# TEATC 2025 Program schedule

## Sunday, September 28, 2025

(Presentations are 20-minutes long, plus a 10-minute Q & A – Challenge period)

7:00 – 8:00 a.m. **Continental breakfast**

7:55 – 8:00 a.m. **Welcome & Introduction**
Nauman Imami, M.D., M.H.S.A, Chair, Henry Ford Health, Department of Ophthalmology

**Housekeeping announcements**
David J. Goldman, M.D., M.B.A., Director, Detroit Institute of Ophthalmology

### Session One: Retinal Devices

Moderator: Daniel Palanker, Ph.D. Stanford University, Stanford, California

8:00 – 8:30 a.m. **Toward In Vivo Tests of Recording and Stimulation at Cellular Resolution Using a Bi-Directional Epiretinal Implant**
Claire Baum, Ph.D., Stanford University, Stanford, California

8:30 – 9:00 a.m. **2025 Updates of Seoul Artificial Retinal Project**
Jongmo Seo, M.D., Ph.D., Seoul National University Hospital, Korea

9:00 – 9:30 a.m. **The Suprachoroidal Retinal Prosthesis: The Path Taken and Lessons Learned**
Penelope Allen, M.B., B.S., Centre for Eye Research, Australia

9:30 – 10:00 a.m. **Group discussion**

10:00 – 10:30 a.m. Break

### Session Two: Clinical - Cortical & LGN Devices

Moderator: Shelley Fried, Ph.D., Harvard Medical School, Boston, Massachusetts

10:30 – 11:00 a.m. **Implant Positions and Spatial Distribution of Phosphenes for the First Two Implantees of the Intracortical Visual Prosthesis**
Michael Barry, Ph.D., ICVP, Chicago, Illinois

11:00 – 11:30 a.m. **Object Detection and Localization through Intracortical Visual Prosthesis and AI-Driven Technologies**
Patricia Grant, Ph.D., ICVP, Chicago, Illinois

11:00 – 11:30 a.m. **Fountain Probe for LGN Stimulation**
Bert Monna, Ph.D., Phosphoenix, Amsterdam, Netherlands

11:30 – 12:00 p.m. **Group discussion**

12:00 – 1:00 p.m. **Lunch**

## Session Three: Public Session

Moderator: Daniel Rathbun, Ph.D., Henry Ford Health, Detroit, Michigan

1:00 – 1:30 p.m. **Towards a Bidirectional Cortical Visual Prosthesis: Recent Studies in Four Human Volunteers**
Eduardo Fernandez, M.D., Ph.D., University of Miguel Hernandez, Spain

1:30 – 2:00 p.m. **The Intracortical Visual Prosthesis Clinical Trial: Update on Status and Results**
Philip Troyk, Ph.D., ICVP, Chicago, Illinois

2:00 – 2:30 p.m. **A 38 Patients' Clinical Trial to Demonstrate Efficacy and Safety of the PRIMA Retina Implant**
Ralf Hornig, Ph.D. Science Corporation, Alameda, California

2:30 – 3:00 p.m. **A Wide-field High-channel-count Cortical Visual Prosthesis using the Neuralink Implant**
Dan Adams, Ph.D., Neuralink, Fremont, California

3:00 – 3:15 p.m. **Break (End of Public Session)**

## Session Four: Special Addresses

Moderator: Joseph Rizzo, M.D., Massachusetts Eye and Ear, Boston, Massachusetts

3:15 – 4:15 p.m. **Panel Discussion – Scientific Challenge/Discussion for Session Three Speakers**

4:15 – 5:00 p.m. **Updates from the FDA**
Lan Yue, Ph.D., Bioengineering & Biomedical Engineering, FDA
Elvin Ng, M.Sc., Bioengineering & Biomedical Engineering, FDA

5:00 – 5:45 p.m. **Keynote: Interview with Chris McNeil and Joseph Rizzo, M.D.**
Chris McNeil – Low Vision patient and Artificial Chip candidate
Joseph Rizzo, M.D. – Harvard Medical School, Boston, Massachusetts

## Evening Program:

6:30 – 9:00 p.m. **Bartimaeus Dinner** – Reservations required
Contact Roseanne Horne - Rhorne1@hfhs.org or 313-936-1968

# Monday, September 29, 2023

(Presentations are 20-minutes long, plus a 10-minute Q & A – Challenge period)

7:00 – 8:00 a.m. **Continental breakfast**

7:55 – 8:00 a.m. **Welcome & Introduction**
Joseph Rizzo, M.D., Harvard Medical School, Boston, Massachusetts

**Housekeeping announcements**
David J. Goldman, M.D., M.B.A, Director, HFH Detroit Institute of Ophthalmology

## Session Five: In Vivo

Moderator: Philip Troyk, Ph.D., Illinois Institute of Technology, Chicago, Illinois

8:00 – 8:30 a.m. **Neural Selectivity in Subretinal Stimulation with PRIMA Implants**
Daniel Palanker, Ph.D., Stanford University, Stanford, California

8:30 – 9:00 a.m. **Neural Population Dynamics of Electrical Stimulation in V1**
Daniel Denman, Ph.D., University of Colorado, Denver, Colorado

9:00 – 9:30 a.m. **Residual Photoreceptors in the Degenerate Retina Can Affect its Response to Electrical Stimulation**
Keith Ly, Ph.D., Palanker Lab, Stanford, California

9:30 – 10:00 a.m. **Group discussion**

10:00 – 10:30 a.m. Break

## Session Six: In Vivo (contd.)

Moderator: James Weiland, Ph.D. University of Michigan, Ann Arbor, Michigan

10:30 – 11:00 a.m. **Visual Cortex Neurons Preserve Functional Tuning to Prosthetic Retinal Input at Single-Cell Resolution**
Yossi Mandel M.D., Ph.D., Bar-Ilan University, Ramat-Gan, Israel

11:00 – 11:30 a.m. **Neural Activity Shaping for a Closed-Loop Suprachoroidal Retinal Impact: In Vivo Results**
Martin Spencer, Ph.D., University of Melbourne, Australia
Presented by Mohit Shivdasani, Ph.D., Australia

11:30 – 12:00 p.m. **Recent Results from Preclinical Testing in the Ocular Project**
Maarten Schelles, Ph.D., Re-Vision Implant, Belgium

12:00 – 12:30 p.m. **Group discussion**

12:30 – 1:30 p.m. **Lunch**

## Session Seven: Ex Vivo

Moderator: EJ Chichilnisky, Ph.D., Stanford University, Stanford, California

1:30 – 2:00 p.m. **Beyond Depolarization Block: Nonlinear Integration of Synaptic Input and HFS-induced Membrane Potential Shifts**
Jae-Ik Lee, Ph.D., Harvard University, Boston, Massachusetts

2:00 – 2:30 p.m. **Investigation of Differential Electrical Stimulation of RGC's in the Mice Retina through Sinusoidal and Rectangular Stimulation Waveforms**

Nick Lorenz, M.Sc., RTG InnoRetVision, Duisburg, Germany
Surya Ulaganathan, M.Sc., RTG InnoRetVision, Duisburg, Germany

2:30 – 3:00 p.m. **Precise Reproduction of Diverse Naturalistic Firing Patterns in Intermixed Ganglion Cell Populations Using Epiretinal Electrical Stimulation**
AJ Phillips, M.S., Engineering, Stanford Artificial Retina Project, California

3:00 – 3:30 p.m. **Group discussion**

3:30 – 4:00 p.m. Break

## Session Eight: Poster Session Teasers

Moderator: Mohit Shivdasani, Ph.D., University of New South Wales, New South Wales, Australia

4:00 – 4:45 p.m. **Lightning Round Presentations from Poster Presenters Group 1**

4:45 – 5:30 p.m. **Lightning Round Presentations from Poster Presenters Group 2**

5:30 – 6:00 p.m. Break

## Evening Program:

Moderator: Mohit Shivdasani, Ph.D., University of New South Wales, New South Wales, Australia

6:00 – 9:00 p.m. **Poster presentations and cocktail reception**

6:00 – 7:00 p.m. Group "A" poster presenters

7:00 – 8:00 p.m. Group "B" poster presenters

8:00 – 9:00 p.m. Group poster discussion

# Tuesday, September 30, 2023

(Presentations are 20-minutes long, plus a 10-minute Q & A – Challenge period)

7:00 – 8:00 a.m. **Continental breakfast**

7:55 – 8:00 a.m. **Welcome & Introduction**

**Housekeeping announcements**

David J. Goldman, M.D., M.B.A., Director, Detroit Institute of Ophthalmology

## Session Nine: Modeling and Image Processing

Moderator: Greg Auner, Ph.D., Wayne State University, Detroit, Michigan

8:00 – 8:30 a.m. **AI-Based Image Processing to Improve Face Perception in Retinal Prosthetic Vision**
Jungyeon Park, B.S., Stanford University, California
Presented by: Anna Kochnev-Goldstein, M.Sc., Stanford University, CA

8:30 – 9:00 a.m. **Virtual Eye: An In-silico Platform for the End-to-end Design, Optimization and Validation of Artificial-vision Therapies**

Tianruo Guo, Ph.D., University of New South Wales, Sydney, Australia

9:00 – 9:30 a.m. **Deep Learning-Based Control of Electrically Evoked Activity in Human Visual Cortex**
Michael Beyeler, Ph.D., Bionic Vision Lab, University of California, California

9:30 – 10:00 a.m. **Group discussion**

10:00 – 10:30 a.m. Break

## Session Ten: Eclecticism

Moderator: Ralf Hornig, Ph.D., Science Corporation, Alameda, California

10:30 – 11:00 a.m. **A Flexible Photoacoustic Implant for High Precision Retina Stimulation**
Chen Yang, Ph.D., Boston University, Boston, Massachusetts

11:00 – 11:30 a.m. **An Integrated Suite of Low Vision Assessments: Lessons for Vision Restoration Trials**
Gislin Dagnelie, Ph.D., Johns Hopkins University, Maryland

11:30 – 12:00 p.m. **Group discussion**

12:00 – 12:30 p.m. **Wrap-up and plans for 2027!**