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# 2018 UCSF ORTHOTIC AND PROSTHETIC INNOVATIVE TECHNOLOGIES CONFERENCE

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## CONFERENCE CHAIR

Matthew Garibaldi, MS, CPO  
Associate Clinical Professor  
University of California, San Francisco

## ASSOCIATE CHAIR

Chrysta Irolla, MS, MSPO, CPO  
Clinical Manager  
UCSF Mission Bay Hospital/Gateway Medical Center

Presented by the UCSF Department of Orthopaedic Surgery, Division of Orthotics and Prosthetics, this conference aims to foster emerging technologies that can advance patient care and have a transformative impact on the field of orthotics and prosthetics.

**Conference Aims: Educate, Stimulate, Unite**

**Friday, May 11, 2018**

7:30-8:00      **Registration and Continental Breakfast**

8:00-8:15      **Opening Remarks and Introduction**      Matthew Garibaldi, MS, CPO  
*University of California, San Francisco*

## **INNOVATIVE CARE MODELS**

8:15 – 8:45	<b>LimbForge: A Scalable System for Person-Centered Prosthetics</b>	Andreas Bastian, Engineer <i>Autodesk/LimbForge</i>
8:45 – 9:15	<b>Ability Prosthetics and Orthotics: A Patient Centric Care Model</b>	Eric Shoemaker, MS, CPO <i>Ability Prosthetic &amp; Orthotic</i>
9:15 – 9:45	<b>The Role of Athletic Trainers in Clinical Practice</b>	Tim Baldwin, MA, ATC, CFo <i>University of California, San Francisco</i>
9:45 – 10:15	<b>The Role of Money in Orthotics and Prosthetics</b>	Sean Zeller, MBA, MSPO, CPO <i>University of Rochester</i>
10:15 – 10:45	<b>Panel Discussion</b>	

**10:45 – 11:15      Morning Session with Exhibitors / Break**

### KEY NOTE ADDRESS

11:15 – Noon **The Renaissance in Prosthetics & Orthotics**

Sir Saeed Zahedi, PhD, OBE, RDI,  
FRAEng  
*Chas A Blatchford & Son*

Noon – 1:00 **Lunch**

### 3D PRINTING IN O&P

1:00 – 1:30 **Printing Prostheses and Assistive Devices**

Evan Kuester, Designer  
*3D Systems*

1:30 – 2:00 **The Digital Practice: 2018 & Beyond**

Jeff Huber, Co-Founder, CEO  
*Standard Cyborg*

2:00 – 2:30 **Development of an Affordable, Multifunctional, Upper-Limb Prosthesis with 3D Printing and Scanning Technologies**

Nikolai Dechev, PhD, PEng  
*University of Victoria*

2:30 – 2:55 **Panel Discussion**

2:55 – 3:25 **Afternoon Session with Exhibitors / Break**

### ADVANCEMENTS IN UPPER EXTREMITY PROSTHESES

3:25 – 3:50 **Why the FDA Interest in Patient Preference?: Weighing Risks and Benefits of Prosthetics**

Leslie Wilson, PhD  
*University of California, San Francisco*

3:50 – 4:15 **Upper Limb Prosthetic Research at Liberating Technologies / College Park: Control, Mechanisms, Sensors, and Training**

Todd Farrell, PhD  
*Liberating Technologies / College Park*

4:15 – 4:40 **Finger-by-Finger Control of Prosthetic Hands Using Ultrasound Sensing**

Gil Weinberg, PhD  
*Georgia Institute of Technology*

4:40 – 4:55 **Panel Discussion**

4:55 – 5:00 **Closing Remarks**

Matthew Garibaldi, MS, CPO  
*University of California, San Francisco*

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# 2018 UCSF ORTHOTIC AND PROSTHETIC INNOVATIVE TECHNOLOGIES CONFERENCE

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Saturday, May 12, 2018

7:30-8:00      **Registration and Continental Breakfast**

8:00-8:15      **Conference Remarks**

Matthew Garibaldi, MS, CPO  
*University of California, San Francisco*

## EXOSKELETON DESIGN

8:15 – 8:45      **Does Powered Assistance Improve Gait in  
Children with Cerebral Palsy?**

Zachary Lerner, PhD  
*Northern Arizona University*

8:45 – 9:15      **Human-in-the-Loop Optimization of Powered  
Orthosis Design**

Steven H. Collins, PhD  
*Stanford University*

9:15 – 9:45      **Powerful and Affordable Exoskeletons**

Tim Swift, PhD, Co-Founder, CEO  
*Roam Robotics*

9:45 – 10:15      **Soft Robotic Exosuits for Gait-Restorative Assistance  
and Rehabilitation After Stroke**

Lou Awad, PT, DPT, PhD  
*Boston University / Harvard University  
Spaulding Rehabilitation Hospital*

10:15 – 10:40      **Panel Discussion**

10:40 – 11:10      **Morning Session with Exhibitors / Break**

## AOPA UPDATE

11:10 – 11:40      **AOPA Initiatives: On the Horizon and Beyond**

Ashlie White, MA  
*American Orthotic and Prosthetic Assoc.*

11:40 – 12:40      **Lunch**

### NEURAL FEEDBACK AND INSTRUMENTATION

12:40 – 1:05	<b>Dynamic Scoliosis Bracing</b>	Sigurd Berven, MD <i>University of California, San Francisco</i> Jamie Haggard, CEO <i>Green Sun Medical</i>
1:05 – 1:30	<b>Walking Performance in Persons With Transtibial Amputation Using a Powered Prosthesis with Typical Clinical Tuning</b>	Jeff Wensman, CPO <i>University of Michigan</i>
1:30 – 1:55	<b>Perceptual Integration of Illusory Kinesthetic Sensation in Bionic Prosthetic Hands</b>	Jonathon Schofield, MSc, PhD Courtney Shell, MS, PhD <i>Cleveland Clinic</i>
1:55 – 2:20	<b>Enhancing Biomechanics of Prosthetic Walking with the Powered Transfemoral Prosthesis</b>	Pilwon, Hur, PhD <i>Texas A &amp; M University</i>
2:20 – 2:45	<b>Panel Discussion</b>	

2:45 – 3:15      **Afternoon Session with Exhibitors / Break**

### OSSEOINTEGRATION CLINICAL TRIAL AT UCSF

3:15 – 3:40	<b>Osseointegration Surgical Techniques and Preliminary Research Findings at UCSF</b>	Rosanna Wustrack, MD <i>University of California, San Francisco</i>
3:40 – 4:05	<b>Rehab Considerations for the OPRA Implant System</b>	Rami Weinberg, PT, DPT, OCS, CSCS <i>University of California, San Francisco</i>
4:05 – 4:30	<b>Transfemoral Percutaneous Osseointegration OPRA Implant System – Prosthetic Considerations</b>	Matthew Garibaldi, MS, CPO <i>University of California, San Francisco</i>
4:30 – 4:55	<b>Panel Discussion</b>	
4:55 – 5:00	<b>Closing Remarks</b>	Matthew Garibaldi, MS, CPO <i>University of California, San Francisco</i>