

Human-Systems Integration...

(continued from page 1)

and data in the Navy stemmed from the critical requirement to significantly reduce total ownership costs of future ships by reducing the number of crewmembers while enhancing crew performance capability and safety.

Additional challenges result from the fact that systems employed in the fleet today, and those being designed for the fleet tomorrow, make severe demands on the readiness, performance effectiveness, and physical and cognitive capabilities of the people who must operate and maintain them. These systems are complex and require high levels of sensory, motor, and cognitive skills and decision-making capabilities. Add highly variable threats and the need to conduct multiwarfare scenarios simultaneously with the need to integrate, coordinate, and interpret data from multiple sources, and it becomes clear that the limits of human capacity and capability are quickly surpassed.

The requirement to reduce the staffing levels of new military systems is a fact of life. Projected Department of Defense budgets demonstrate a continued trend toward crew reductions. Extensive analyses have shown that significant staff reduction is one of the most important factors in making ships and systems that employ new technologies more affordable. For the Navy, the requirement is not simply to reduce manpower but, rather, to optimize staffing, which is defined as achieving the minimum number of crewmembers consistent with human performance, workload, and safety requirements and system reliability, risk, and affordability constraints.

The emphasis on reducing workloads and staffing on Navy systems – and the simultaneous move to insert computer-based (automated) technology into these systems – underscores the increasing importance of automation in modern Navy systems. Automation is primarily intended to reduce human workload, especially cognitive workload, with the result that fewer people will be needed to interact with automated processes. Automation will remove the drudgery of many conventional Navy jobs while enhancing human performance through the use of decision support systems, operator's associates, intelligent agents, and intelligent tutors.

HSI in the Acquisition Process

The major challenge to enhancing human performance while reducing crew size in any complex system is the increased incidence of human error. The International Maritime Organization, the U.S. Coast Guard, and the Navy Safety Center have agreed that human error is the causal factor in 80% of mishaps on ships and in maritime systems. The incidence and impact of human error will only accelerate as the complexity of systems increases and the workload placed on remaining crew accelerates. Thus HSI becomes increasingly important.

The integration of the HSI domains is achieved at two levels: consolidation of domain activities in support of overarching HSI, and trade-offs among HSI domains to optimize the integration of the human in the system. Domain consolidation is achieved through a number of initiatives, including

- Preparing an HSI plan that describes and schedules overarching HSI and individual HSI domain activities and products throughout the acquisition process, including interactions among domain activities and collaboration of individual domains to achieve common objectives.
- Collecting and tracking operator and maintainer HSI domain feedback and lessons learned from legacy systems.
- Conducting a unified and consolidated front-end analysis (top-down requirements analysis) that addresses requirements and concepts for each HSI domain and the interactions of requirements for individual domains.
- Maintaining a consolidated database on HSI assumptions, issues, questions, expected problems, risks, concepts, and criteria concerning all aspects of human involvement in the system.
- Managing and mitigating HSI domains.
- Applying modeling and simulation techniques to develop and assess derived requirements, design concepts, and criteria, including task modeling, workload assessment, and human-in-the-loop simulation.
- Conducting task-centered design emphasizing the design of human-machine interfaces in terms of requirements for human performance, behavior, availability, productivity, competence, health and safety, and accommodation; and coordinating the individual HSI domains to produce an HSI concept that relies on the results of the application of sets of domains.
- Conducting scenario-based test and evaluation activities focused on assessing the adequacy of human involvement.

Although this consolidation and collaboration of HSI domains is effective in producing overarching HSI, the integration of HSI domains can also be realized by trading off outcomes associated with individual domains or sets of domains in achieving an overarching HSI approach. These trade-offs are only realized through the Navy's policy, requirements, and Technical Authority hammers. As an example, this could apply to trading off reliance on the use of decision aids against reliance on training to ensure that the human has the needed knowledge and level of skill when needed.

The Future of HSI

The critical step in the HSI process as applied to the acquisition



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Educational Resources Web Site: Tools You Can Use

By Patricia R. DeLucia, Chair, HFES Education and Training Committee

The Education and Training Committee is pleased to announce the launch of Phase II of the HFES Educational Resources Web site. If you haven't already visited this page to view the Phase I materials, we invite you to do so – and spread the word about this excellent resource for practitioners, educators, and students: <http://www.hfes.org/web/EducationalResources/educresourcesmain.html>.

The Web site contains resources for introducing students to the human factors/ergonomics (HF/E) field and for guiding individuals who wish to pursue a career in HF/E, develop curricula, find useful reference materials, and/or enhance knowledge and skills in specific areas. The site is not restricted to HFES members; anyone can benefit from the content.

Phase I, which was launched earlier this year, contains information in the following categories:

- definitions of HF/E,
- links to HF/E course syllabi,
- textbooks that are used in classroom teaching,
- a list of courses offered across psychology and engineering programs,
- information about working in the field and making the most of internships, and
- links to the HFES Directory of Human Factors/Ergonomics Graduate Programs and the list of undergraduate HF/E programs.

Phase II, launched on November 30, includes this new content:

- online courses on general topics,
- continuing-education opportunities,
- online materials on specific training topics,
- textbooks on specific HF/E topics,
- research resource Web sites (e.g., statistics),
- standards, and
- resources on publishing issues such as copyright and plagiarism.

Here is a sample of the links you can find in Phase II:

- **FAA Human Factors Workbench**, which contains a multitude of tools in diverse areas of human factors, including data analysis, modeling and simulation, HCI, knowledge elicitation, safety, physical ergonomics, and human-system performance (<http://www2.bf.faa.gov/workbenchtools/>)
- **Usability.gov**, which has numerous resources that pertain to usability (<http://www.usability.gov>)
- **Multimedia Educational Resource for Learning and Online Teaching (MERLOT)**, with links to resources on topics that include tutorials in engineering, psychology, and statistics (<http://www.merlot.org/>)
- **A listing of Web pages that perform statistical calculations** (<http://statpages.org/>)

of any complex system is the identification, analysis, and integration of *requirements* for human performance, availability, safety, and accommodation. To meet the objective of influencing design with these requirements, those involved with HSI must ensure that its requirements are included in systems requirements documents, statements of work and source selection criteria, system performance specifications, system test and evaluation, and, finally, system certification. It is through the certification process that the system sponsor ensures that HSI is effective in meeting its objectives, that HSI requirements are satisfied, and that the ultimate user of the system – the human – is fully capable of safely and effectively meeting mission requirements under all expected operational conditions, to the pre-established standards of performance and safety, and within constraints of system affordability.

HSI is gaining acceptance beyond the Army and Navy. The Air Force, NASA, FAA, and the Department of Homeland Security have taken a renewed interest in applying HSI to their systems. The offshore oil industry and the commercial shipping industry have also adopted many of the practices and processes of HSI. The HFES System Development Technical Group recognized the importance of HSI methods in recent revisions made to its scope statement and bylaws.

As systems become more sophisticated, complex, and technology driven, the need for HSI to effectively, safely, and economically fit the human into system activities will only become more critical.

Bibliography

For more information on the incorporation of HSI in system engineering, refer to the following references:

- Booher, H. R. (Ed.). (2003). *Handbook of human system integration*. New York: Wiley.
- Malone, T. B., & Carson, F. P. (2003). HSI top-down requirements analysis. *Naval Engineers Journal*, 115(2), 37–48.
- Malone, T. B., Baker, C. C., Rousseau, G. K., & Bost, J. R. (2000). Enhancement of human reliability in ships and maritime systems. *Proceedings of the Eighth International Conference on Marine Engineering Systems*. New York: Metropolitan Section Society of Naval Architects and Marine Engineers and International Cooperation on Marine Engineering Systems.
- Pew, R. W., & Mavor, A. S. (Eds.). (2007). *Human-system integration in the system development process: A new look*. Washington, DC: National Academy Press.

For 45 years, Thomas Malone has developed and applied human factors engineering to complex human-machine systems for government and industry in the United States, Canada, Europe, and the Far East. He was HFES president in 1992 and is a Fellow of HFES and the Washington Academy of Sciences. He is co-owner of Carlow International. Pamela Savage-Knepshield is a research psychologist and MANPRINT practitioner supporting acquisition programs at Fort Monmouth's Communications and Electronics Command. She has more than 20 years of experience working in industry. She is the HFES Bulletin features editor and the Army Representative to the Department of Defense Human Factors Engineering Technical Advisory Group. Larry Avery has more than 25 years of experience in human factors engineering. He is working for BMT Designers and Planners on a number of projects focused on improving ship design, including the development of a noise control guidebook designed to educate engineers on the implications of noise and how to mitigate them. ☒

EDUCATIONAL RESOURCES, cont.

- **American National Standards Institute** (ANSI; <http://www.ansi.org/>)
- **University of Maryland University College plagiarism resources** (http://www.umuc.edu/distance/odell/cip/links_plagiarism.shtml)
- **Department of Defense Patient Safety Program** (<http://dodpatientsafety.usubs.mil/index.php?name=News&file=article&sid=11>).

The impetus for the Educational Resources Web site, and the basis for its design, originated from feedback obtained from HFES members in a 2003 survey conducted by the Education and Training Committee to assess members' education and training needs. (Complete results may be viewed at <http://www.hfes.org/web/Membership/survey.pdf>.) The results indicated that members thought it was important to advance their education and training in particular content and skill areas, to attract undergraduates to the HF/E field, and to have access to education via Web sites. The Educational Resources Web site is intended to help meet these needs.

The committee serves as a clearinghouse by collecting and reviewing existing materials and posting them on the HFES Web site. However, it is our intention that this site be a dynamic database that is expanded with regular input from members. We encourage you to visit the updated Educational Resources Web site, provide feedback, and recommend additional resources that might be added to the site. Just use the "Tell us what you think about the HFES Web site" link located at the bottom of every page. We sincerely hope you will find the new content a useful service and another example of how the Education and Training Committee has responded to the needs of HFES Members. Happy surfing!

Patricia R. DeLucia is a professor and coordinator of the human factors psychology program in the Psychology Department at Texas Tech University. ☉

ANNUAL MEETING

The Society's 23 Technical Groups welcome your submissions for the 52nd Annual Meeting. Next year's meeting, to be held in New York City, takes place September 22–26, 2008. Proposals are due January 28. Below are specific calls for proposals from three TGs.

Computer Systems TG Invites Submissions

By Joel Greenstein, CSTG Program Chair

The Computer Systems Technical Group encourages lectures, posters, panels, symposia, and demonstrations that address the design and usability of computer systems and their broader environment for the HFES 52nd Annual Meeting. Relevant content could include laboratory, field, and case studies; historical perspectives; reviews; conceptual models; debates; and demonstrations.

Especially relevant topics for 2008 include the application of re-

search to the development of human-computer system design standards, Web 2.0, virtual worlds, social networks, collaboration tools, mobile devices, information visualization, cross-cultural issues, and emerging usability evaluation methods such as remote usability testing and eye tracking. We also encourage submissions of a more traditional nature that deal with information input, information display, and usability; cosponsored sessions are welcomed as well.

The Call for Proposals is available at <http://www.hfes.org/web/HFESMeetings/08CallforProposals.html>, and submissions are due January 28, 2008.

CEDM TG Seeking Submissions

By Ann Bisantz, CEDM TG Program Chair

The Cognitive Engineering and Decision Making (CEDM) Technical Group is accepting submissions for the 2008 HFES Annual Meeting in New York City. CEDM encourages entries in the demonstration format that allows presenters to show their innovative designs and interfaces interactively. Symposia with papers that combine CEDM methods with particular domain areas (e.g., medicine, transportation, command and control) are also welcomed.

CEDM is also soliciting reviewers for the conference proposals in December; please watch for an e-mail and reply if you can help review. It is a big job (typically, we have 300+ reviews to assign) and we need to include as many people as possible. Even if you have reviewed before, we need you to let us know you can help again this year. If you are a CEDM member and you don't receive an e-mail requesting your help with reviews by December 31, or if you have any other questions, please contact me at bisantz@buffalo.edu.

Aging TG Invites Submissions

By Diana Schwerha, Aging Technical Group Program Chair

The Aging Technical Group is seeking novel presentation formats for possible inclusion in one of the 2008 conference sessions. Formats that would be particularly interesting may include (a) methodological demonstrations regarding how the experiment was conducted (including software design), (b) demonstrations of new interventions/tools/software/personal electronics for older users that would include methodological discussions as well as evidence-based findings, and (c) demonstrations about novel teaching methods for human factors classes and/or labs. We are also interested in research findings that would benefit by display as a poster. For additional information, please contact me at 740/593-1577 or Schwerha@ohio.edu. ☉

AWARDS

Student Awards Presented at 51st Annual Meeting

The 2007 Best Student Chapter and Student Member with Honors Awards were presented during a ceremony at the Student Reception on Tuesday, October 2, in Baltimore.

AWARDS, cont.



A Gold Level Student Chapter Award went to Georgia Tech (L–R): Kelly Caine, Ray Stanley, Marita O'Brien, Ken Hailston (President), Cara Bailey-Fausset, Bart Wilkinson, Tony Andre, Jesse Zolna, Neta Ezer, Andrew Mayer (Webmaster), Brian Gane (VP-Secretary), Anne Adams, Nick Kelling, Wendy Rogers (Faculty Adviser).

Student Member with Honors

The following students made outstanding contributions to the discipline and/or HFES during their tenure as a student.

- Matthew L. Bolton, University of Virginia
- David Cades George Mason
- Justin DeVoge, University of Virginia
- Neta Ezer, Georgia Tech
- Greg Fitch, Virginia Tech
- Nathan Lau, University of Toronto
- Andrew Mayer, Georgia Tech
- Anand Tharanathan, Texas Tech University

Best Student Chapter Award

Three levels of recognition were created for this year's meeting – Gold, Silver, and Bronze – based on contributions and achievements in nine areas, including recruitment, outreach, collaboration, service to HFES, information dissemination, mentorship, and creativity. The following student chapters were honored:

- California State University, Long Beach (Gold)
- George Mason University (Gold)
- Georgia Tech (Gold)
- San Jose State University (Gold)
- Texas Tech University (Silver)
- University of Toronto (Gold)
- Virginia Tech (Gold)

HFES congratulates all the 2007 winners. The call for 2008 student awards will be published in an upcoming issue of the *HFES Bulletin*. ☒

CHAPTERS

New England Chapter Hosts 4th Student Research Conference

By David Aurelio, NEC Past President

The HFES New England Chapter (NEC) hosted its 4th Annual Student Research Conference on November 9, 2007, at the

Riverside Conference Center in Cambridge, Massachusetts. The conference, which provides a great forum and meeting place for human factors/ergonomics (HF/E) students and professionals in the region, drew student presenters from many of the surrounding universities, including the University of New Hampshire, the University of Massachusetts at Lowell, Northeastern University, MIT, and Bentley College.

The conference was cosponsored by Aptima Inc.; Charles River Analytics, Inc.; CellExchange Federal, Inc.; and the Liberty Mutual Research Institute for Safety. Their sponsorship enabled us to waive a registration fee for student attendees.

The conference featured

- 17 research presentations by HF/E students from the five aforementioned universities;
- three student awards for best presentation;
- an inspiring keynote address by Richard Pew, a past HFES president;
- short talks by our sponsors on applications of HF/E research within their companies;
- exhibits by the sponsors that demonstrated the impact and use of HF/E at their companies;
- recruitment of students for several employment positions; and
- a catered breakfast and lunch to maximize the time for students and professional attendees to meet and network.

Allan Fong, Alicia Kurowski, and Alexander Shyrokov were recognized with student awards during the conference.

Many thanks are due to the volunteers who helped make the conference possible, including the members of the HFES Tufts University Student Chapter, Richard Pew, and the board of the New England Chapter, especially its president, Laurie Brykman.

David Aurelio is a senior human factors engineer at Bose Corporation. ☒

TECHNICAL GROUPS

2007 User-Centered Product Design Award Winners

By Stan Caplan & Dianne McMullin, Award Committee Chairs

At the 51st Annual Meeting in Baltimore, the HFES Product Design Technical Group (PDTG) recognized the 2007 winners of its product design competition for innovative and user-centered approaches to human factors and industrial design. Two awards were presented:

- **Synergo, LLC** for the Backstrap Weaver's Ergonomic Bench. This simple bench enables Guatemalan workers to be more productive while avoiding the pain of their previous weaving postures.
- **Microsoft** for the Natural Ergonomic Keyboard 4000, a fixed-split keyboard that employs new key geometry based on extensive research on user performance, comfort, and desirability.

TECHNICAL GROUPS, cont.

A panel of seven judges selected the winning products based on their design (functional obviousness, ease of operation, and creativity) and the user research methodology involved during concept development, design, and evaluation. The contrasting nature of the winning products shows that human factors/ergonomics principles and research can be universally applied.



Karen Piegorsch

In accepting the award, Synergo Director Karen Piegorsch thanked partners Oxlajuj B'atz', Mayan Hands, and Maya Traditions, who teamed with her to make the project possible. Microsoft user researcher Hugh McLoone accepted the award for Microsoft and its research partners: 56seven8 design; the University of California, Berkeley; and the University of Washington. Piegorsch and McLoone each presented a paper about the winning product and its development at a well-attended special PDTG session.

Thanks go to PDTG members Steven Belz, Richard Buttiglieri, Jay Pollack, Elizabeth Mauer, Bryce Rutter, Brian Stonecipher, and William Vigilante for their diligence in evaluating all the nominated products. ☒



Hugh McLoone

STANDARDS

DoD HFE TAG Seeks Liaison

By Arnie Lund, HFES Standards Domain Leader

The Department of Defense Human Factors Engineering Technical Advisory Group (DoD HFE TAG) is seeking candidates for HFES liaison. The primary responsibility of the liaison is to facilitate the mutual sharing of information between the Society and DoD HFE TAG members.

The DoD HFE TAG is composed of representatives from each of the three primary branches of the U.S. DoD (Army, Navy, and Air Force), plus NASA and the FAA. These representatives are engaged in their respective organizations' human factors/ergonomics (HF/E) and human factors engineering-related activities. One of the primary objectives of the DoD HFE TAG is to allow the exchange of related concepts and ideas for utilization in the research, design, development, manufacturing, and deployment of the large variety of equipment and systems for which these organizations are responsible.

The liaison is expected to attend all semiannual meetings of the DoD HFE TAG. As an intermediary for a professional society, the HFES liaison automatically becomes a member of the Technical Society/Industry (TS/I) Sub-TAG, which always meets in conjunction with the DoD HFE TAG. In this forum, the liaison will be asked to provide input and information relative to activities

and actions of HFES. The liaison may also be asked to make presentations at Sub-TAG meetings (particularly the Human Factors Standardization Sub-TAG), or even the Plenary Session, on particular areas of HFES activities.

The HFES liaison to the DoD HFE TAG is also required to report pertinent activities of the TAG back to the HFES Executive Council and the HFES Institute. The liaison will submit these reports through the structure of HFES, utilizing the report formats developed by the Executive Council and staff.

Those interested in being considered should contact me at arnie.lund@microsoft.com. ☒

CALLS FOR PAPERS

BRIMS 2008

The Behavior Representation in Modeling and Simulation (BRIMS) Executive Committee invites submissions for its 17th Annual Conference, to be held April 14–17, 2008, at the Westin Providence in Providence, Rhode Island. BRIMS 2008 will be collocated with the Simulation Interoperability Workshop and in affiliation with the Simulation Interoperability Standards Organization and the Institute for Simulation and Training.

Proposals for papers, posters, demonstrations, symposia, panel, and tutorials are welcome. The deadline for submissions is **January 25, 2008**. Visit the BRIMS Web site (<http://www.sisostds.org/>) for submission guidelines. Questions regarding the conference and submissions should be directed to Pat Burgess, pburgess@ist.ucf.edu, 407/882-1372).

North American Congress on Biomechanics

The North American Congress on Biomechanics (NACOB 2008), a joint meeting of the American Society of Biomechanics and Canadian Society for Biomechanics, invites paper submissions on a broad range of biomechanics topics. The conference will be held August 5–9, 2008, at the University of Michigan in Ann Arbor, Michigan, USA.

Online submission will open **February 1, 2008**, and the deadline for abstract submission is **March 1, 2008**. Submit abstracts electronically at <http://www.abstracts.nacob2008.org/>. For more information about the meeting, go to <http://www.nacob2008.org/>. ☒

CALENDAR

Items are published according to space availability. The full Event Calendar is available at <http://hfes.org>.

★ **48th Israel Annual Conference on Aerospace Sciences**, February 27–28, 2008, Tel-Aviv and Haifa, Israel, <http://www.aeroconf.org.il/>.

Work, Stress, and Health 2008: Healthy and Safe Work Through Research, Practice, and Partnerships, March 6–8, 2008, Omni Shoreham Hotel, Washington, D.C. American Psychological Association, the National Institute for Occupational Safety and Health, and the Society for Occupational Health Psychology, <http://www.apa.org/pi/work/wsh.html>.

★ Indicates new listing ☒



**NANYANG
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School of Mechanical and Aerospace Engineering

Faculty Position in Human Factors Engineering Assistant Professor / Associate Professor / Professor

The School of Mechanical and Aerospace Engineering at Nanyang Technological University, Singapore is one of the largest engineering schools in the world. We have an active and vibrant research environment with excellent R&D infrastructure and opportunities for research funding. The School has over 250 faculty members and full-time research staff of diverse backgrounds and nationalities. Faculty members undertake funded projects conducted in well-equipped state-of-the-art laboratories and are well-regarded internationally. More information about the school can be obtained at <http://www.ntu.edu.sg/mae/>.

The Human Factors Engineering in the Division of Systems and Engineering Management, one of the six Divisions at the School, is probably one of the largest program in Asia with key focus in Cognitive Ergonomics and Usability. It is currently seeking tenure-track faculty members. Successful candidates are expected to conduct undergraduate and postgraduate teaching and supervision, initiate and carry out funded research and collaborate with and establish professional links with local and overseas industry and research institutions.

Candidates should have a PhD in Human Factors Engineering or related fields, teaching experience and a strong research record. Successful candidates will be offered competitive remuneration package which may include subsidized housing, children's education allowance and relocation assistance, where applicable. In addition, the personal income tax rates in Singapore are among the lowest in the world.

Suitably qualified candidates are invited to apply. Please visit http://www.ntu.edu.sg/hr/faculty_guidelines.htm for faculty appointment guidelines. Please state clearly that the application is for Human Factors Engineering.

Electronic submission of application is encouraged and can be forwarded to acad-facultyrecruit@ntu.edu.sg

Applications can also be mailed to:

**Office of Human Resources
Nanyang Technological University
Administration Building, Level 4
50 Nanyang Avenue
Singapore 639798
Fax: (65) 6791-9340**

The position is open until filled, but review of applications will begin immediately.

Only shortlisted candidates will be notified.

The Pennsylvania State University

Harold and Inge Marcus Department of Industrial and Manufacturing Engineering

Tenure-Track Assistant Professor Faculty Position

The Harold and Inge Marcus Department of Industrial and Manufacturing Engineering at The Pennsylvania State University invites applications for a full-time, tenure-track position at the Assistant Professor level. We seek an outstanding individual working in traditional and/or emerging areas of industrial engineering. Candidates are expected to teach undergraduate and graduate courses, establish and lead an innovative research program, supervise graduate students, pursue external funding opportunities, and provide service to the University. Interested candidates are encouraged to visit the Department (<http://www.ie.psu.edu>) and College (<http://www.engr.psu.edu>) websites to learn more.

The start date is Fall 2008. Applicants must have a Ph.D. in industrial engineering or a closely related field and have excellent verbal and written communication skills. Interested applicants should submit: (1) a cover letter, (2) a Curriculum Vitae, (3) a one-page research statement, (4) a one-page teaching statement, (5) a one-page summary of your dissertation research, (6) copies of up to three of your recent publications, if available, (7) a copy of your graduate school transcript, and (8) three letters of reference. Applicant screening will begin on January 7, 2008 and continue until the position is filled.

Please direct questions and send applications – by email or hardcopy – to the Search Committee Chair:

Professor Timothy W. Simpson
Harold and Inge Marcus Department of Industrial and
Manufacturing Engineering
The Pennsylvania State University
310 Leonhard Building
University Park, PA 16802 USA
Phone/fax: (814) 863-7136/4745
Email: tw8@psu.edu

Penn State is committed to affirmative action, equal opportunity, and the diversity of its workforce.

Purdue University School of Industrial Engineering

Faculty Openings at the Full, Associate, and Assistant Professorial Levels

The School of Industrial Engineering at Purdue University invites applications and nominations for multiple positions at all professorial levels. The positions require research, teaching graduate and undergraduate courses, and providing service to the University. Outstanding candidates in all areas of Industrial Engineering, including Operations Research, Health Care Engineering, Human Factors, Manufacturing, and Production Systems are encouraged to apply. Additional information can be obtained from the following websites:

<https://engineering.purdue.edu/IE/>

<https://engineering.purdue.edu/Engr/Research/Initiatives/>

<http://www.purdue.edu/dp/index.php>

A Ph.D. in engineering, science, or a related discipline prior to the appointment is required.

Applications should include (a) letter of interest (b) resume and (c) at least three (3) references. Materials should be submitted electronically to:

<https://engineering.purdue.edu/Engr/AboutUs/Employment/Applications>

If you have difficulty submitting your application to this website, please contact Ms. Marion Ragland at ragland@purdue.edu. Review of applications will begin October 1, 2007 and continue until filled.

Additional questions may be addressed to:

Ms. Kirsty Mac Coll

Administrative Assistant to the Faculty Search Committee

School of Industrial Engineering

E-mail: kmaccoll@purdue.edu

PURDUE UNIVERSITY IS AN EQUAL OPPORTUNITY/EQUAL
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Bulletin

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FLASH!

2008 Membership Renewal

If you haven't already, don't forget to renew your membership for 2008 this month. The deadline to renew without incurring a \$15 postage surcharge is January 31, 2008.

Call for Proposals

Proposals for the 52nd Annual Meeting are due January 28, 2008. Visit <http://www.hfes.org/web/HFESMeetings/08CallforProposals.html> for detailed information.

2008 Applications for Fellows

The HFES Selection Committee invites applications for Fellows and Honorary Fellows to be elected for 2008. Applications are due no later than February 1, 2008. Download the application package at <http://www.hfes.org/web/awards&fellows/fellows.html>.



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