your organization may have some contribution to make. I notice two of your technical groups, Cognitive Engineering and Decision Making and the second being Education may be able to assist.

I checked under the consultants section of the HFES website and was unable to find anyone I sense would be appropriate for this task.

I thus have three questions for you which I hope you can respond:

1. Can HFES contribute to the practical application of cognitive (and risk) sciences to assist in developing a protocols for our educational programs.
2. If so, whom would I contact to initiate a dialogue?
3. If your organization is not the right fit, can you recommend other resources.
## 2014 HFES International Annual Meeting (Hyatt Regency Chicago, Chicago, Illinois, USA) – October 27-31
Agenda of CEDM Technical Sessions

### Monday, 27 October 2014

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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</thead>
<tbody>
<tr>
<td>09:00 - 16:30</td>
<td>Workshop led by Robert Hoffman, Brian Moon</td>
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### Tuesday, 28 October 2014

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>13:30 – 15:00</td>
<td>CE1 Interruptions</td>
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<tr>
<td></td>
<td>Chairs* &amp; Co-chairs: Deepti Surabattula*, Brandon Pitts</td>
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<tr>
<td></td>
<td>- Stephan Huber, Michael Weng, Tobias Grundgeiger, &amp; Penelope Sanderson: “The Effect of Visual Cues on How People Handle Interruptions”</td>
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<td></td>
<td>- Cyrus Foroughi, Nicole Werner, Mark Hatcher, Anthony Lopez, Taha Zafar, &amp; Deborah Boehm-Davis: “Do Interruptions Affect Content Production?”</td>
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<tr>
<td></td>
<td>- William Miller, Deborah Boehm-Davis, &amp; Terry Stanard: “What Happens When You Can’t Press Pause? The Effect of Interruptions on Detecting Threats in a Simulated Closed-Circuit Television Surveillance Feed”</td>
</tr>
<tr>
<td></td>
<td>- Kevin Zish &amp; Greg Trafton: “Interuption Practice Reduces Procedural Errors at the Post-Completion Step”</td>
</tr>
<tr>
<td>15:30 – 17:00</td>
<td>(Joint) HP3 - Information and Cognition</td>
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<tr>
<td></td>
<td>Chairs* &amp; Co-chairs: Steven Landry*, Christina Rusnock</td>
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<tr>
<td></td>
<td>- Cheng-Jhe Lin, Changxu Wu, &amp; Art Chaовалитвонг: &quot;Integrating Behavior Modeling With Data Mining to Improve Human Error Prediction in Numerical Data Entry&quot;</td>
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<tr>
<td></td>
<td>- Jessie Yang, Taezoon Park, Christopher Wickens, &amp; Martin Helander: “Effects of Information Access Cost, Confidence Judgment, and Overconfidence Bias on Information Retrieval Strategy and Task Performance”</td>
</tr>
<tr>
<td></td>
<td>- Sungjin Park &amp; Rohae Myung: &quot;Modeling the Effects of Positive Affect on the Knowledge Availability of Declarative Memory”</td>
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### Wednesday, 29 October 2014

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>08:30-10:00</td>
<td>CE2 High-Stress Work</td>
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<tr>
<td></td>
<td>Chairs* &amp; Co-chairs: Larry Hettinger*, Harsh Aggarwal</td>
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<tr>
<td></td>
<td>- Joel Suss, Patrick Belling, &amp; Paul Ward: “Use of Cognitive Task Analysis to Probe Option-Generation in Law Enforcement”</td>
</tr>
<tr>
<td></td>
<td>- Patrick Belling, Paul Ward, &amp; Joel Suss: “Cognitive Processes Supporting Recognition in Complex and Dynamic Task”</td>
</tr>
<tr>
<td>10:30 – 12:00</td>
<td>CE3 Cognition/CSE</td>
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<tr>
<td></td>
<td>Chairs* &amp; Co-chairs: Alissa Russ*, Joe Manganelli</td>
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<tr>
<td></td>
<td>- Quinn Kennedy, Peter Nesbitt, &amp; Jon Alt: “Assessment of Cognitive Components of Decision Making with Military Versions of the IGT and WCST”</td>
</tr>
<tr>
<td></td>
<td>- Nicholas Kasdaglis, Olivia Newton, &amp; Shan Lakhmani: “System State Awareness: A Human Centered Design Approach to Awareness in a Complex World”</td>
</tr>
<tr>
<td></td>
<td>- Michael Champion, Shree Jariwala, Nancy Cooke, &amp; Paul Ward: “Using Cognitive Task Analysis to Investigate the Contribution of Informal Education to Developing Cyber Security Expertise”</td>
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</tbody>
</table>

### Thursday, 30 October 2014

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>13:30 – 15:00</td>
<td>CE4 How to Tell a “Good” Cognitive Task Analysis</td>
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<tr>
<td></td>
<td>Discussion Panel chaired by Emilie Roth, John O’Hara, Ann Bisantz, Mica Endsley, Robert Hoffman, Gary Klein, Laura Militello, Jonathan Pfautz</td>
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### Friday, 31 October 2014

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>08:30-10:00</td>
<td>CE5 Teams</td>
</tr>
<tr>
<td></td>
<td>Chairs* &amp; Co-chairs: Jung Hyup Kim*, James Oglesby</td>
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<tr>
<td></td>
<td>- Jan Maarten Schraagen &amp; Wilfried Post: “Characterizing naval team readiness through social network analysis”</td>
</tr>
<tr>
<td></td>
<td>- Nathan McNeese, Madhu Reddy, &amp; Evan Friedenberg: “Towards a Team Mental Model of Collaborative Information Seeking During Team Decision-Making”</td>
</tr>
<tr>
<td></td>
<td>- Terri Dunbar, &amp; Jamie Gorman: “Fractal Effects of Task Constraints in the Self-Organization of Team Communication”</td>
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Don’t forget!! Wednesday, 29 October 2014 (15:30 – 17:15) CEDM Technical Group Meeting
Technical Group news and administrative affairs, best student paper awards, networking. Food and drinks will be provided.
2014 HFES International Annual Meeting (Hyatt Regency Chicago, Chicago, Illinois, USA) – October 27-31

Agenda of CEDM Technical Sessions

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<tr>
<th>Time</th>
<th>Session Description</th>
<th>Chairs &amp; Co-chairs</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:30 – 12:00</td>
<td>CE6 Human Trust in Other Humans, Automation, Robots, and Cognitive Agents: Neural Correlates and Design Implications</td>
<td>Raja Parasuraman, Ewart De Visser, Eva Wiese, Poornima Madhavan</td>
</tr>
<tr>
<td>13:30 – 15:00</td>
<td>CE7 Interface Design</td>
<td>So Young Kim*, Navaneethan Sivagnanasundaram</td>
</tr>
<tr>
<td>13:30 – 15:00</td>
<td>POS2 - Interactive Posters &amp; Demos</td>
<td>Ronald Boring, Thomas Ulrich</td>
</tr>
<tr>
<td>15:30 – 17:00</td>
<td>CES DM/Decision Aids</td>
<td>Harvey Smallman*, Liang Wang</td>
</tr>
</tbody>
</table>

In the end, I am trying to make the backcountry safer for those who enter with stronger cognitive/risk-based tools.

For more information, please contact:
Keith Gale
Pinecrest Nordic Ski Patrol Representative, NSP #204807
5806 Del Trigo Lane, Clayton CA 94517
(925) 672-3592 keith_gale@hotmail.com

RESERCH NEWS

**Formal Human Systems Laboratory**

*By Matthew L. Bolton, Ph.D.*

The Formal Human Systems Laboratory (FHSL) has moved from the University of Illinois at Chicago to the Industrial and Systems Engineering Department at the State University of New York at Buffalo. Formal methods are analysis techniques that support the ability to mathematically prove properties about target system models. The FHSL conducts research focusing on the use of formal methods and human performance modeling in the engineering of complex, safety-critical systems that depend

Don’t forget!! Wednesday, 29 October 2014 (15:30 – 17:15) CEDM Technical Group Meeting

Technical Group news and administrative affairs, best student paper awards, networking. **Food and drinks will be provided.**
on human-automation interaction. To this end, it is currently investigating novel approaches for using formal methods to mitigate the effects of erroneous human behavior on safety critical procedures; detect perceptually problematic interactions between medical alarms; generate human-machine interface designs guaranteed to usably support human operator tasks; and evaluate function allocations between humans and automation in distributed air traffic control scenarios. More information on the lab and its current research can be found at http://fhsl.eng.buffalo.edu/.

**Human Optimization Modeling Laboratory**

*By Shi Cao, Ph.D.*

Dr. Shi Cao's Human Optimization Modeling lab is seeking master and doctoral students as well as research collaboration from both academia and industry.

Dr. Shi Cao (pronounced like SHER TSAO) is an Assistant Professor in Systems Design Engineering at University of Waterloo. He studies human factors and ergonomics using both experiment and computational simulation methods. His current research focuses on modeling human performance and mental workload in complex human-machine interactions and developing cognitive engineering tools and innovative interfaces for quantitative human factors analysis and human performance optimization.

Website: www.uwaterloo.ca/systems-design-engineering/people-profiles/shi-cao-0

Interested students and researchers please directly contact Dr. Cao via email at shi.cao@uwaterloo.ca.

**Human Factors and Usability Testing Graduate Program**

*By Lisa Jo Elliott, Ph.D.*

Lisa Jo Elliott, Ph.D. has moved from a position as Assistant Professor at the former University of South Florida Lakeland to Missouri Western State University (St. Joseph, Missouri). Dr. Elliott will be an Assistant Professor and the Director of the Human Factors and Usability Testing Graduate Program which was started in 2009. This is an interdisciplinary program with coursework in Business Management, Communications, Marketing, Economics, and Human Factors/Usability. The program is a terminal masters for those who wish to go directly into practice. After their first year of coursework, students spend the summer on internship. This summer, the first year students worked at AJi Software (Kansas City), University of South Carolina Medical Center, a Veterans Administration Facility near Washington D. C., Honeywell, and a design studio-FreshEggs (Kansas City). The program can accept up to five students each year. More information can be found at http://www.missouriwestern.edu/psychology/graduate/ or by contacting her directly at lelliott3@missouriwestern.edu.

**Virtual Reality Applications Center**

*By Stephen B. Gilbert, Ph.D.*

Stephen B. Gilbert is starting his third year as assistant professor in the human factors group within Iowa State University’s Industrial and Manufacturing Systems Engineering department. He has a background in both cognitive science and engineering, and 10 years in industry doing interaction design and usability work for training and education software. His research group has two focal areas: 1) developing innovative intelligent tutoring systems, particularly for teams performing full-body tasks like aircraft maintenance or military squad maneuvers, and 2) modeling operators within complex human-in-the-loop systems. This fall he'll be teaching a graduate course in Cognitive Engineering in which students use cognitive task analysis and cognitive work analysis to model a real-world collaborative work setting with the discrete-event software Micro SAINT Sharp. They warm up for this big group project by creating a smaller, simpler model of playing a video game of their choice, a project which gets them excited and then typically impressed with the amount of detail involved.


Stephen Gilbert’s website: http://public.vrac.iastate.edu/~gilbert/

Follow him on Research Gate: https://www.researchgate.net/profile/Stephen_Gilbert2

**Virtual Environments, Cognition, and Training Research Laboratory**

*By David Schuster, Ph.D.*

Dr. David Schuster founded the Virtual Environments, Cognition, and Training Research (VECTR) Laboratory at San José State University to investigate the human factors of cyber security. The members of the lab seek to improve individual and team performance in complex, real-world environments. The VECTR lab currently serves undergraduate and graduate research assistants in the SJSU psychology major, the MA in Research and Experimental Psychology program, and the MS in Human Factors program. San José State is spearheading an interdisciplinary cyber security program; Dr. Schuster is a member of the interdisciplinary cyber security research cluster.

More information is available at www.vectrlab.net.
Psychology of Design Laboratory
By Jeremiah Still, Ph.D.

The Psychology of Design (PoD) Laboratory at San Jose State University is looking for research oriented graduate students like you. We know you love Cognitive Psychology and if you are interested in applied visual attention, cybersecurity, or intuitive design, this is the lab for you. Join us and develop into an outstanding researcher within the field of Human Factors in Computing Systems (a.k.a., User Experience (UX), Human-Computer Interaction). You will be joining an interdisciplinary hub, which brings students from many subject areas together - often with industry - to influence our virtual future.

If you are interested in learning more about our research, please visit our digital residence at www.PsychofDesign.com.

CALL FOR PROPOSALS & PAPERS

2015 Health-Care Symposium
26-29 April 2015 in Baltimore, Maryland, USA

HFES welcomes your proposals for the 2015 Symposium on Human Factors and Ergonomics in Health Care: Improving the Outcomes, to be held April 26–29 at the Baltimore Marriott Waterfront Hotel in Baltimore, Maryland. The deadlines for submitting lecture and poster presentation proposals are as follows:

Lecture and Panel Presentations: Monday, October 20, 2014
Poster Presentations: Monday, November 17, 2014

Topics of Interest
Proposals may address any topic that fits in one of these four subject matter tracks.
- Health-Care Provider and Patient Safety
- Clinical and Consumer Health-Care Information Technology
- Medical and Drug-Delivery Devices
- Clinical Care Settings

The full Call for Proposals, including the information to include in your proposal, may be found at www.hfes.org/Web/HFESMeetings/2015Hescallforproposals.html.

Please bookmark the Symposium site (http://www.hfes.org/web/HFESMeetings/2015HealthCareSymposium.html) for frequent updates on registration, booking your accommodations, and more.

18th International Symposium on Aviation Psychology
4-7 May 2015 in Dayton, Ohio, USA

https://isap.wright.edu

The International Symposium on Aviation Psychology is offered for the purposes of:
- presenting the latest research on human performance problems and opportunities within aviation systems;
- envisioning design solutions that best utilize human capabilities for creating safe and efficient aviation systems;
- and bringing together scientists, research sponsors, and operators in an effort to bridge the gap between research and application.

Although the symposium is aerospace oriented, we welcome anyone with basic or applied interests in any domain to the extent that generalizations from or to the aviation domain are relevant.

Featured Speakers

Dr. Neville Stanton (University of Southampton)
Dr. William R. Ercoline (Wyle)
Dr. Art Kramer (Beckman Institute for Advanced Science & Technology, University of Illinois)

Proposal Submission: October 5, 2014
Paper Submission: March 1, 2015
Early Registration ends March 20, 2015
EMPLOYMENT OPPORTUNITIES

The following pages are descriptions of recent job openings. Please click on the link for more information, including where to apply. All positions are listed in the order of deadline.

INDUSTRY OPENINGS

Junior Cognitive Systems Engineering
Resilient Cognitive Solutions, LLC
Page 10

Human Systems Engineer
04-45 Informatics and Decision Support
MIT Lincoln Labs
Page 11

FACULTY OPENINGS

Tenure-track Assistant Professor
Department of Psychology
Rochester Institute of Technology
Page 12
JUNIOR COGNITIVE SYSTEMS ENGINEER (Full Time or Intern Position)

DATE REQUESTED: May 1, 2014
POSITION AVAILABILITY: NOW
SUPERVISOR: William Elm

SALARY RANGE: Competitive
LOCATION: Pittsburgh, PA
CITIZENSHIP: U.S. Citizenship Required

If you are looking for a challenging position delivering revolutionary new software applications for business-critical and mission-critical situations then join our small, fast paced RCS team!

SUMMARY:
This opening is for a Junior Cognitive Systems Engineer (CSE) supporting a highly complex analysis and design effort. The CSE team is dedicated to providing principle-driven design of human-machine systems with the central focus being creating *effective* decision support systems. This position works closely with a highly talented group of developers and will provide functional modeling and design concepts as guidance for their system development effort.

RESPONSIBILITIES:
This position focuses on the following as part of an interdisciplinary design team to:
- Support cognitive task analysis (CTA) effort to provide critical analytical basis for subsequent design
- Support development of innovative and useful GUI designs for these complex domains
- Support iterative evaluations of system prototypes, and operational evaluations of fielded decision support systems
- Analyzing advanced visualizations for the underlying decision support being provided
- Works as part of a multidisciplinary team, under the supervision of senior and principal cognitive systems engineers

QUALIFICATIONS:
BS in Industrial Engineering, Human Factors Engineering, related field or equivalent experience; MS a plus

Some experience analyzing, designing, and evaluating Decision Support Systems.

Some knowledge / training in Cognitive Engineering and human-machine interfaces (HMI):
- Knowledge of state-of-the-art research in these areas

Excellent analytic, problem definition and problem solving skills:
- Ability to analyze a problem domain and to distill core decision-making processes and challenges; often from rich, semi-articulated problem domains
- Ability to identify and adapt applicable technologies found in academic and industrial research
- Ability to create/invent innovative HMI approaches and to design them into successful decision-support solutions
- Excellent communication skills

Email resumes to: info@resilientcognitivesolutions.com
Description:
The Informatics and Decision Support Group develops advanced software systems, analytics, and human-systems interface solutions to improve the timeliness, confidence, and optimality of decisions. The Group emphasizes human-in-the-loop distributed and collaborative decision making and analytics over big, heterogeneous, data sets. The application areas for the Group are diverse, and include transportation systems, homeland security, health informatics, and chemical and biological defense. The technology focus for the Group includes software architectures and systems, video analytics, serious games, information mining and fusion, human factors, and natural language processing. The Group’s projects encompass and influence activities from early problem definition and system concept definitions, to prototype development and operator evaluations.

A human systems engineer is needed to assist in the design and development of innovative technical solutions for a number of application areas, including military logistics planning, homeland security, public health, and field-forward military uses. Technical solutions must be developed that can be well integrated into the unique operational situations posed by these various use cases, and which can assist performance optimization for the work functions, many of which require collaborative decision processes in the face of considerable uncertainty. Applicants must have the training and experience to both apply and innovate in user research and needs elicitation, the generation of technology design ideas, the collaboration with (primarily) software and analytics developers to prototype ideas into working components, and the design, conduct and analysis of experiments to assess technology usability and utility. Optimally, candidates will describe an interdisciplinary background which allows them to adopt and reconcile user, psychologist/sociologist, and engineering viewpoints. The data sets and problems addressed by this position will require the understanding and application of state-of-the-art methods in human-systems interaction. Candidates should have excellent informal and formal communication skills.

Requirements:
The candidate must possess a Ph.D. in Human Systems Engineering, Human Factors, Cognitive Science, or related field. In lieu of a Ph.D., an M.S. graduate with 5+ years of experience or with additional training and experience in Computer Science will be considered. Training or experience in user workflow analysis, detailed problem specifications, generation of creative potential problem resolutions, user interaction design, and technology utility experimentation and analysis are required. Training or experience in computer science, advanced human-machine interaction, human-in-the-loop experimentation, or cognitive psychology is desired.

Job Posting
Link: https://www.ll.apply2jobs.com/ProfExt/index.cfm?fuseaction=mExternal.showJob&RID=5278&CurrentPage=1. Please contact Tim Dasey at timd@ll.mit.edu for additional information.

MIT Lincoln Laboratory is an equal opportunity employer, and does not discriminate on the basis of race, color, religion, sex, national origin, veteran status, or disability. MIT Lincoln Laboratory offers exceptional benefits including: tuition assistance, in-house training and unique advanced degree programs; access to MIT campus facilities, services and events; and immediate vesting in a contributory retirement plan, in addition to a defined benefit pension plan.
Tenure-track assistant professor position
Department of Psychology, Rochester Institute of Technology

The Department of Psychology (http://www.rit.edu/cla/psychology/) at the Rochester Institute of Technology invites candidates to apply for a tenure-track assistant professor position starting late August 2015. The department seeks a teacher-scholar who is able to teach our undergraduate research methods courses. In addition, candidates must be able to do research and work effectively within the department’s existing lab space. Teaching and research are priorities for faculty at RIT, and all faculty are expected to mentor students through advising, research and in class experiences. We are seeking an individual who has the ability and interest in contributing to RIT’s core values, honor code, and diversity commitment.

REQUIRED QUALIFICATIONS:
Have Ph.D., or Ph.D. expected by July 1, 2015;
Have demonstrated ability to conduct independent research in psychology;
Have consistently and recently published;
Have demonstrated teaching ability and have taught college courses independently beyond TA;
Have demonstrated ability to supervise student research;
Show external research grant attainment potential;
Show a career trajectory that emphasizes a balance between teaching and research;
Have the potential and desire to work in available, small or shared-laboratory space;
Show the ability to contribute in meaningful ways to the college’s continuing commitment to cultural diversity, pluralism, and individual differences;
Show a fit with the department of psychology’s general mission, teaching, research, and resources.

HOW TO APPLY:
Apply online at http://careers.rit.edu/faculty. Search: 1263BR. For full consideration, applicants must submit: a letter of interest highlighting why you qualify for the job and why you believe the RIT department of psychology is a good fit for your career goals; a vita; a teaching statement; a research statement that includes information about previous grant work, the potential for future grants, and information about on-one supervision of student research; and a ‘contribution to diversity’ statement. Candidates must also submit the names, addresses, and phone numbers of three references.

You can contact the search committee with questions on the position at: Dr. Roger Harnish, Co-Chair of Search Committee, Department of Psychology, College of Liberal Arts, Rochester Institute of Technology, 18 Lomb Memorial Drive, Rochester, NY 14623-5604, e-mail rwhgss@rit.edu.

Review of applications will begin October 1, 2015. For full consideration please have all materials submitted by that date.

RIT does not discriminate. RIT promotes and values diversity, pluralism and inclusion in the work place. RIT provides equal opportunity to all qualified individuals and does not discriminate on the basis of race, color, creed, age, marital status, sex, gender, religion, sexual orientations, gender identity, gender expression, national origin, veteran status or disability in its hiring, admissions, educational programs and activities.