Maximizing Performance in CI Recipients: Programming Concepts

December 4-5, 2015

NYU Faculty

David Landsberger, PhD
Laboratory for Translational Research
Department of Otolaryngology

William H. Shapiro, Au.D.
Lester S. Miller, Jr and Kathleen V. Miller Clinical Assistant
Professor of Hearing Health
Supervising Audiologist, NYU Cochlear Implant Center

Mario Svirsky, PhD
Noel L. Cohen Professor of Hearing Science
Vice-Chairman for Research
Department of Otolaryngology

Susan B. Waltzman, PhD
Marica F. Vilecek Professor of Otolaryngology
Co-Director, NYU Cochlear Implant Center

Invited Faculty

Alison Biever, AuD
Rocky Mountain Ear Center
Englewood, CO

Camille C. Dunn, PhD, CCC-A
Director of Cochlear Implant Program
University of Iowa

Chris Durst, MSc.
Technical Director, MED-EL UK Ltd

Renee Gifford, PhD
Director, Cochlear Implant Program
Associate Director, Implantable Hearing Technologies
Vanderbilt Bill Wilkerson Center

Karen Gordon, PhD
Director, Archie’s Cochlear Implant Laboratory
The Hospital for Sick Children
Invited Faculty (cont.)

Prof. Dr. Paul Govaerts MD, MSc, PhD
Director, The Eargroup
Antwerp, Belgium

Julie Kosaner, M.Ed
Clinical Specialist and Consultant
MED-EL -Turkey

Artur Lorens, PhD Eng
Head, Implants and Auditory Perception
Institute of Physiology and Pathology of Hearing
Warsaw, Poland

Diane Martinez, Au.D.
Assistant Professor
University of Miami – Ear Institute

Ed Overstreet, PhD
Research Audiologist
Oticon Medical

Amy Popp, AuD
Principle Regional Clinical Technical Manager
Cochlear Americas

Tony Spahr, PhD
Senior Manager of Fitting Innovation
Advanced Bionics Corporation

Thomas Wesarg
Technical Head of Implant Center Freiburg
University Medical Center
Freiburg, Germany

Day 1 – Friday, December 4th is offered for a total of 0.7 CEUs
Day 2 – Saturday, December 5th is offered for a total of 0.35 CEUs
Attending both days you can earn up to a total of 1.05 ASHA CEUs
(Intermediate Level, Professional Area)

The Children’s Hearing Institute is approved by the American Academy of Audiology (AAA) to offer Academy CEUs for this activity. The program is worth a maximum of 1.05 CEUs. Academy approval of this continuing education activity does not imply endorsement of course content, specific products or clinical procedures. Any views that are presented are those of the presenters/CE Provider and not necessarily of the American Academy of Audiology.
**Course Description:**
This course will address topics related to routine and special programming issues and methods in pediatrics and adult recipients. It will also present new and promising techniques to assist in programming including genetic algorithms, CT guided imaging and the use of objective measures. Consideration will be given to the programming of bimodal, electroacoustic and SSD fittings. Format will include lectures, roundtable discussions and audience participation.

**Target Audience:** Professionals involved in the programming of cochlear implants.

**Learning Outcomes:**
Participants will be able to:

- Describe the battery of intra-operative tests and the situations where objective programming is appropriate.
- Identify different models of care delivery for CI patients.
- Describe the process involved with image-guided cochlear implant programming (IGCIP) and who might benefit from IGCIP.
- Identify and list 3 reasons to use eSRTs.
- Describe patient set-up, for adults and children, in obtaining eSRTs.
- Identify effects of mismatched bilateral input on hearing.
- Describe methods to provide balanced intensity levels from bilateral cochlear implants.
- Summarize the current art of CI fitting and apply the concept of process optimization.
- Explain some key elements of artificial intelligence applied to CI fitting.
- Describe the influence of the electrically transmitted audio frequency range on speech recognition in noise and sound localization in CI patients with Single-Sided Deafness (SSD) and contralateral normal hearing.
- Outline appropriate audiometric test methods for the assessment of monaural speech perception with the CI only in SSD CI patients.
- Identify appropriate candidates for hybrid technology and the hearing preservation outcomes for those implanted.
- Summarize the speech perception benefits for those with different amounts of hearing loss.
- Restate the concept of EAS and the advantage of Hybrid stimulation.
- State the programming parameters affecting EAS fittings.
- Describe the effect of cochlear implant bandwidth on speech understanding and subjective estimates of listening difficulty.
- Discuss the second opinion protocol and its benefits.
- Identify the obstacles that prevent candidates from seeking cochlear implant technology, or recipients from returning for routine follow-up.
- Estimate the expenses associated with remotely programming the cochlear implant subjects in this study.
- Contrast how frequency is mapped to cochlear location in normal hearing and how it is mapped to electrode location in cochlear implants.
- Identify cases of possible frequency mismatch and how to compensate for it using alternative frequency-to-electrode tables.
- Discover the relationship between time coding, place coding, and the corresponding perceived pitch.
- Identify differences in temporal coding at different cochlear regions.
- List the reasons for fitting Cochlear Implant users using the objective eSRT fitting method.
- Summarize the advances in fitting of MED-EL systems, with a view to informing participants of current advanced aspects of fitting, as well as potential forthcoming techniques, products and processes.
- Identify Cochlear's tools to provide optimal support for their patients.
- Describe potential opportunities to reduce clinical programming burden.

To register, please visit the following website: http://www.med.nyu.edu/ent/maximizing_performance

Course fee: $105

Conference Location:
NYU Langone Medical Center
Lecture Hall E
550 First Ave
New York, NY 10016

Presenter’s financial and non-financial interests relevant to the content of their presentation for the Maximizing Performance in Cochlear Implant Recipients: Programming Concepts Conference is posted on our website at:
http://www.med.nyu.edu/ent/maximizing_performance
**Friday, December 4th**

7:30am  Registration & Continental Breakfast
8:15am  Welcome – Susan Waltzman, Ph.D.
8:20am  Opening Remarks- Paul Govaerts, M.D., MSc., Ph.D.
8:30am  Overview of Current Programming Concepts and Approaches - William H. Shapiro, Au.D.

**Novel approaches to programming**
Moderator: William Shapiro, Au.D.

9:20am  Organizational Management of Large Centers - Artur Lorens, Ph.D.
9:40am  CT Guided Programming - Rene Gifford, Ph.D.
10:00am  Use of eSRT Measures in Device Programming – Diane Martinez, Au.D.

10:20am  BREAK
10:35am  Using Evoked Auditory Nerve and Brainstem Responses to Program Bilateral Cochlear Implants – Karen Gordon, Ph.D.
10:55am  Fitting to Outcome eXpert (FOX): Target Driven, Computer-Assisted Fitting - Paul Govaerts, M.D., MSc., Ph.D.

11:15am  ROUNDTABLE
Lorens, Gifford, Martinez, Gordon, Govaerts

11:45am  Q&A
12:30pm  LUNCH

**Programming: Special considerations**
Moderator: Paul Govaerts, M.D., MSc., Ph.D.

1:35pm  Issues in Single-Sided Deafness - Thomas Wesarg, Ph.D.
1:55pm  Hybrid Hearing - Camille Dunn Ph.D
2:15pm  Electro Acoustic Stimulation - Artur Lorens, Ph.D.
2:35pm  Combined Electric and Acoustic Stimulation (EAS): Programming Challenges and Outcomes - Rene Gifford, Ph.D.
3:15pm  BREAK

3:30pm  Providing Better Access to Patients: Remotely Programming CI Recipients - Alison Biever, Au.D.
3:50pm  ROUNDTABLE
Wesarg, Dunn, Lorens, Gifford, Shapiro, Biever

4:20pm  Management of the Difficult Patient: Programming Challenges-Case Studies
4:50pm  Q&A
5:15pm  Adjourn
Saturday December 5th

8:00am  Continental Breakfast

Research
Moderator: Susan Waltzman, Ph.D.

8:35am  Listener-Driven selection of Frequency Allocation Tables - Mario Svirsky, Ph.D.

8:55am  The Nature of Pitch and How to Encode it with a Cochlear Implant - David Landsberger, Ph.D.

9:15am  The use of eSRT Fitting Method with Pediatric CI Users - Julie Kosaner, M.Ed.

9:35am  New Directions in Programming – Manufacturer Presentations
Advanced Bionics - Tony Spahr, Ph.D.
Cochlear Corporation - Amy Popp, Au.D.
Oticon Medical - Ed Overstreet, Ph.D
MED EL - Chris Durst, MSc.

10:55am  BREAK

11:10am  ROUNDTABLE
Svirsky, Landsberger, Kosaner

11:40am  Q&A

12:20pm  Summary

12:35pm  Adjourn