

To rise to the challenge of the international quality revolution, the Center for Quality and Productivity Improvement (CQPI), a research center, was founded in October of 1985. Since its inception, CQPI has been at the forefront in the development of new techniques for improving the quality of products and processes.

Today, CQPI's Systems Engineering Initiative for Patient Safety (SEIPS) is the foremost leader in a comprehensive application of Human Factors and Systems Engineering to the patient safety challenge. CQPI/SEIPS is the recipient of multiple federal, foundation, and industry supported research projects for patient safety, quality of healthcare processes, quality of working life and human factors approaches for improved technology implementation. The various project teams on these studies are multidisciplinary, including investigators and partners in Human Factors and Systems Engineering, Nursing, Medicine, Pharmacy and Health Services Research.

**Statement of Need**

This short course is designed to provide an understanding of human factors and systems engineering and how this approach to patient safety can improve performance, prevent harm when error does occur, help systems recover from error, and mitigate further harm.

**Intended Audience and Scope of Practice**

Physicians, Physician assistants, Nurses, Information technologists, Research scientists, Quality improvement specialists, Pharmacists, CEOs, Middle and upper management, Engineers, Risk management professionals, Infection control professionals, Patient safety officers and other professionals interested in human factors engineering and patient safety.

**Specific Learning Objectives**

At the conclusion of this activity, participants should be able to:

- Identify the objectives of human factors engineering
- Promote the use of human factors engineering to minimize patient related error
- Recognize the difference between micro and macro human factors engineering approaches
- Summarize what a system is, and what are the implications for its design
- Target and evaluate medical device design and usability issues for patient safety
- Identify cognitive ergonomics issues, such as information processing and human error
- Understand organizational issues related to patient safety (e.g., organizational resilience, communication, teamwork)
- Assess the physical environment for patient safety associated issues
- Understand job design and workload issues related to patient safety
- Identify human characteristics, capabilities and limitations
- Recognize interfaces between job, person and environment
- Recognize challenges to the application of HFE and Patient Safety

<b>SEIPS Extended Part I - Human Factors and Sociotechnical Systems Engineering</b>			
<b>Day</b>	<b>Date</b>	<b>Time</b>	<b>Topic</b>
Monday	8/15/11	7:00am-8:00am	Breakfast and Registration
		8:00am-5:30pm (breaks & lunch included)	<ul style="list-style-type: none"> <li>• Introduction to Human Factors Engineering and Safety</li> <li>• Human Factors Engineering - Practical Applications</li> <li>• The Physical Environment</li> <li>• Physical Ergonomics</li> <li>• Introduction to the Case Study</li> </ul>
		5:30pm-6:30pm	Reception with Research Poster Session
Tuesday	8/16/11	7:00am-8:00am	Breakfast and Conversation
		8:00am-5:00pm (breaks & lunch included)	<ul style="list-style-type: none"> <li>• Cognitive Ergonomics</li> <li>• Usability Principles and Methods</li> <li>• Technology Design and Usability</li> <li>• Training</li> </ul>
Wednesday	8/17/11	7:00am-8:00am	Breakfast and Conversation
		8:00am-5:30pm (breaks & lunch included)	<ul style="list-style-type: none"> <li>• Organizational Design and Resilience</li> <li>• Job Design and Workload</li> <li>• Workflow Analysis</li> <li>• Job Stress</li> <li>• Case Study Preparation</li> </ul>
		6:30pm-8:00pm	Reception
Thursday	8/18/11	7:00am-8:00am	Breakfast and Conversation
		8:00am-5:15pm (breaks & lunch included)	<ul style="list-style-type: none"> <li>• Organizational Change and System Redesign</li> <li>• Human Factors Engineering - Practical Applications</li> <li>• Case Study Poster Presentation</li> <li>• Human Factors Engineering in Healthcare - A Provider's Experience</li> </ul>
			Wrap-up and Evaluations

## Faculty



**Pascale Carayon, PhD**  
Director CQPI, Procter & Gamble  
Bascom Professor in Total Quality  
Industrial and Systems Engineering  
University of Wisconsin-Madison  
Madison, WI



**Carla J. Alvarado, PhD**  
Research Scientist, CQPI  
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**Sue M. Bosley, PharmD**  
Medication Safety Pharmacist  
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Center  
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**John W. Gosbee, MD, MS**  
Human Factors Engineering and  
Healthcare Specialist  
Michigan Health Systems  
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**Ann Schoofs Hundt, PhD**  
Research Scientist, CQPI  
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**Ben-Tzion Karsh, PhD**  
Associate Professor, Industrial and  
Systems Engineering  
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**Shawna Perry, MD**  
Director for Patient Safety Systems  
Engineering, Associate Professor  
and Associate Chair Department of  
Emergency Medicine VCU Health  
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Assistant Professor  
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Health and Industrial and Systems  
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**Robert L. Wears, MD**  
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and Director of Medical  
Informatics University of Florida  
College of Medicine  
Jacksonville, FL



**Douglas A. Wiegmann, PhD**  
Associate Professor, Industrial  
and Systems Engineering  
University of Wisconsin-Madison  
Madison, WI

## General Information

**Dates:** August 15-18, 2011

**Place:** Lowell Center  
610 Langdon Street  
Madison, WI 53703

**Phone:** 608/256-2621

### Conference Housing

Blocks of rooms are reserved at the following hotels. Please call or write to the hotels directly to reserve your accommodation. For further details, please visit [http://cqpi.engr.wisc.edu/shortcourse\\_accommodation](http://cqpi.engr.wisc.edu/shortcourse_accommodation)

### The Lowell Center

This accommodation is conveniently located within the course facility.

610 Langdon Street, Madison, WI 53703  
Phone: 608/256-2621 or 866/301-1753  
email: [lowell@ecc.uwex.edu](mailto:lowell@ecc.uwex.edu)  
<http://conferencing.uwex.edu/lodging.cfm>  
Rates: \$89-\$95  
Reservations must be made prior to July 14, 2011.  
Please reference SEIPS; passcode LOWELL

### DoubleTree® Hotel – Madison

525 West Johnson Street, Madison, WI 53703  
Phone: 608/251-5511 or 800.222.8733  
[www.doubletreemadison.com](http://www.doubletreemadison.com)  
Rates: \$149  
Reservations must be made prior to July 18, 2011.  
Please reference SEP

### The Edgewater Hotel

666 Wisconsin Avenue, Madison, WI 53703  
phone: 800.922.5512  
[www.theedgewater.com](http://www.theedgewater.com)  
Rates: \$139  
Reservations must be made prior to July 14, 2011.  
Please reference VH

### Conference Fees

- \$2,000 - First Registrant from an Organization
- \$1,700 - Each Additional Registrant from the Same Organization

The conference fee includes the cost of tuition, materials, two receptions, breakfasts, refreshment breaks, lunches, and a nonrefundable registration fee of \$50. Should you cancel your registration up to 72 hours prior to the conference; you will be refunded the entire conference fee except the \$50 nonrefundable portion. No refunds will be made after that time.

### Four Easy Ways To Register

**On Line:** Go to [www.ocpd.wisc.edu](http://www.ocpd.wisc.edu); click on "Course Catalog" near the bottom of the left column; scroll down the list of educational activities until you see the date of 08/15/2011; and select "SEIPS Short Course on Human Factors Engineering and Patient Safety; Extended Part I: Human Factors and Sociotechnical Systems Engineering."

**By Mail:** Return your completed registration form and payment (Step 5 registration form)

**By Phone:** 608/262-1397.

Please call and give your billing information or pay by MasterCard, VISA, or American Express

**By Fax:** 1-800/741-7416  
(in Madison Fax 265-3163)

### Confirmations

All registrations are confirmed in writing. If you do not receive a confirmation, please call 608/262-1397.

### Conference Attire

Since meeting room temperatures and personal comfort levels vary, it is recommended that you bring a sweater or jacket.

### For Further Information

**Teresa N. Thuemling**  
CQPI, 3124 ECB, 1550 Engineering Drive  
Madison, WI 53706; phone: 608/890-0265 or  
608/263-2520; [tthuemling@cqpi.engr.wisc.edu](mailto:tthuemling@cqpi.engr.wisc.edu)

**Amy Meyer**  
Office of Continuing Professional Development  
in Medicine and Public Health  
2701 International Lane, Suite 208  
Madison, WI 53704  
phone: 303/362-1867, fax: 608/240-6040  
[ammeyer@ocpd.wisc.edu](mailto:ammeyer@ocpd.wisc.edu)

### Accreditation Statement

This activity has been planned and implemented in accordance with the Essential Areas and policies of the Accreditation Council for Continuing Medical Education through the joint sponsorship of the University of Wisconsin School of Medicine and Public Health and the University of Wisconsin-Madison, Center for Quality and Productivity Improvement (CQPI). The University of Wisconsin School of Medicine and Public Health is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

### Credit Designation Statement

The University of Wisconsin School of Medicine and Public Health designates this live activity for a maximum of 31.25 AMA PRA Category 1 Credit(s)™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

### Continuing Education Units

The University of Wisconsin-Madison, as a member of the University Continuing Education Association (UCEA), authorizes this program for 3.125 continuing education units (CEUs) or 31.25 hours.

### Policy on Disclosure

It is the policy of the University of Wisconsin School of Medicine and Public Health that the faculty, authors, planners, and other persons who may influence content of this CME activity disclose all relevant financial relationships with commercial interests in order to allow CME staff to identify and resolve any potential conflicts of interest. Faculty must also disclose any planned discussion of unlabeled/unapproved uses of drugs or devices during their presentation(s). Detailed disclosures will be made in the activity handout materials.

### Elements of Competence

This CME activity has been designed to change learner competence and performance, and focuses on the American Board of Medical Specialties area of systems-based practice.

# Registration Form

#9000 ame-cqpi

## SEIPS Short Course on Human Factors Engineering and Patient Safety

### ▪ Extended Part I: Human Factors and Sociotechnical Systems Engineering

August 15-18, 2011

Please complete Steps 1-5 below in BLOCK letters

#### Step 1. Participant Information:

Name \_\_\_\_\_  
First MI Last

Professional Degree (for credit & name badge) \_\_\_\_\_

Company Name \_\_\_\_\_

Dept. Name or Mail Code \_\_\_\_\_

Work Address \_\_\_\_\_

City, State, Zip \_\_\_\_\_

Day Phone \_\_\_\_\_

FAX \_\_\_\_\_

E-mail (required) \_\_\_\_\_

I request vegetarian options for my meals

#### Step 2. Confirmation:

Work Address (as provided in Step 1) - or -  Home Address

Home Address \_\_\_\_\_

City, State, Zip \_\_\_\_\_

#### Step 3. Registration Fees:

\$2,000 - First Registrant from an Organization

\$1,700 - Each Additional Registrant from the Same Organization

TOTAL FEE REMITTED:

\_\_\_\_ PO or check enclosed (payable to University of Wisconsin)

\_\_\_\_ Please bill my company

\_\_\_\_ Credit Card:  MasterCard;  VISA;  American Express

Cardholder's Name \_\_\_\_\_

Card Number \_\_\_\_\_

Expiration Date \_\_\_\_\_

#### Step 4. Where did you learn about this short course? Check all that apply

Colleague  Brochure  Advertisement  Internet  Other \_\_\_\_\_

#### Step 5. Please return your payment with this form to:

CME Specialist, The Pyle Center, 702 Langdon Street, Madison, WI 53706  
or Fax 1-800/741-7416 (in Madison Fax 265-3163).

The University of Wisconsin provides equal opportunities in employment and programming, including Title IX requirement.

The University of Wisconsin School of Medicine and Public Health fully complies with the legal requirements of the ADA and the rules and regulations thereof. If any participant in this educational activity is in need of accommodations, please notify Teresa N. Thuemling in order to receive service. Please call 608/890-0265.

## Quotes from past course attendees:

*"Once again your focus on participant experience was exemplary! Thank you. Discussions of examples were very rich and helpful."*

*"Thanks again for the exceptional experience. The class is really life/mind changing as evidenced by coming back to a potential event and my first thought was not, who messed up, rather I wonder what else was going on, how many lines were running etc, etc!"*

*"Thanks for all these materials, and thanks again for the wonderful course -I very much enjoyed it. So yes, the course has changed the way I look at things..."*

*"Thanks again for the great effort you put to organize an excellent course."*

*"Thank you so much for the wonderful experience! The class has opened my eyes and re-charged my batteries."*

*"Awesome course! Top-notch organization and instruction. Thank you for a successful and valuable week of learning!"*

*"This is a tremendous short course. The instruction and resources you provided us are tremendously helpful."*

*"What a great experience. I felt as though I had returned to college! The beautiful university setting, the outstanding professors...great course!"*

Center for Quality and Productivity Improvement  
University of Wisconsin  
3130 Engineering Centers Building  
1550 Engineering Drive  
Madison, Wisconsin 53706

**Systems Engineering Initiative for  
Patient Safety (SEIPS) Short Course on  
Human Factors Engineering and Patient  
Safety ▪ Extended Part I: Human  
Factors and Sociotechnical Systems  
Engineering**

*Please Route to:*

- PATIENT SAFETY OFFICER
- QUALITY IMPROVEMENT
- RISK MANAGEMENT
- MEDICAL INFORMATICS/IT
- INFECTION PREVENTION

**THE UNIVERSITY OF WISCONSIN-MADISON**



**August 15-18, 2011**

**Lowell Center, University of Wisconsin-Madison**

**SEIPS Short Course on Human Factors  
Engineering and Patient Safety  
Extended Part I: Human Factors and  
Sociotechnical Systems Engineering**

**This four-day course for professionals presents nationally recognized speakers  
discussing a variety of Human Factors Engineering (HFE) and Patient Safety topics including:**

- Human Factors Engineering
- Sociotechnical Systems and Macroergonomics
- Design of the Physical Environment and Ergonomics
- Cognitive ergonomics
- And more...

For short course schedule and registration information go to: **[http://cqi.engr.wisc.edu/shortcourse\\_home](http://cqi.engr.wisc.edu/shortcourse_home)**