

## CQPI

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 and Pharmacy.

### 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

This educational activity is designed for all physicians, nurses, physician assistants, pharmacists, engineers, 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
- Identify cognitive ergonomics issues, such as information processing and human error
- Understand organizational issues related to patient safety (e.g. transitions of care, communication, teamwork, process analysis)
- Ability to assess the physical environment for patient safety associated issues
- Improve workload management
- Identify human characteristics, capabilities and limitations
- Recognize interfaces between job, person and environment
- Analyze tasks and work flow
- Understand various methods and approaches to Proactive Risk Analysis
- Attain skills in HFE methods of Variance Analysis and FMEA
- Understand how Proactive Risk Analysis contributes to Patient Safety Climate/Culture
- Recognize challenges to the application of HFE and Patient Safety

## Schedule

### SEIPS PART I – The Basics of HFE and Patient Safety Monday 8-13-07

7:00-8:00am	Breakfast and Registration	
8:00-8:45am	Introductions, Overview, and Course Objectives	Dr. Pascale Carayon
8:45-10:15am	Human Factors Engineering – The View Point of a Clinician	Dr. Matthew C. Scanlon
10:15-10:30am	Break	
10:30am-12:00pm	What is Human Factors Engineering and What is a System-1	Dr. Ben-Tzion Karsh
12:00-1:00pm	Lunch	
1:00-2:45pm	What is Human Factors Engineering, and What is a System-2	Dr. Ben-Tzion Karsh
2:45-3:00pm	Break	
3:00-5:00pm	The Physical Environment and Ergonomics	Dr. Carla J. Alvarado
5:00-6:30pm	Reception	Attendees and Faculty

### Tuesday 8-14-07

7:00-8:00am	Breakfast and Conversation	
8:00-10:00am	Cognitive Ergonomics	Dr. Douglas A. Wiegmann
10:00-10:15am	Break	
10:15am-12:00pm	Organizational /Job Design and Workload	Dr. Pascale Carayon
12:00-1:00pm	Lunch	
1:00-2:45pm	Technology Design and Usability-1	Dr. John W. Gosbee
2:45-3:00pm	Break	
3:00-4:00pm	Technology Design and Usability-2	Dr. John W. Gosbee
4:00-5:00pm	Case Study Analysis	Attendees and Faculty

### Wednesday 8-15-07

7:00-8:00am	Breakfast and Conversation	
8:00-10:00am	Organizational Issues and the Role of the Healthcare Provider	Dr. Robert L. Wears
10:00-10:15am	Break	
10:15-11:45am	Team Activity and Poster Session	Attendees and Faculty
11:30am-12:00pm	Wrap-up and Evaluations	Dr. Pascale Carayon and Faculty
12:00pm	Lunch	

### SEIPS PART II – HFE & Proactive Risk Assessment Wednesday 8-15-07

12:00-1:00pm	Lunch and Registration	
1:00-1:15pm	Overview and Course Objectives	Dr. Pascale Carayon
1:15-2:15pm	Overview of Human Factors Engineering in Healthcare	Dr. Sue M. Bosley
2:15-3:15pm	Proactive Risk Assessment (PRA)- Introduction	Dr. Pascale Carayon
3:15-3:30pm	Break	
3:30-5:30pm	Proactive Risk Assessment-Hybrid FMEA-Hands on and Discussion	Dr. Pascale Carayon Dr. Ann Schoofs Hundt
5:30-6:30pm	Reception	Attendees and Faculty

### Thursday 8-16-07

7:00-8:00am	Breakfast and Conversation	
8:00-10:00am	Workflow and Task Analysis-Introduction and Examples	Dr. Pascale Carayon Dr. Carla J. Alvarado
10:00-10:15am	Break	
10:15am-noon	Workflow and Task Analysis-Hands on and Discussion	Dr. Pascale Carayon Dr. Carla J. Alvarado
12:00-1:00pm	Lunch	
1:00-2:45pm	Variance Analysis-Introduction and Hands on	Dr. Ben-Tzion Karsh
2:45-3:00pm	Break	
3:00-5:00pm	Variance Analysis- Hands on and Discussion	Dr. Ben-Tzion Karsh
5:00-6:00pm	Reception	Attendees and Faculty

### Friday 8-17-07

7:00-8:00am	Breakfast and Conversation	
8:00-10:00am	Advanced Topics in PRA-Probabilistic Risk Analysis	Dr. Vicki A. Bier
10:00-10:15am	Break	
10:15am-12:00pm	PRA and Safety Climate/Culture	Dr. Douglas A. Wiegmann
12:00-2:00pm	A Provider's Conversion Experience Box lunch available	Dr. Matthew C. Scanlon
2:00-2:30pm	Wrap-up and Evaluations	Faculty

## 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, CIC**  
Research Scientist, CQPI and  
SEIPS Short Course Coordinator  
University of Wisconsin-Madison,  
Madison, WI



**Vickie A. Bier, PhD**  
Professor  
Industrial and Systems Engineering  
University of Wisconsin-Madison  
Madison, WI



**Sue M. Bosley, PharmD**  
Medication Safety Pharmacist  
Saint Elizabeth Regional  
Medical Center  
Lincoln, Nebraska



**John W. Gosbee, MD, MS**  
Human Factors Engineering and  
Healthcare Specialist  
Michigan Health Systems  
Ann Arbor, MI



**Ann Schoofs Hundt, PhD**  
Research Scientist, CQPI  
University of Wisconsin-Madison  
Madison, WI



**Ben-Tzion Karsh, PhD**  
Associate Professor, Industrial and  
Systems Engineering  
University of Wisconsin-Madison  
Madison, WI



**Robert L. Wears, MD**  
Professor, Emergency Medicine and  
Director of Medical Informatics  
University of Florida  
College of Medicine  
Jacksonville, FL



**Matthew C. Scanlon, MD**  
Associate Medical Director of The  
Pediatric Intensive Care Unit and  
Assistant Professor of Pediatrics  
Medical College of Wisconsin  
Milwaukee, WI



**Douglas A. Wiegmann, PhD**  
NIH Clinical Research Scholar  
Mayo Clinic, Rochester, MN

## General Information

**Dates:** August 13-17, 2007

**Place:** The Pyle Center  
702 Langdon Street  
Madison, WI 53706

**Phone:** 608/262-1122

**Fax:** 608/262-8516

### Conference Housing

Blocks of rooms are reserved at the following hotels. Please call or write to the hotels directly to reserve your accommodation. Be sure to reference the short course CQPI/SEIPS to receive the special room rate.

### DoubleTree® Hotel – Madison

525 West Johnson Street, Madison, WI 53703

[www.doubletreemadison.com](http://www.doubletreemadison.com)

Phone: 608/251-5511 or 800.222.8733

Rates: \$119

Reservations must be made prior to July 12, 2007

### The Campus Inn

601 Langdon Street, Madison, WI 53703

Phone: 608/257-4391 or 800/589-6285

[www.thecampusinn.com](http://www.thecampusinn.com)

Rates: \$125

Reservations must be made prior to

July 12, 2007

### The Edgewater Hotel

666 Wisconsin Avenue, Madison, WI 53703

phone: 800.922.5512

[www.theedgewater.com](http://www.theedgewater.com)

Reservations must be made prior to July 12, 2007

Rates: \$129

### Conference Fees

- \$1,500 **Part I only** - First Registrant from an Organization
- \$1,000 **Part I only** - Each Additional Registrant from the Same Organization
- \$1,500 **Part II only** - First Registrant from an Organization
- \$1,000 **Part II only** - Each Additional Registrant from the Same Organization
- \$1,250 **Part II only** - 2004 & 2005 Part I Short Course Attendees
- \$2,200 **Part I and Part II** - First Registrant from an Organization
- \$2,000 **Part I and Part II** - Each Additional Registrant from the Same Organization

The conference fee includes the cost of tuition, materials, an opening reception, 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

**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)

**On Line:** <http://www.ocpd.wisc.edu/>

### 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

**Dr. Carla J. Alvarado,**  
CQPI, 575 WARE, 610 Walnut Street, Madison, WI 53726; phone 608/263-2678 or 608/263-2520; [calvarado@cqpi.engr.wisc.edu](mailto:calvarado@cqpi.engr.wisc.edu)

### Amy Meyer

Office of Continuing Professional Development in Medicine and Public Health  
4270 Health Sciences Learning Center  
750 Highland Ave, Madison, WI 53705  
phone: 608/240-2150, fax: 608/240-2151  
[ameyer3@wisc.edu](mailto:ameyer3@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 educational activity for a maximum of 37 *AMA PRA Category 1 Credits*<sup>™</sup>. Physicians should only claim 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 3.7 continuing education units (CEUs) or 37 hours.

**Policy on Faculty and Sponsor Disclosure** As a sponsor accredited by the ACCME, it is the policy of the University of Wisconsin School of Medicine and Public Health to require the disclosure of the existence of any significant financial interest or any other relationship a faculty member or a sponsor has with either the commercial supporter(s) of this activity or the manufacturer(s) of any commercial product(s) discussed in an educational presentation. Detailed disclosure will be made in the course handout materials.

# Registration Form

#4029 ame-cqpi

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

### ▪ Part I and Part II

Part I: August 13-15, 2007 ▪ Part II: August 15-17, 2007

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 \_\_\_\_\_

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:

- \$1,500 Part I only - First Registrant from an Organization
- \$1,000 Part I only - Each Additional Registrant from the Same Organization
- \$1,500 Part II only - First Registrant from an Organization
- \$1,000 Part II only - Each Additional Registrant from the Same Organization
- \$1,250 Part II only - Past SEIPS Short Course Attendees
- \$2,200 Part I and Part II - First Registrant from an Organization
- \$2,000 Part I and Part II - 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:

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

### Quotes from past course attendees:

*"Great course! Very valuable for the work I do. Thank you for all you did to get a Human Factors and Patient Safety course up and going."*

*"Excellent program...I received practical tools I can use immediately back at my hospital."*

*"The SEIPS model is a very helpful framework for thinking and problem solving, not only in patient safety but in all aspects of healthcare."*

*"I cannot wait for next year's SEIPS course Part II! The faculty makes me want to learn more and more about Human Factors and a systems approach to my patient care practices."*

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 Dr. Carla J. Alvarado in order to receive service. Please call 608/263-2678.

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

Please Route to:

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

**THE UNIVERSITY OF WISCONSIN-MADISON**



August 13-17, 2007

Pyle Center, University of Wisconsin-Madison ▪ Madison, WI

**Systems Engineering Initiative for Patient Safety (SEIPS)  
SEIPS Short Course on Human Factors  
Engineering and Patient Safety  
Part I and Part II on HFE Methods -  
Proactive Risk Assessment (New 2007)**

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

**Part I: The Basics of HFE & Patient Safety**

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

**Part II: HFE Methods - Proactive Risk Assessment**

- Workflow and Task Analysis
- Variance Analysis
- Probabilistic Risk Analysis
- FMEA
- And more...

For short course schedule and registration information go to: [www.fpm.wisc.edu/seips](http://www.fpm.wisc.edu/seips)