

The Third DIHARD Speech Diarization Challenge Workshop will start at 12:00 UTC

Brief Program	
12:00 - 12:05	Welcome
12:05 - 13:30	Oral session 1
13:30 - 13:40	Break
13:40 - 14:40	Keynote 1
14:40 - 14:50	Break
14:50 - 16:10	Oral session 2
16:10 - 16:20	Break
16:20 - 17:20	Keynote 2
17:20 - 17:30	Break
17:30 - 18:30	Oral session 3

For more details, please visit

<https://dihardchallenge.github.io/dihard3workshop/>

Organizers



Mark Liberman
LDC, University of Pennsylvania



Kenneth Church
Baidu Research



Neville Ryant
LDC, University of Pennsylvania



Christopher Cieri
LDC, University of Pennsylvania



Sriram Ganapathy
Indian Institute of Science



Jun Du
University of Science and Technology of China

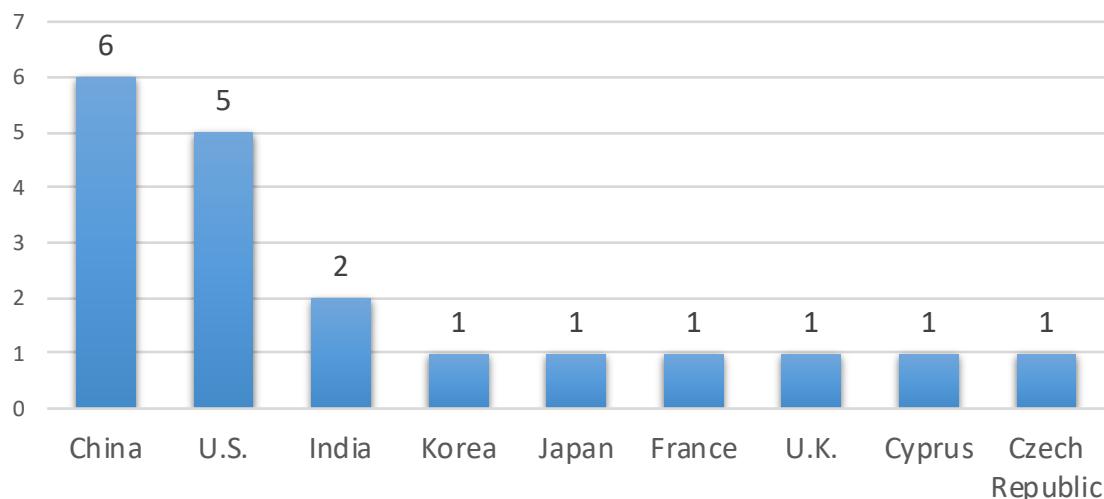
The Focus of DIHARD-III Workshop

- DIHARD-III Speech Diarization Challenge
 - Support speaker diarization research through the creation and distribution of novel data sets
 - Measure and calibrate the performance of systems on these data sets
- Bringing together researchers to discuss robust diarization problem

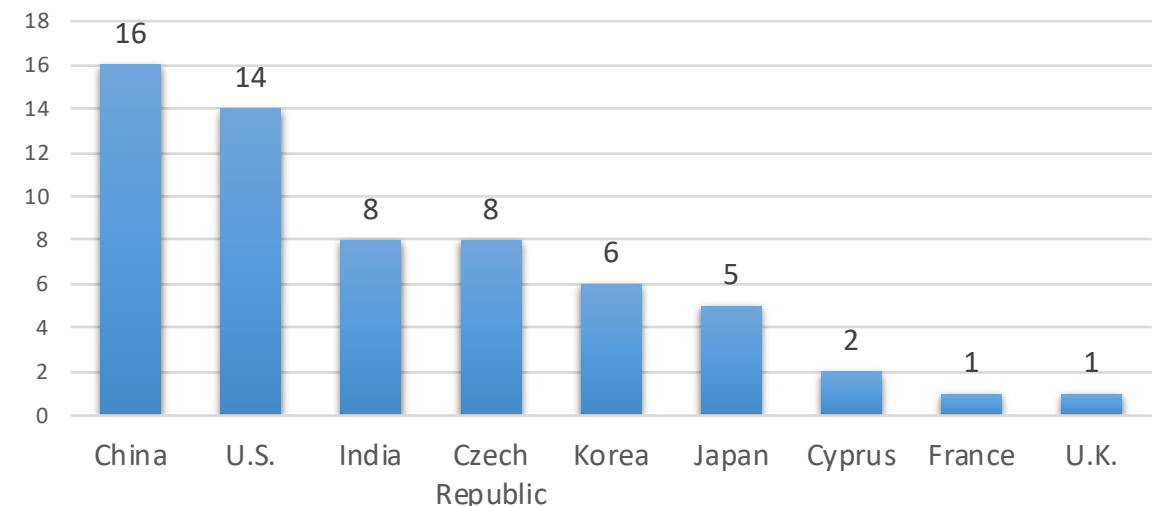
Submission of Extended Abstracts

- 11 team submissions (9 countries)
- 19 institutes (8 from industry and 11 from academia)
- 61 authors (27 from industry and 34 from academia)
- 10 team presentations

Country distribution of institutes



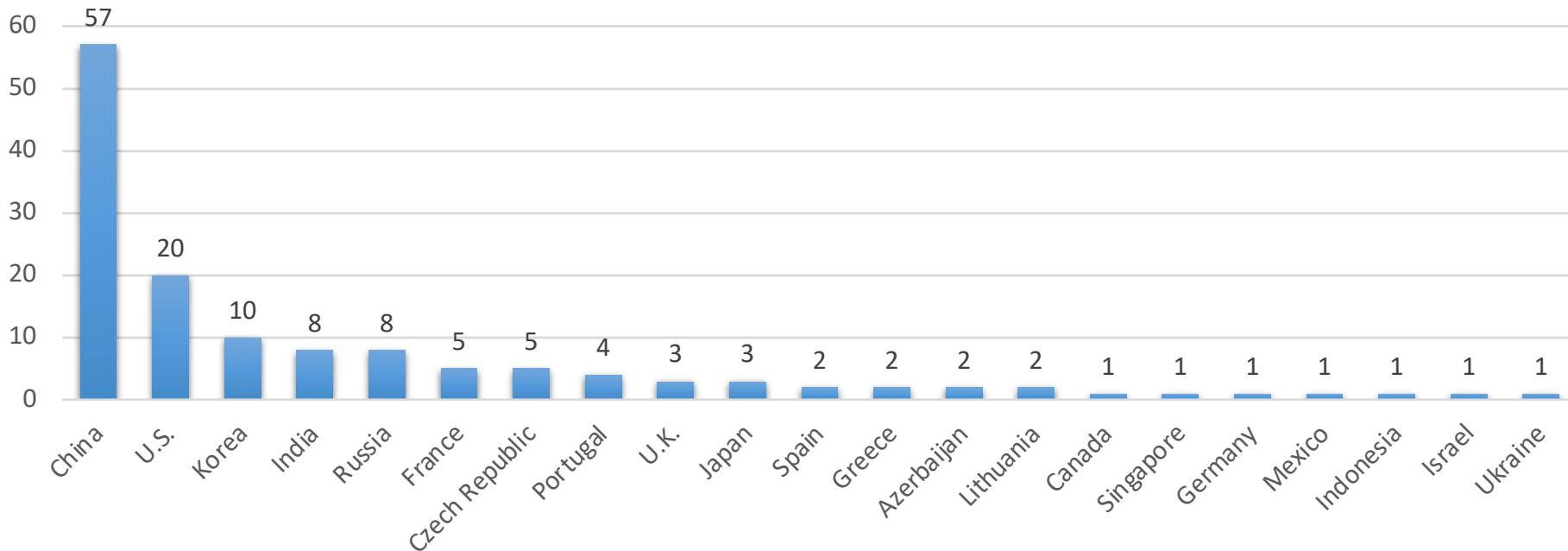
Country distribution of authors



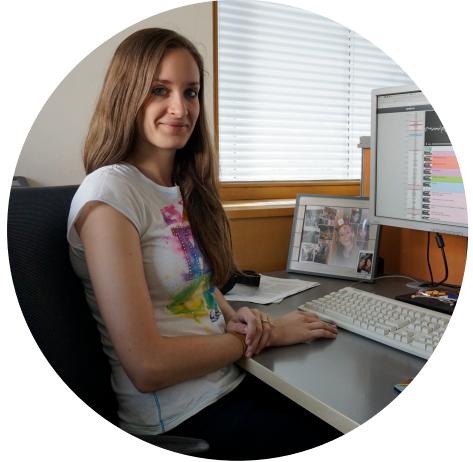
Workshop Registrants

- Open to all who are interested in speech diarization
- A total of 138 registrants
- 80 from Asia, 36 from Europe, 22 from America

Country distribution of registrants



Keynote (Chair: Sriram Ganapathy)



Keynote 1 (13:40-14:40)

Dr. Mireia Diez Sánchez

-Brno University of Technology

Title: Variants of Bayesian HMMs for speaker diarization



Keynote 2 (16:20-17:20)

Dr. Leibny Paola Garcia Perera

-Johns Hopkins University

Title: The yellow brick road of diarization, challenges and other neural paths

Oral Session 1 (Chair: Neville Ryant)



Presenter: Neville Ryant (12:05-12:30)

-University of Pennsylvania

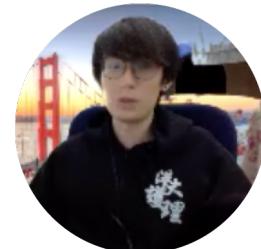
Title: Overview of the Third DIHARD Speech Diarization Challenge



Presenter: Heesoo Heo (12:30-12:50)

-Naver Corporation

Title: NAVER Clova Submission to the Third DIHARD Challenge



Presenter: Tsun Yat Leung (12:50-13:10)

- Fano Labs

Title: End-to-End Speaker Diarization System for the Third DIHARD Challenge



Presenter: Shota Horiguchi (13:10-13:30)

- Hitachi, Ltd.

Title: Hitachi-JHU System for the Third DIHARD Speech Diarization Challenge

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Oral Session 2 (Chair: Neville Ryant)



Presenter: Weiqing Wang (14:50-15:10)

-Duke University

Title: System Description for Team DKU-Duke-Lenovo



Presenter: Maokui He (15:10-15:30)

-University of Science and Technology of China

Title: The USTC-NELSLIP Systems for DIHARD III Challenge



Presenter: Prachi Singh (15:30-15:50)

-Indian Institute of Science

Title: LEAP Submission for Third DIHARD Diarization Challenge



Presenter: A Kishore Kumar (15:50-16:10)

-Indian Institute of Technology Kharagpur

Title: Domain-Dependent Speaker Diarization for the Third DIHARD Challenge

Oral Session 3 (Chair: Neville Ryant)



Presenter: Federico Landini (17:30-17:50)

-Brno University of Technology

Title: BUT System for The Third DIHARD Speech Diarization Challenge



Presenter: Sangeeta Ghangam (17:50-18:10)

- Intel Corporation

Title: Diaboliic @ DIHARD 3



Presenter: TaeJin Park (18:10-18:30)

- University of Southern California

Title: USC-SAIL System for DIHARD III Diarization Challenge

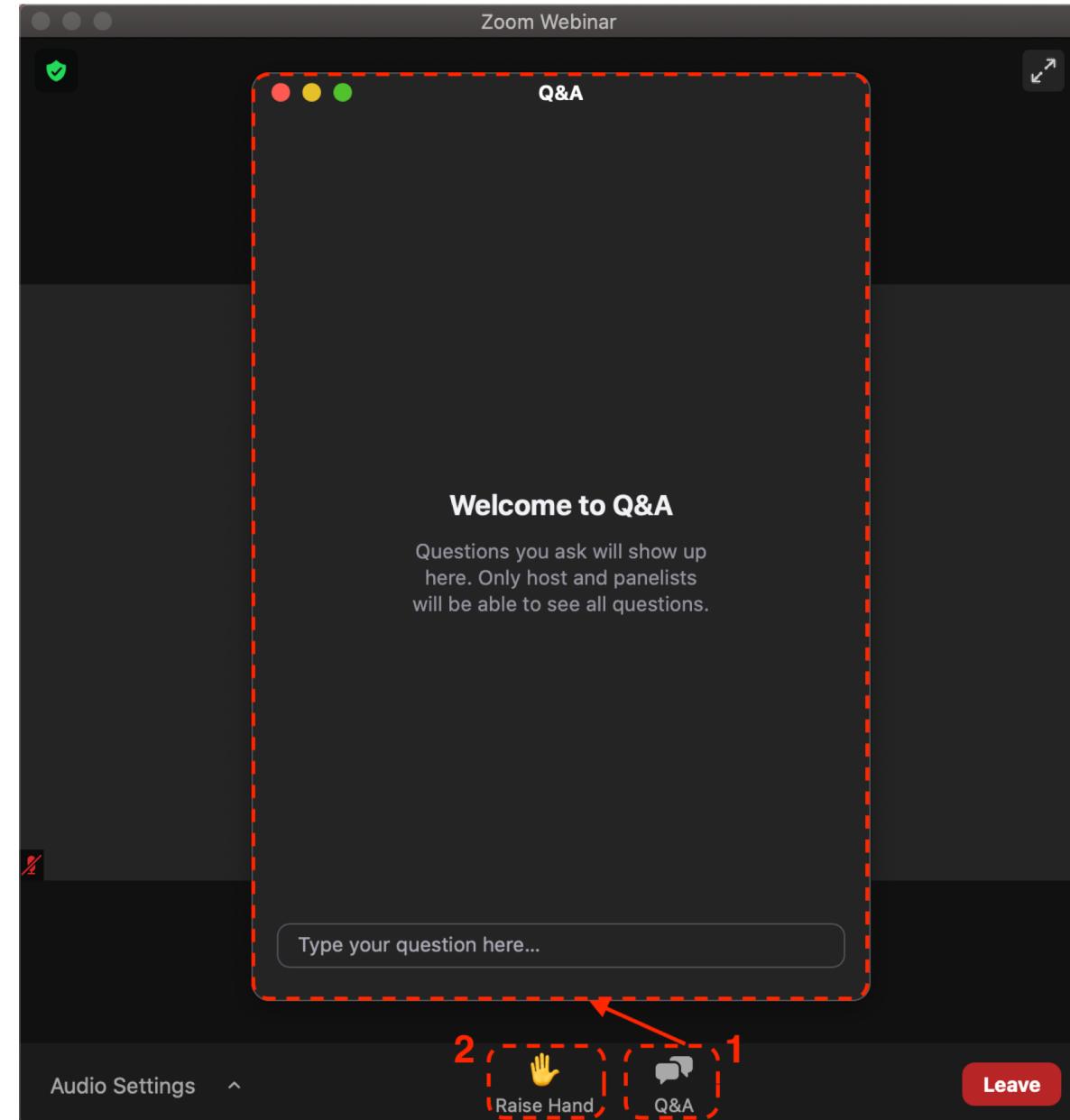
How to Ask Questions

1. Text mode (preferred option):

- Click **Q&A** button.
- Type your question into the Q&A panel.

2. Live mode:

- Click **Raise Hand** button .
- Wait the host to enable your microphone.



Oral Session 1 (Chair: Neville Ryant)



Presenter: Neville Ryant (12:05-12:30)

-University of Pennsylvania

Title: Overview of the Third DIHARD Speech Diarization Challenge



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Title: Hitachi-JHU System for the Third DIHARD Speech Diarization Challenge

The Third DIHARD Speech Diarization Challenge Workshop

The keynote 1 will start at 13:40 UTC

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Keynote 1 (Chair: Sriram Ganapathy)



Dr. Mireia Diez Sánchez (13:40-14:40)

-Brno University of Technology

Title: Variants of Bayesian HMMs for speaker diarization

Abstract

Speaker diarization based on Bayesian HMM and variational Bayes inference was part of the winning system in the two previous DIHARD challenges. In the first DIHARD challenge, the winning system made use of the Bayesian HMM diarization with eigenvoice priors, operating on frame-by-frame cepstral features and incorporating an i-vector-like model to robustly model speaker distributions. In the second DIHARD challenge, the winning system was based on VBx: a BHMM which was directly used to cluster x-vectors and incorporated PLDA to model speaker distributions. In this talk we present these models from a historical perspective. We show how the models evolved from and compare to earlier approaches such as clustering of i-vectors and diarization using factor analysis. Compared to the emerging end-to-end approaches BHMM diarization does not deal with overlapped speech. However, despite this drawback, we show that our method provides state-of-the-art performance also on other datasets such as CALLHOME and AMI. Since we have provided our recipes to train and evaluate VBx on these datasets we believe that this method can serve as strong baseline for future diarization research.

Bio

Dr. Mireia Diez Sánchez is a researcher at the speech@FIT group at Brno University of Technology. Mireia received her Electronic Engineering degree in 2009, and her PhD in 2015, both from the University of the Basque Country, Spain. Her thesis focused on the study of features for Language and Speaker recognition. In 2016 she obtained an individual Marie Curie fellowship for the SpeakerDICE project dealing with diarization tasks. She has attended several international workshops dedicated to the field of speaker recognition and diarization: Bosaris (Brno, 2012), ASRWIS (South Africa, 2016) and SCALE (Baltimore, 2017). Recently, she has successfully coordinated the BUT team for the DIHARD challenges. Her research interests are mainly speaker diarization, speaker and language recognition and Bayesian inference.

The Third DIHARD Speech Diarization Challenge Workshop

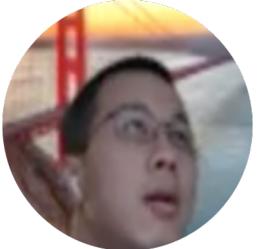
The oral session 2 will start at 14:50 UTC

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Oral Session 2 (Chair: Neville Ryant)



Presenter: Weiqing Wang (14:50-15:10)

-Duke University

Title: System Description for Team DKU-Duke-Lenovo



Presenter: Maokui He (15:10-15:30)

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Presenter: A Kishore Kumar (15:50-16:10)

-Indian Institute of Technology Kharagpur

Title: Domain-Dependent Speaker Diarization for the Third DIHARD Challenge

The Third DIHARD Speech Diarization Challenge Workshop

The keynote 2 will start at 16:20 UTC

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Keynote2 (Chair: Sriram Ganapathy)



Dr. Leibny Paola Garcia Perera (16:20-17:20)

-Johns Hopkins University

Title: The yellow brick road of diarization, challenges and other neural paths

Abstract

The question “Who spoke when?” in a recording has become crucial in speech technologies research. Answering this question may improve the performance of downstream applications such as automatic speech recognition, speaker recognition, meeting transcription, and other related fields. Diarization systems seek to answer this question. However, the automatic speaker labeling can be challenging in part due to noisy conditions, speakers talking simultaneously, and imbalanced participation of the speakers. Advances in diarization involve the pursuit of creative new solutions to these problems. In this presentation, we will walk through the yellow brick road of diarization—going briefly from state-of-the-art techniques up through novel neural approaches. We will discuss the challenges of the embedding-clustering method and how neural diarization aims to solve them by formulating the problem as a multi-label classification problem, additionally exploring how neural diarization can elegantly handle overlapping speech. We will detail the benefits of both embedding-clustering and neural diarization and give some hints on how to attain the best of both. Finally, we will discuss the performance of these approaches in real conditions: long-day recordings featuring child-centered speech.

Bio

Dr. Leibny Paola Garcia Perera (PhD 2014, University of Zaragoza, Spain) joined Johns Hopkins University after extensive research experience in academia and industry, including highly regarded laboratories at Agnitio and Nuance Communications. She lead a team of 20+ researchers from four of the best laboratories worldwide in far-field speech diarization and speaker recognition, under the auspices of the JHU summer workshop 2019 in Montreal , Canada. She was also a researcher at Tec de Monterrey, Campus Monterrey, Mexico for 10 years. She was a Marie Curie researcher for the Iris project during 2015, exploring assistive technology for children with autism in Zaragoza, Spain. She was a visiting scholar at Georgia Institute of Technology (2009) and Carnegie Mellon (2011). Recently, she has been working on children’s speech; including child speech recognition and diarization in day-long recordings. She is also part of the JHU Chime5, Chime6, SRE18 and SRE19 teams. Her interests include diarization, speech recognition, speaker recognition, machine learning, and language processing.

The Third DIHARD Speech Diarization Challenge Workshop

The oral session 3 will start at 17:30 UTC

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Oral Session 3 (Chair: Neville Ryant)



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