

COURSE DESCRIPTION

The course will open with a keynote presentation given by Marcia Scherer, a discussion of recent advances in BCI research and the variety of recently developed clinical applications. Participants will learn how an EEG-based brain-computer interface (BCI) can be used to create text, send e-mails, control an environment, and produce synthesized speech. Instructors will discuss identifying potential users and participants will gain hands-on experience using the P300-based BCI-24/7 to evaluate clients with communication and control needs. Evening practice sessions will be available.

GOALS

To learn how to use a BCI to evaluate candidates who can benefit from it, teach them and their caregivers how to use it, and receive ongoing technical support.

ABOUT BRAIN-COMPUTER INTERFACE (BCI)

Progress in medical science now enables people with severe paralysis, including those with amyotrophic lateral sclerosis (ALS) and brainstem stroke, to live for many years. Many of these individuals have great difficulty communicating,

some entering into a “locked-in” state. The capacity for simple communication can greatly improve their quality of life. Under the direction of Jonathan R. Wolpaw, M.D., The National Center for Adaptive Neurotechnologies (NCAN) at the Wadsworth Center has developed a BCI that can provide communication to individuals who have lost muscle control, including the ability to breathe, talk or even move their eyes. The device records brain waves from the scalp and then decodes them, allowing the user to communicate by making selections on a computer screen. The Wadsworth BCI system is a completely new technology and a major advance over conventional augmentative communication methods.

NCAN researchers are now working with the staff of Helen Hayes Hospital’s Center for Rehabilitation Technology to transition the BCI from the laboratory to the home environment. We evaluate new user candidates, provide the system to those who can benefit from it, teach them and their caregivers how to use it, and provide ongoing technical support.

AUDIENCE

Assistive Technology specialists, including physical, occupational and speech therapists and rehab engineers.

AGENDA

THURSDAY

8:30 a.m.	Registration
9:00 a.m.	Keynote Marcia Scherer, Ph.D., “Why People Use and Don’t Use Technologies”
10:00 a.m.	Theresa Vaughan, Introductions and BCI Overview Susan Heckman, EEG Signals Peggy Dellea, BCIs for whom? Debra Zeitlin, Overview BCI Research at Helen Hayes Hospital
11:00 a.m.	Break
11:30 a.m.	Assemble and power up the BCI system Introduction to BCI Evaluation Procedure
1:00 p.m.	Lunch
2:00 p.m.	Hands on Experience with BCI-24/7
4:30 p.m.	Questions and Answers
5:00 p.m.	Dinner
7:30 p.m.	Ice Cream Social and Discussion: Where does BCI fit in?

FRIDAY

8:30 a.m.	Hands on Experience with BCI-24/7
11:00 a.m.	Summing up

CONTINUING EDUCATION CREDIT

Attendees at this program will be eligible to earn up to 12 Contact Hours.

Helen Hayes Hospital is an AOTA Provider. This program is assigned 1.2 AOTA CEU: Classification code Category 2: Occupational Therapy Process-Intervention.

Approved status does not imply endorsement by Helen Hayes Hospital or AOTA of any specific course content, commercial products, or clinical procedures discussed/displayed in conjunction with the educational activity.

Helen Hayes Hospital is an approved sponsor of continuing education for physical therapists and physical therapy assistants by the New York State Education Department, Office of the Professions.

This course is offered for 1.0 ASHA CEU (Introductory Level, Professional Area).



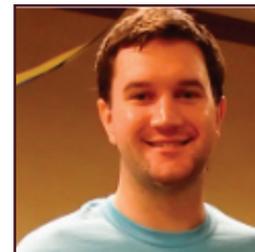
INSTRUCTORS



Peggy Dellea, OT, MS is an occupational therapist and a Biomedical Engineer. She has worked at the Assistive Technology Center at Spaulding Rehabilitation Hospital in Boston, MA for 20 years, with a focus on computer adaptations and augmentative communication devices. She is the principal investigator at Spaulding researching home use of a BCI system, in conjunction with the Wadsworth Center in Albany, attempting to improve utility of the BCI interface for people with severe disabilities. She has presented numerous times to various organizations, colleges, and hospitals regarding the use of assistive technology in rehabilitation.



Sue Heckman, M.S. OT/L, M.S. Ed. is an occupational therapist and clinical research coordinator. She has coordinated and run clinical trials and epidemiological research studies involving patients with neurodegenerative diseases for the past twelve years, working for both the New York State Department of Health and Albany Medical Center. Ms. Heckman most recently was part of the team that supervised the first-ever large-scale trial of independent home use of a Brain Computer Interface communication device by people with amyotrophic lateral sclerosis (ALS).



Michael O’Leary, MS, CCC-SLP is the senior clinician at the ICAN™ Talk Clinic in Pittsburgh, PA. He completes complex Augmentative and Alternative Communication (AAC) evaluations involving various access methods including eye gaze and Brain Computer Interface (BCI). Michael completes AAC trainings and workshops for various groups including schools, traumatic brain injury support groups, and will be presenting at the 2015 Closing the Gap Conference. He also provides educational resources and advocacy for AAC users on behalf of the AAC Institute.



Marcia J. Scherer, PhD, MPH holds a Ph.D. from the University of Rochester where she also earned a MPH degree from the School of Medicine and Dentistry. She received a master of science degree in rehabilitation counseling from the University at Buffalo and her bachelor of science degree from Syracuse University. She is a rehabilitation psychologist and founding President of the Institute for Matching Person and Technology. She is also Professor of Physical Medicine and Rehabilitation, University of Rochester Medical Center and Project Director, Burton Blatt Institute, Syracuse University. She is past member of the National Advisory Board on Medical Rehabilitation Research, National Institutes of Health, and is Editor of the journal *Disability and Rehabilitation: Assistive Tehcnology*. She is Co-Editor of the book series for CRC Press, *Rehabilitation Science in Practice Series*. Dr. Scherer is Fellow of the American Psychological Association, American Congress of Rehabilitation Medicine and the Rehabilitation Engineering and Assistive Technology Society of North America (RESNA).



Theresa Vaughan, BA is a research scientist with twenty-five years of experience focused specifically on Brain Computer Interfaces (BCIs) as new communication channels for people with severe motor disabilities. Recently, her laboratory supervised the first-ever large-scale trial of independent home use of a BCI by people with amyotrophic lateral sclerosis (ALS). To accomplish this, the team developed and tested hardware; modified the BCI2000 software; developed a range of Windows-based applications; produced training tools for therapists, caregivers, and users; and designed software that ensures data transfer and data fidelity and tracks, complies, and displays daily use for each remote BCI home system. These tools and techniques will comprise much of the curriculum for this workshop.



Debra Zeitlin, MA, CCC, ATP is the Director of the Center for Rehabilitation Technology (CRT) at Helen Hayes Hospital, with the responsibility of running a multidisciplinary Assistive Technology program. Along with her administrative responsibilities, she provides extensive augmentative communication evaluations to individuals with various physical and cognitive abilities. She is presently involved in translational research with Brain Computer Interface technology in conjunction with the Wadsworth Laboratories in Albany, NY. Her most recent accomplishment was organizing the creation of the hospital’s innovative Smart Apartment, a universally designed, automated space that demonstrates independent living for individuals with all levels of disabilities.

Please complete the registration form and mail with check or credit card information to:
Helen Hayes Hospital Foundation, Route 9W, West Haverstraw, NY 10993

Registration Fee:

Early Registration - \$125.00; Payment due by August 21, 2015
Regular Registration - \$150.00; Payment due by September 9, 2015
Space is limited, so early registration is encouraged.

Registration Includes:

- Manual and instructional video - Lunch and snacks

Cancellation Policy:

Cancellation and requests for refunds will be accepted until September 4, 2015. No refunds granted after September 4, 2015. Substitutions are allowed. In the event the course is cancelled due to insufficient registration, all course registration fees will be fully refunded.

Please print legibly and provide an email address so we can reach you if necessary.

BRAIN COMPUTER INTERFACE

Name: _____
(Please print with your credentials as you would like it to appear on the certificate of attendance)

Mailing Address: _____ Email Address: _____

City: _____ State: _____ Zip: _____

Employer: _____ Daytime Phone: _____ Special Needs: _____

Method of Payment:

Check (make check payable to Helen Hayes Hospital Foundation)

OR

Credit Card: _____ Credit Card #: _____

Exp Date: _____ Authorized Signature: _____

Accommodations:

A block of rooms has been reserved at the Comfort Inn, 425 E. Route 59, Nanuet, NY, 10954 • (845) 623-6000.
Please book directly with the hotel and mention Helen Hayes Hospital rate: \$119.

For additional information, contact:

Debra Zeitlin, MA, CCC, ATP, Director Center for Rehabilitation Technology, Helen Hayes Hospital, 845-786-4586,
zeitlind@helenhayeshosp.org
Theresa Vaughan, BA, Research Scientist, Wadsworth Center, 855-899-9919, Theresa.vaughan@health.ny.gov

About HELEN HAYES HOSPITAL

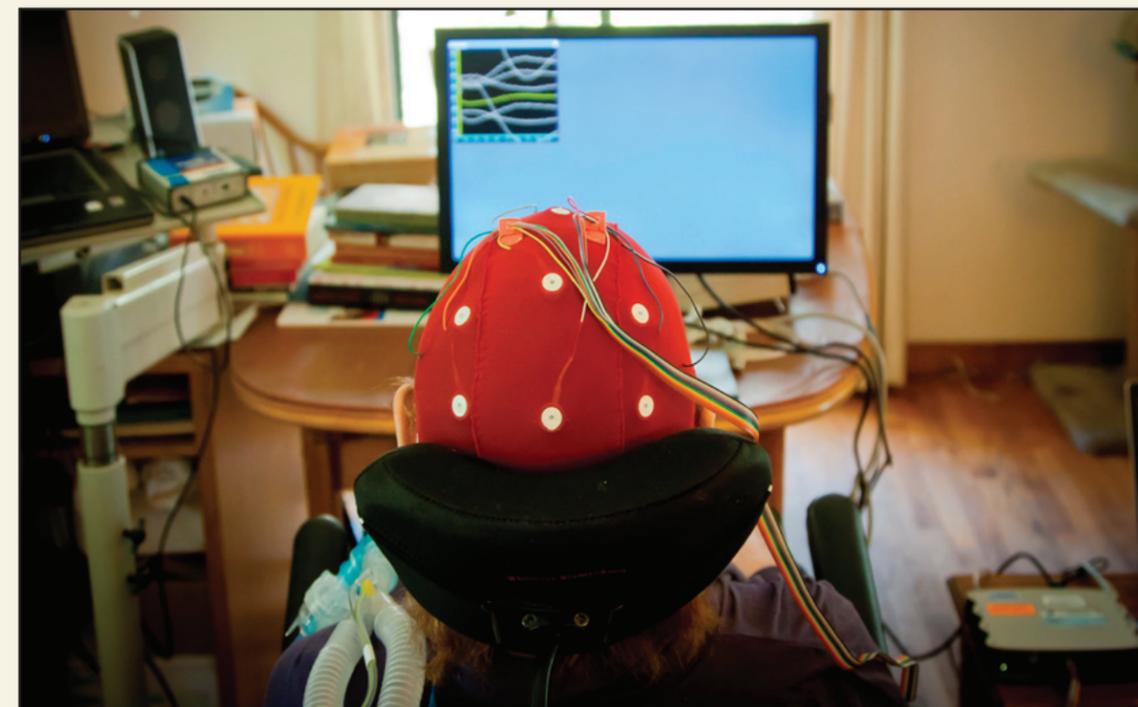
Beautifully situated in West Haverstraw, NY, Helen Hayes Hospital is just 35 minutes north of New York City and commands a magnificent view of the Hudson River on its 105-acre campus. Founded in 1900 and today the largest physical rehabilitation hospital in New York State, HHH is internationally recognized as a center of excellence in physical rehabilitation medicine and research. The hospital prides itself on its Center for Rehabilitation Technology and Smart Apartment, which offer comprehensive assistive technology services.

About WADSWORTH CENTER

The National Center for Adaptive Neurotechnologies at the Wadsworth Center, located in Albany, New York, is a world leader in BCI research and development. Working in conjunction with healthcare providers at Helen Hayes Hospital in Haverstraw, New York, we provide a totally unique service to individuals with acute or chronic conditions who cannot communicate, especially those who are 'locked-in' by disorders such as amyotrophic lateral sclerosis (ALS) and who are unable to communicate even with standard assistive technologies. ALS is a progressive neuromuscular disease that leads to complete paralysis. A BCI can be such individuals' only way to communicate their wishes, feelings, and emotions to those who care for them.

Brain Computer Interface

a training course for professionals involved with
Assistive Technology & Augmentative Communication



Sponsored by

Program for Translational Neurological Research

A partnership between Helen Hayes Hospital & the Wadsworth Center, NYSDOH

Thursday, September 10 & Friday, September 11, 2015

HELEN HAYES
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Route 9W, West Haverstraw, NY 10993
www.helenhayeshospital.org

