

**NIDCD P50 CLINICAL RESEARCH CENTER: NEXT-GENERATION CLINICAL PHENOTYPING AND
PATHOPHYSIOLOGY OF LARYNGEAL DYSTONIA AND VOICE TREMOR
3rd ANNUAL MEETING**

DAY 1 – September 19th, 2024 (Meltzer Auditorium, 3rd Floor)

- 9:30am-10:00am Arrival and Continental breakfast
- 10:00am-10:10am **Welcome and P50 Center Overview**
Kristina Simonyan
- 10:10am-10:30am **Administrative Core**
Overview and Y3 Progress
10:10am-10:20am Kristina Simonyan
- 10:20am-10:30am Discussion of Administrative Core
- 10:30am-12:00pm **Project 1: Characterization of clinical phenotypes of LD and VT**
Overview and Y3 Progress
10:30am-10:40am Julie Barkmeier-Kraemer/Paolo Moretti
- 10:40am-11:00am Work in progress
10:40am-11:00am Amanda Stark (Respiratory kinematics/acoustics: VT vs LD)
11:00am-11:20am Brad Story (Laryngeal modeling: VT and LD)
11:20am-11:40am Marshall Smith (Laryngeal EMG: VT vs LD)
- 11:40am-12:00pm Discussion of Project 1
- 12:00pm-1:00pm **Lunch break (Meltzer Auditorium, 3rd Floor)**
CRC Lunch and Learn (Simonyan Lab, 4th Floor)
- 1:00pm-2:30pm **Research Core**
Overview and Y3 Progress
1:00pm-1:10pm Kristina Simonyan
- 1:10pm-1:30pm Work in progress
1:10pm-1:30pm Matthew Naunheim (Nasoendoscopy-based AI for LD and VT diagnosis)
1:30pm-1:50pm Aki Koivu (Voice AI for LD and VT diagnosis)
1:50pm-2:10pm Sri Nagarajan (Speech motor control modeling and parameter estimation)
- 2:10pm-2:30pm Discussion of Research Core
- 2:30pm-3:00pm **Coffee break (Meltzer Auditorium, 3rd Floor)**
- 3:00pm-4:50pm **Clinical Core**
Overview and Y3 Progress
3:00pm-3:15pm Julie Barkmeier-Kraemer
- 3:15pm-3:35pm Patient recruitment strategies
3:15pm-3:35pm Nicole Buie
- 3:35pm-3:50pm Creation of Teaching Library of LD and VT Cases
3:35pm-3:50pm Marshall Smith (Otolaryngologist orientation, Case 1 & 2)
3:50pm-4:05pm Nutan Sharma (Movement disorder orientation, Case 1 & 2)
4:05pm-4:20pm Julie Barkmeier-Kraemer (SLP orientation, Case 1 & 2)
- 4:20pm-4:50pm Discussion of Clinical Core

DAY 2 – September 20th, 2024 (Meltzer Auditorium, 3rd Floor)

8:30am-9:00am Arrival and Continental breakfast

9:00am-11:00am **Project 2: Understanding disorder-specific neural pathophysiology in LD and VT**

Overview and Y3 Progress

9:00am-9:10am John Houde

Work in progress

9:10am-9:25am Nyah Kshatriya (Meta-analysis of brain changes in LD)

9:25am-9:40am Lena O'Flynn (Functional brain alterations in LD vs. VT)

9:40am-9:55am Leighton Hinkley (Vocal and manual implicit sequence learning)

9:55am-10:10am Rabab Rangwala (Behavioral aspects of pitch perturbation)

10:10am-10:25am Saloni Gupta (Speaking-induced suppression)

10:25am-10:40am Nyah Kshatriya (Behavioral findings of bupivacaine topical block of laryngeal mucosa)

10:40am-11:00am Discussion of Project 2

11:00am-12:15pm **Lunch break & Group photo (Meltzer Auditorium, 3rd Floor)**

12:15pm-1:45pm **Project 3: Deep Brain Stimulation in LD and VT**

Overview and Y3 Progress

12:00pm-12:10pm Kristina Simonyan

Work in progress

12:10pm-12:25pm Jeremy Greenlee (Intra-operative pipelines for speech data collection)

12:25pm-12:40pm Shervin Rahimpour (Image reconstruction for ECoG mapping)

12:40pm-12:55pm Ian Bledsoe (Speech outcomes and incidence of speech abnormalities in DBS patients: A retrospective study and meta-analysis)

12:55pm-1:10pm Julie Barkmeier-Kraemer (Voice/speech outcomes in dystonia and tremor patients with DBS ON-OFF: A 9-months post-operative follow-up)

1:10pm-1:25pm Xiuyu Huang (ECoG analysis in ET/VT)

1:25pm-1:45pm Discussion of Project 3

1:45pm-2:00pm **Coffee break (Meltzer Auditorium, 3rd Floor)**

2:00pm – 5:00pm **Invited Guest Talks**

2:00pm-2:45pm Sajan Lingala, PhD (Department of Biomedical Engineering, University of Iowa)
Novel High-Speed Dynamic MRI Methods for Vocal Apparatus Imaging

2:45pm-3:30pm Daniel Rubin, MD, PhD (Department of Neurology, MGH)
Decoding Intended Speech to Restore Communication for People with Paralysis

3:30pm-4:15pm Andreas Horn, MD, PhD (Department of Neurology, BWH)
DBS for Dystonia – A Tale of Two Circuits

4:15pm-5:00pm Eric Rosenthal, MD (Department of Neurology, MGH)
Building the Bridge2AI for Clinical Care: From Cortex to CHoRUS