

2016 Stroke Rehab Symposium
Current Trends in Rehabilitation
Robotics, Research and
Technology Applications for
Stroke Rehabilitation



Photo courtesy of: Panos Polygerinos/Conor J. Walsh, Wyss Institute at Harvard University.

*Saturday, September 10, 2016
Barrow Neurological Institute
Phoenix, AZ*

BARROW
Neurological Institute



2016 Barrow Stroke Rehab Symposium

September 10, 2016

Goldman Auditorium at St. Joseph's Hospital and Medical Center

Program Goal

The Purpose/Goal of the conference is to provide the rehabilitative healthcare practitioners with the current and future practice of rehabilitation robotics and expose them to current research in technology for stroke rehabilitation.

Program Learning Objectives

At the close of this activity participants will be able to:

- Propose new methods for gait rehabilitation on hemiplegic walkers and present results
- Describe the soft exosuit technology and how it differs from existing rehabilitation technology
- Discuss the current global landscape of wearable robotics
- Discuss the opportunities to leverage wearable robotics in multiple applications including medical, industrial and recreational
- Discuss a few clinical results to support the conclusions on the use upper extremity therapeutic robotics for stroke rehabilitation
- Describe novel approaches to improve outcomes on gait and balance
- Present first preliminary results of clinical studies supporting use of this technology in rehabilitation post stroke
- List which patients are appropriate for using the EKSO skeleton including contraindications and precautions

This intermediate level program has been submitted to AOTA and AZPTA for approval of 6.5 contact hours (0.65 CEU's)

The Arizona Physical Therapy Association has approved this course for 6.5 contact hours.



Faculty

Sally Alcott, MD

Stroke Rehabilitation Specialist
Barrow Neurological Institute

Panos Artemiadis PhD

Assistant Professor
Arizona State University

Lou Awad, PT, DPT, PhD

Assistant Professor, Boston University
Sargent College of Health and Rehabilitation Sciences

Luis Escalante, PT

Physical Therapist
Barrow Neurological Institute

Davide Ferrario

COO
BTS Bioengineering

Joe Hitt, PhD

Executive Director
Wearable Robotics Association

Jeffrey Kleim, PhD

Associate Professor
Undergraduate Program Chair
School of Biological and Health Systems Engineering
Barrett Honors Faculty
Arizona State University

Hermano Igo Krebs, PhD

Principal Research Scientist
MIT

Daniel Perez-Marcos

Senior Scientist
MindMaze SA

Panos Polygerinos, BEng, MSc, PhD

Assistant Professor
Arizona State University

Nathan West, PT, DPT

Physical Therapist
Barrow Neurological Institute

AGENDA | Barrow Stroke Rehab Symposium

September 10, 2016

7:15 am Registration, Breakfast, & Vendor Fair

7:55 am Welcome
Trent Maruyama, Sally Alcott, MD

8:00 am Wearable Robotics: Transforming Human Capabilities
Joe Hitt, PhD

8:10 am Robotics in Stroke Rehab
Hermano Igo Krebs, PhD

9:00 am On the Effect of Walking Surface Stiffness on Inter-Limb Coordination in Human Walking: A Unique Perspective to Robotic Gait Rehabilitation
Panos Artemiadis PhD

9:45 am Break and Vendor Fair

10:15 am EKSO with Stroke Patients
Luis Escalante, PT and Nate West, PT, DPT

10:50 am Using Technology to Enhance Recovery After Stroke
Jeff Kleim, PhD

11:30 am New Technologies for Clinical Applications
Davide Ferrario

12:00 pm Lunch and Vendor Fair

1:00 pm Rehabilitation Robotics: Lower Extremity
Hermano Igo Krebs, PhD

2:00 pm Virtual Reality Solutions for Hospital-Based Early Motor Rehabilitation
Daniel Perez-Marcos

2:40 pm Break and Vendor Fair

3:10 pm Next Generation Rehabilitation Robots: Soft Exosuits for Targeted Post Stroke Locomotor Rehabilitation
Lou Awad, PT, DPT, PhD

3:50 pm Soft Robotic Glove for Combined Assistance and Rehabilitation
Panos Polygerinos, BEng, MSc, PhD

4:40 pm Adjourn

Visiting Arizona

Outdoor Activities

Phoenix is known for great weather, and people can't wait to get outdoors to hike, bike, swim and play. There are many opportunities in Phoenix and the surrounding area. Visit www.visitphoenix.com to find out which activities interest you!

Northern Arizona

You have probably seen pictures of the awe inspiring Grand Canyon or the beauty of the red rock in Sedona. If you have time to spend an extra day or two exploring Arizona, you may want to take a drive to Northern Arizona. Each town is unique and charming and offers an array of activities, dining and shopping opportunities. Sedona is approximately a 2 1/2 - hour drive north of Phoenix, and the Grand Canyon is approximately a 4-hour drive north of the city. The official website for the Grand Canyon is <http://www.nps.gov/grca>

Dress

Dress for all sessions is business casual. Temperatures in September average from 97 degrees during the day to 69 degrees at night. Please keep in mind that meeting room temperatures vary. So, wear layered clothing to ensure your comfort.

Dining

Phoenix is home to some of the world's finest chefs and the best restaurants offering your taste buds the opportunity to try everything from Thai to Mexican to traditional American cuisine. To learn more about the dining options you will have during your stay in Phoenix, visit www.azcentral.com/ent/dining

Golf

In Greater Phoenix, more than 200 championship golf courses are available to visitors year round. Bring your clubs and soak

up the sun. For a listing of golf courses, visit www.visitphoenix.com

Shopping

There are many venues to shop and dine in Phoenix, including the Biltmore Fashion Park, Kierland Commons, Desert Ridge Market Place, Scottsdale Fashion Square, Chandler Fashion Center, The Borgata of Scottsdale and endless smaller boutiques throughout the state.

Access Your Complimentary Concierge Service Today

From event tickets and dining reservations to vacation planning and transportation arrangements, your concierge saves you valuable time so you can enjoy what's most important to you. 602.406.4949 concierges@dignityhealth.org www.lesconcierges.com/stjosephs

Hotels Near Barrow Neurological Institute

Hotels Within Walking Distance

HILTON SUITES

10 E. Thomas Rd., Phoenix, AZ 85012
602-222-1111
Barrow ID 0701078
www.phoenixsuites.hilton.com

HILTON GARDEN INN

4000 N. Central Ave., Phoenix, AZ 85012
602-279-9811
www.hiltongardeninn.com

HAMPTON INN MIDTOWN

160 W Catalina Dr., Phoenix, AZ 85013
602-200-0990
www.hamptoninn.com

Resorts Within 15-20 Minutes

ARIZONA BILTMORE RESORT & SPA

2400 E. Missouri Ave., Phoenix, AZ 85016
602-955-6600
www.arizonabiltmore.com

THE PHOENICIAN SCOTTSDALE

6000 E. Camelback Rd., Scottsdale, AZ 85251
480-941-8200
www.thephoenician.com



Registration | Barrow Stroke Rehab Symposium

	Early Bird Registration <i>Deadline 8/15/16</i>	Late Registration <i>After 8/15/16</i>
Visiting Participants	\$130.00	\$160.00
Dignity Health Employees	\$110.00	\$140.00

For more information: www.barrowneuro.org

Name _____

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Mail or Fax registration form with payment to:

Barrow Neurological Institute
Conference Planning Office
350 West Thomas Road
Phoenix, Arizona 85013

Charge card registrations can be faxed to 602-294-5028.

For more information, call Lindsey Possehl at 602-406-3067 or online at:
www.barrowneuro.org/conference/2016-stroke-rehab-symposium/

Refunds: A full refund, minus a 20% handling fee, will be made for cancellations prior to August 15, 2016. All refund requests must be received in writing by that date. No refunds will be made thereafter.

