



Workshop on Automatic Speech Recognition
and Understanding

Workshop on Automatic Speech Recognition and Understanding

Asia Pacific Hotel, Beitou, Taipei
Speech Recognition and Understanding for Wellbeing

Opening Ceremony

子曰：「有朋自遠方來，不亦樂乎？」

Confucius said, “It is our great pleasure to have good friends coming from somewhere very far away...”



冠蓋雲集，
hats covers cloud aggregate
Many very distinguished guests
get together here.

蓬華生輝。
grass fence generate light
We feel our very humble house
is suddenly brightened by the
gracious presence of so many
very distinguished guests.



About ASRU



The IEEE Automatic Speech Recognition and Understanding Workshop (ASRU) is a biennial flagship event of the IEEE Speech and Language Processing Technical Committee

ASRU has a tradition of bringing together researchers from academia and industry in an intimate and collegial setting to discuss problems of common interest in automatic speech recognition and understanding



History of ASRU



Main Theme



Speech Recognition and Understanding for Wellbeing



Organized by:



Endorsed by:



Organizing Committee



General Chairs



Chi-Chun Lee (NTHU)



Yu Tsao (Academia Sinica)



Hsin-Min Wang (Academia Sinica)

Technical Program Chairs



Jen-Tzung Chien (NYCU)



Engin Erzin (Koc University)



Ozlem Kalini (Meta)



Haizhou Li (NUS)



Jinyu Li (Microsoft)



Ming Li (Duke Kunshan Univ.)



Abdelrahman Mohamed (Rembrand)



Arun Narayanan (Google)



Junichi Yamagishi (NII)

Organizing Committee

Panel and Invited Speaker Chairs

- Panayiotis Gerogiou (Apple)
- Chung-Hsien Wu (NCKU)
- Dong Yu (Tencent AI Lab)

Tutorial Chairs

- Hung-Yi Lee (NTU)
- Toda Tomoki (Nagoya University)

Challenge, Special Session and Demonstration Chairs

- Kyu Jeong Han (Amazon)
- Amir Hussain(Edinburgh Napier University)
- Naveen Kumar (Disney Research)
- Richard Tzong-Han Tsai (NCU)
- Chia-Ching Wang (NCU)

Finance Chairs

- Berlin Chen (NTNU)
- Ying-Hui Lai (NYCU)

Publication Chairs

- Chen-Yu Chiang (NTPU)
- Lung-Hao Lee (NCU)

Student Activity

- Yuan-Fu Liao (NYCU)
- Jheng-Long Wu (SCU)

Satellite Workshop Chairs

- Rahul Gupta (Amazon)
- Berrak Sisman (UTD)
- Liang-Chih Yu (YZU)

Publicity Chairs

- Fei Chen (SUSTech)
- Tai-Shih Chi (NYCU)
- Nicholas Cummins (King's College London)
- Xugang Lu (NICT)
- Zheng-Hua Tan (Aalborg University)

Sponsorship Chairs

- Chia-Hui Chang (NCU)
- Wen-Hsiang Lu (NCKU)
- Ming-Hsiang Su (SCU)
- Lei Xie (NPU)

Local Arrangement Committee

- Shuo-yiin Chang (Google)
- Chia-Ping Chen (NSYSU)
- Kuan-Yu Chen (NTUST)
- Yi-Chin Huang (NPTU)
- Jeih-Wei Hung (NCNU)
- Yi-Wen Liu (NTHU)
- Chao-Han Huck Yang (Amazon)
- Jui-Feng Yeh (NCYU)

International Liaison

- Nancy F. Chen (I2R)
- Tanaya Guha (University of Glasgow)
- Tatsuya Kawahara (Kyoto University)
- Bin Ma (Alibaba Inc.)
- Helen Meng (CUHK)
- Sabato Marco Siniscalchi (Kore University of Enna)
- Shinji Watanabe (CMU)

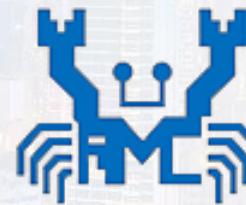
Sponsors



Google Research



amazon | science



REALTEK



Appier

Program



	SAT Dec 16		SUN Dec 17	MON Dec 18	TUE Dec 19	WED Dec 20			
08:30-09:00	Workshop on Speech Foundation Models and their Performance Benchmarks (SPARKS)	Tutorial 1&2	Opening Ceremony	Keynote Speech 3 <i>Prof. Shinji Watanabe</i>			08:30-09:00		
09:00-09:30			Keynote Speech 1 <i>Dr. Xuedong Huang</i>	Keynote Speech 4 <i>Prof. Carlos Busso</i>	Keynote Speech 5 <i>Prof. Tanja Schultz</i>	09:00-09:30			
09:30-10:00			Coffee Break				09:30-10:00		
10:00-10:30			Poster Session 1	Poster Session 3	Poster Session 5	10:00-10:30			
10:30-11:00						10:30-11:00			
11:00-11:30						Demonstration Session			
11:30-12:00		Break	11:00-11:30			Invited Speech 5 <i>Prof. Hung-Yi Lee</i>			
12:00-12:30			11:30-12:00			12:00-12:30			
12:30-13:00		Tutorial 3&4	Lunch			Closing Ceremony			
13:00-13:30			Keynote Speech 2 <i>Prof. Chin-Hui Lee</i>	Invited Speech 2 <i>Prof. Reinhold Haeb-Umbach</i>	Invited Speech 3 <i>Dr. Nicholas Cummins</i>	12:30-13:00			
13:30-14:00			Invited Speech 1 <i>Dr. Odette Scharenborg</i>	Panel Session	Invited Speech 4 <i>Prof. Yun-Nung Chen</i>	13:00-13:30			
14:00-14:30			13:30-14:00			14:00-14:30			
14:30-15:00			14:00-14:30			14:30-15:00			
15:00-15:30			14:30-15:00			15:00-15:30			
15:30-16:00			15:00-15:30			15:30-16:00			
16:00-16:30			15:30-16:00			16:00-16:30			
16:30-17:00			16:00-16:30			16:30-17:00			
17:00-17:30			16:30-17:00			17:00-17:30			
17:30-18:00		Registration Open	17:00-17:30			17:30-18:00			
18:00-18:30	Welcome Reception		17:30-18:00			18:00-18:30			
18:30-19:00			18:00-18:30			18:30-19:00			
19:00-19:30			18:30-19:00			19:00-19:30			
19:30-20:00			19:00-19:30			19:30-20:00			
20:00-20:30			19:30-20:00			20:00-20:30			
20:30-21:00			20:00-20:30			20:30-21:00			

Keynote Speakers



**Dr. Xuedong
Huang**

Keynote Speech 1:
Sunday 09:00-10:00,
December 17th, 2023



**Prof. Chin-Hui
Lee**

Keynote Speech 2:
Sunday 13:30-14:30,
December 17th, 2023



**Prof. Shinji
Watanabe**

Keynote Speech 3:
Monday 09:00-10:00,
December 18th, 2023



**Prof. Carlos
Busso**

Keynote Speech 4:
Tuesday 09:00-10:00,
December 19th, 2023



**Prof. Tanja
Schultz**

Keynote Speech 5:
Wednesday 09:00-10:00,
December 20th, 2023

Invited Speakers



**Dr. Odette
Scharenborg**

Invited Speech 1:
Sunday 14:30-15:30,
December 17th, 2023



**Prof. Reinhold
Haeb-Umbach**

Invited Speech 2:
Monday 13:30-14:30,
December 18th, 2023



**Dr. Nicholas
Cummins**

Invited Speech 3:
Tuesday 13:30-14:30,
December 19th, 2023



**Prof. Yun-Nung
Chen**

Invited Speech 4:
Tuesday 14:30-15:30,
December 19th, 2023



**Prof. Hung-yi
Lee**

Invited Speech 5:
Wednesday 11:30-12:30,
December 20th, 2023

Panel Session



Fairness in Speech Processing

Moderators



Prof. Junichi
Yamagishi



Prof. Erica
Cooper

Panelists



Dr. Odette
Scharenborg



Prof. Hung-yi
Lee



Dr. Andreas
Stolcke



Whova



Register using the same email of your ASRU registration

ASRU 2023
台北市 (View map) Dec 16 – 20, 2023

- Home
- Agenda >
- Attendees
- Community 18
- Messages 5
- Photos
- My Stuff >
- Feedback to Whova

The banner for the 2023 ASRU workshop features a background image of the Taipei skyline at dusk. Overlaid on the image are the event's logo, the text "Workshop on Automatic Speech Recognition and Understanding", "TAIPEI TAIWAN", and "Asia Pacific Hotel, Beitou, Taipei". A purple circular badge in the bottom right corner indicates the dates "December 16-20, 2023".

The 2023 IEEE Automatic Speech Recognition and Understanding Workshop (ASRU 2023) is a biennial flagship event of the IEEE Speech and Language Processing Technical Committee. The workshop is held every two years and has a tradition of bringing together researchers from academia and industry in an intimate and collegial setting to discuss problems of common interest in automatic speech recognition and understanding. The workshop will be held on December 16 – 20, 2023, at Taipei, Taiwan.

Welcome to Taiwan !

Chào mừng bạn đến Đài Loan 歡迎來台灣

Selamat Datang di Taiwan

ତେବାନ୍ ବର୍ବେର୍କିରୋମ୍

Welcome to Taiwan

Chào mừng bạn đến Đài Loan 歡迎來台灣

台湾へようこそ 歡迎來台灣

Selamat datana ke Taiwan

أهلا بكم في تايوان

Chào mừng bạn đến Đài Loan

بـ تايوان استقبال

歡迎來台灣

대만에 오신 것을 환영합니다

Selamat datana ke Taiwan

maligayang pagdating sa

Welcome to Taiwan

ତାଇଵାନ ସ୍ଵାଗତ ଛ

Chào mừng bạn đến Đài Loan

ତାଇଓଯାନ ସ୍ଵାଗତମ

ତାଇଵାନ ମେ ଆପକା ସ୍ଵାଗତ ହୈ

ପିନଦିର୍ଜନର୍ବପଣ୍ଡିତାବଳୀ

maligayang pagdatina sa Taiwan

ପିନଦିର୍ଜନର୍ବପଣ୍ଡିତାବଳୀ

Welcome to Taiwan 歡迎來台灣

ତାଇଵାନ ସ୍ଵାଗତ ଛ

Chào mừng bạn đến Đài Loan

أهلا بكم في تايوان

ତାଇଵାନ ସ୍ଵାଗତ ଛ

Selamat Datang di Taiwan

بـ تايوان استقبال

歡迎來台灣

ତଥବାନ୍ ବର୍ବେର୍କିରୋମ୍

歡迎來台灣 Welcome to Taiwan

تائیوان کرنے کا خیر مقدم



TAIPEI
TAIWAN

December
16-20,
2023



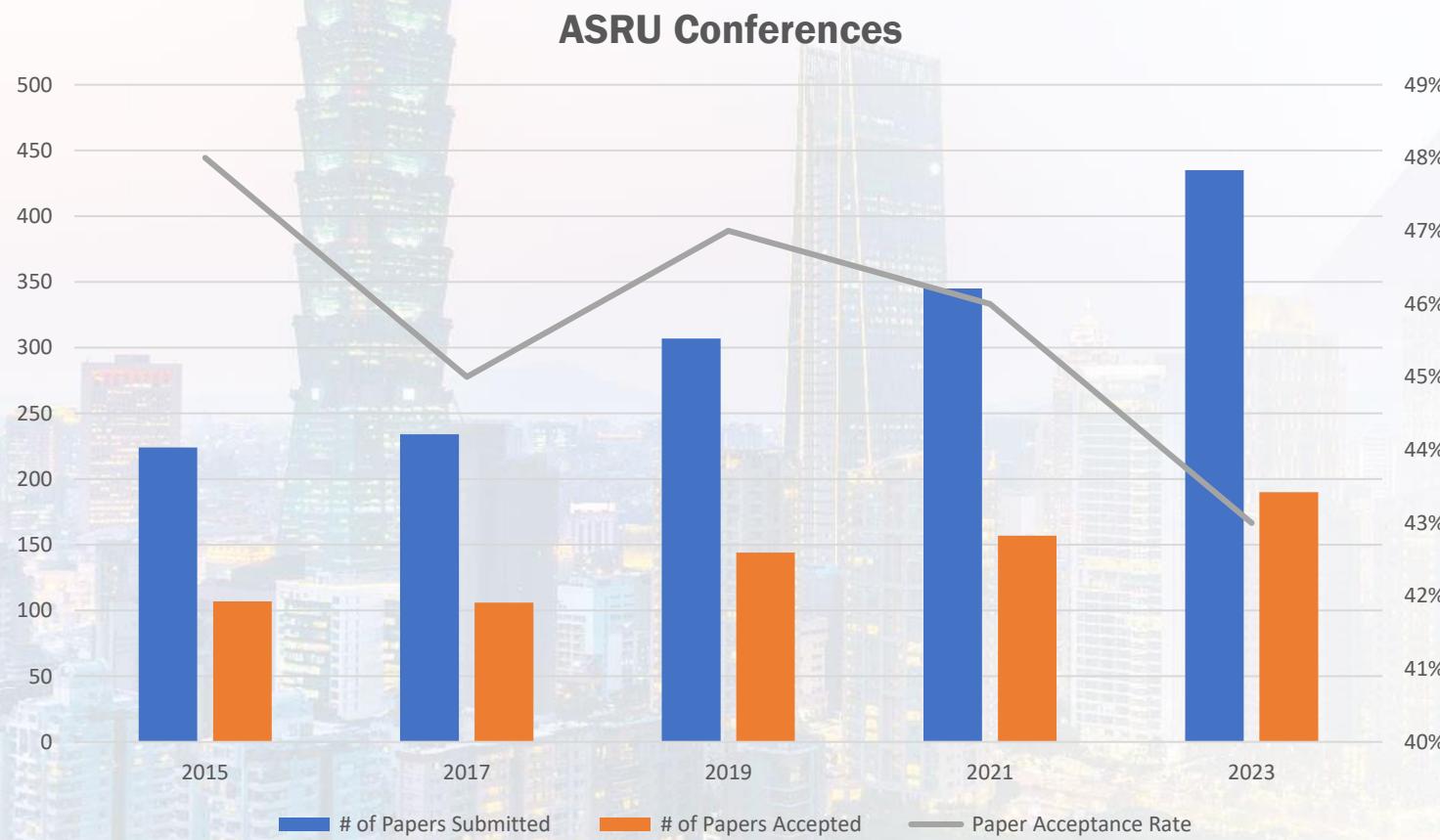
Workshop on Automatic Speech Recognition
and Understanding

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Asia Pacific Hotel, Beitou, Taipei
Speech Recognition and Understanding for Wellbeing

Technical Program

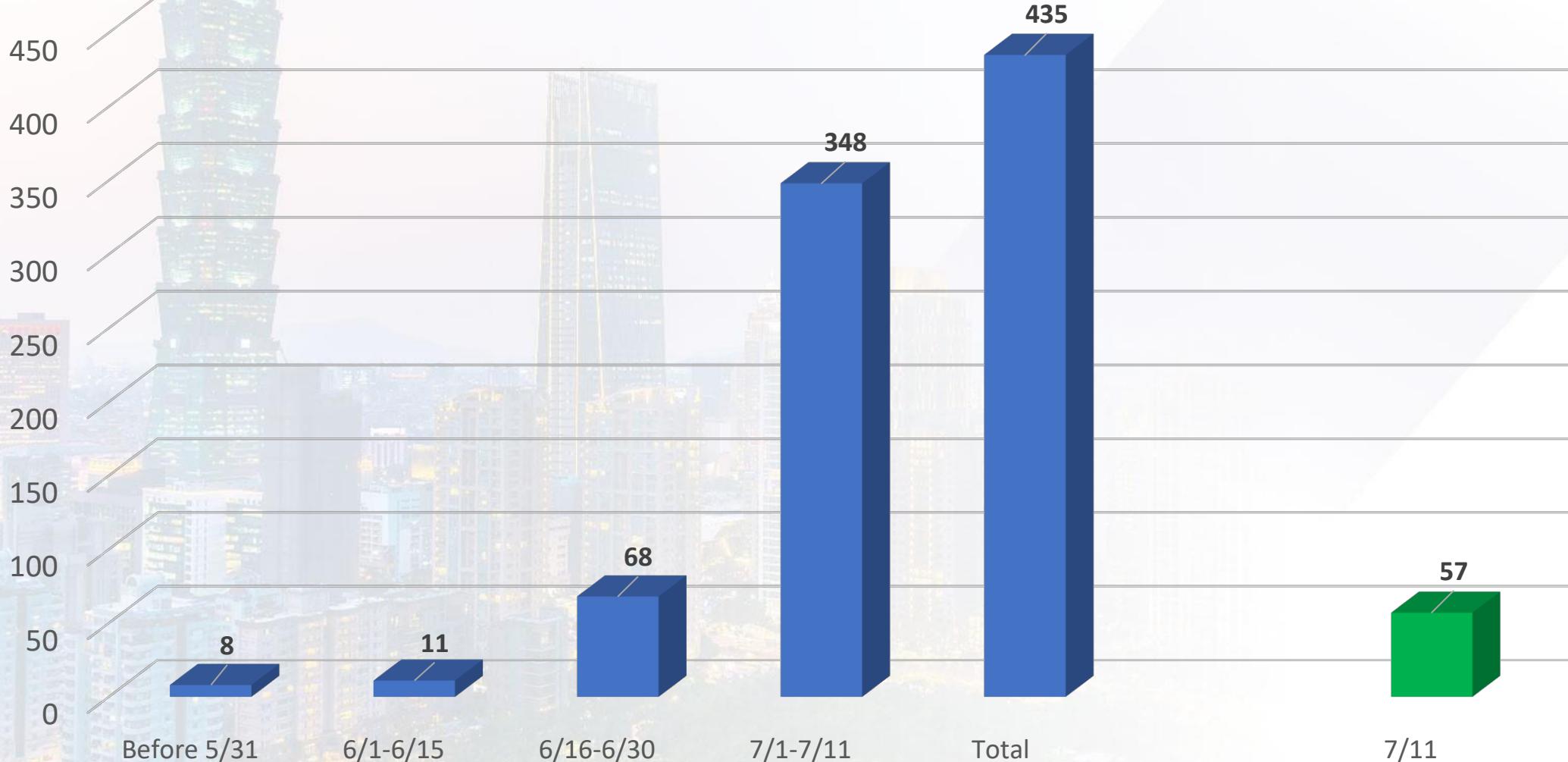
Paper Submissions over the Years



- 435 submissions
- 190 accepted papers
- Acceptance rate of 43.6%

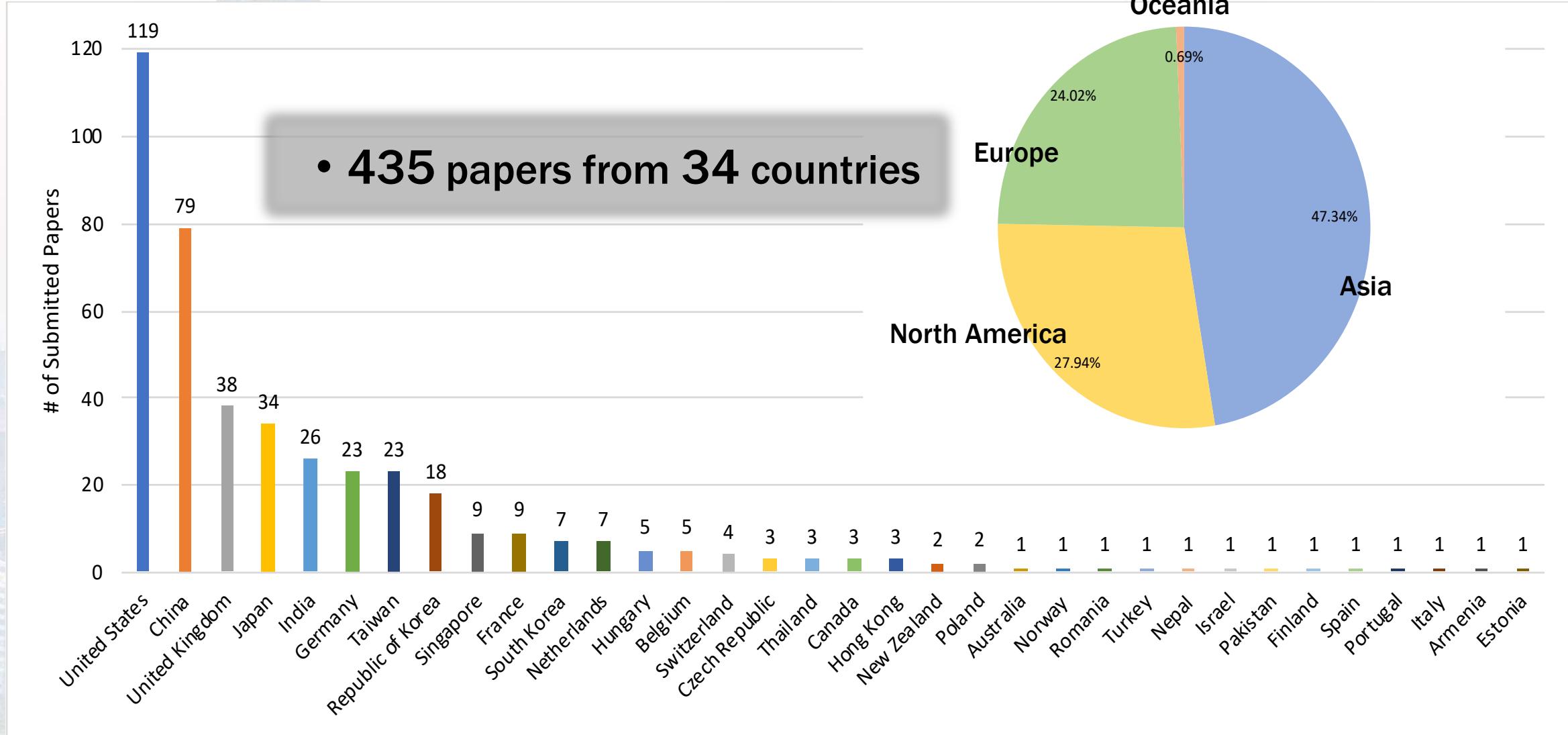


Submission by Time



Submission by Country

Paper by country of first author

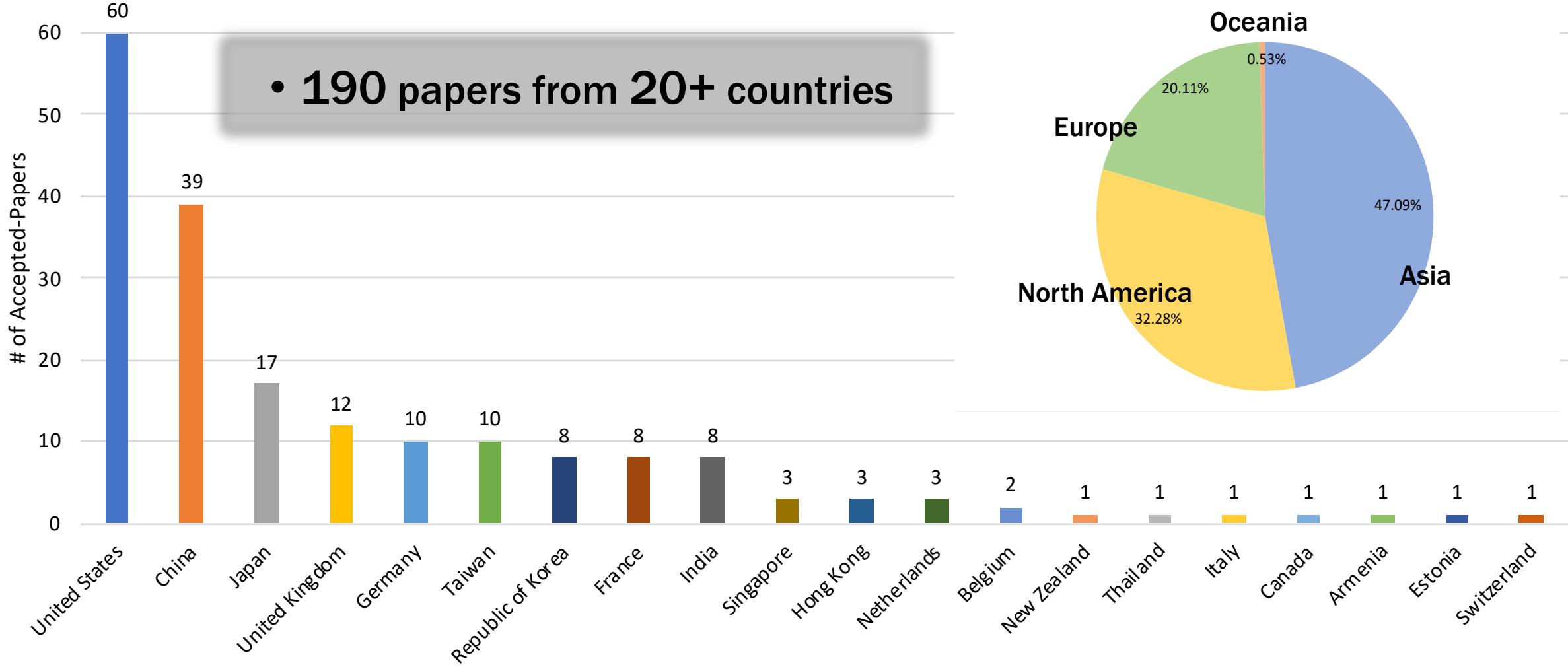


Acceptance by Country

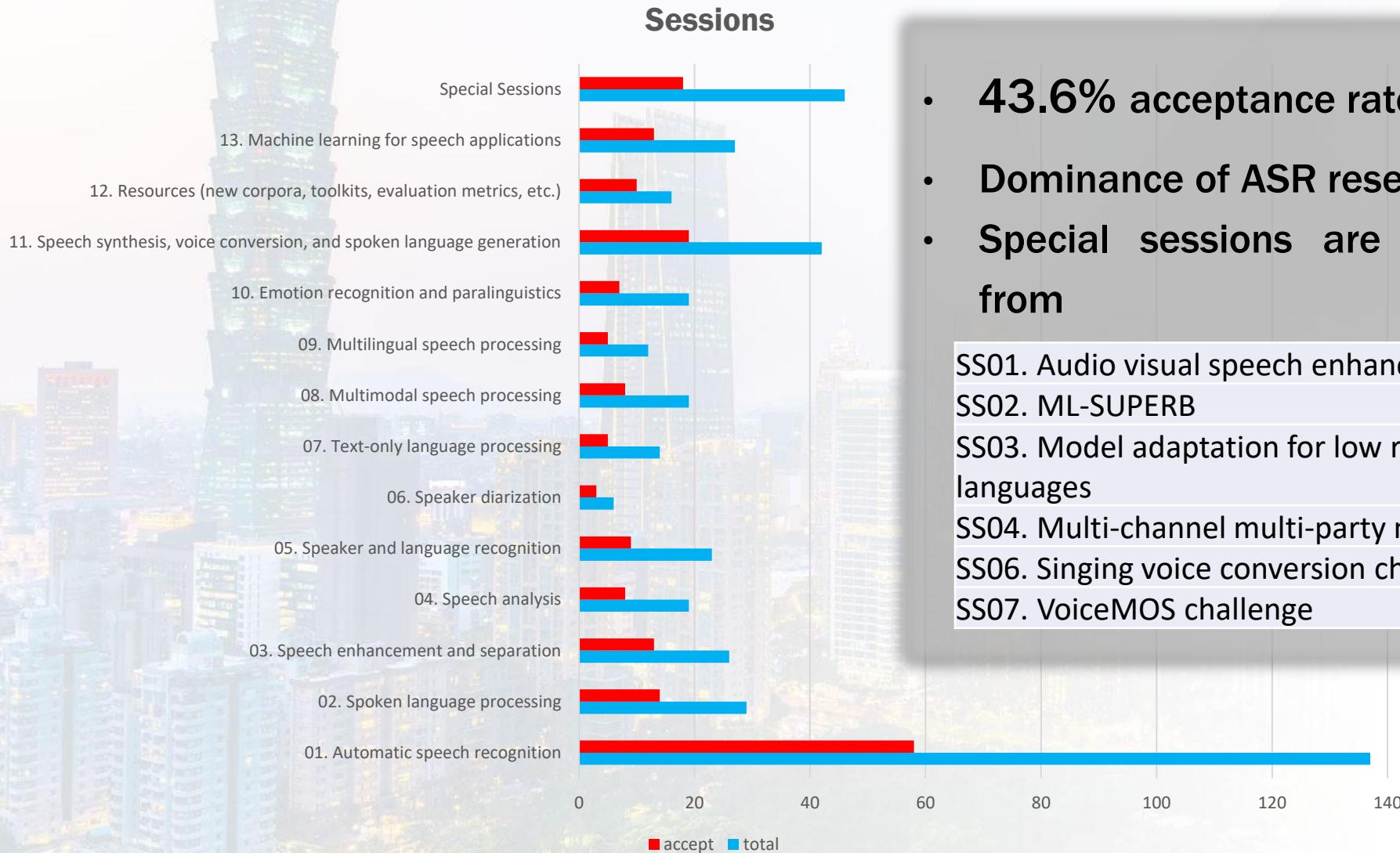
Paper by country of first author



• 190 papers from 20+ countries



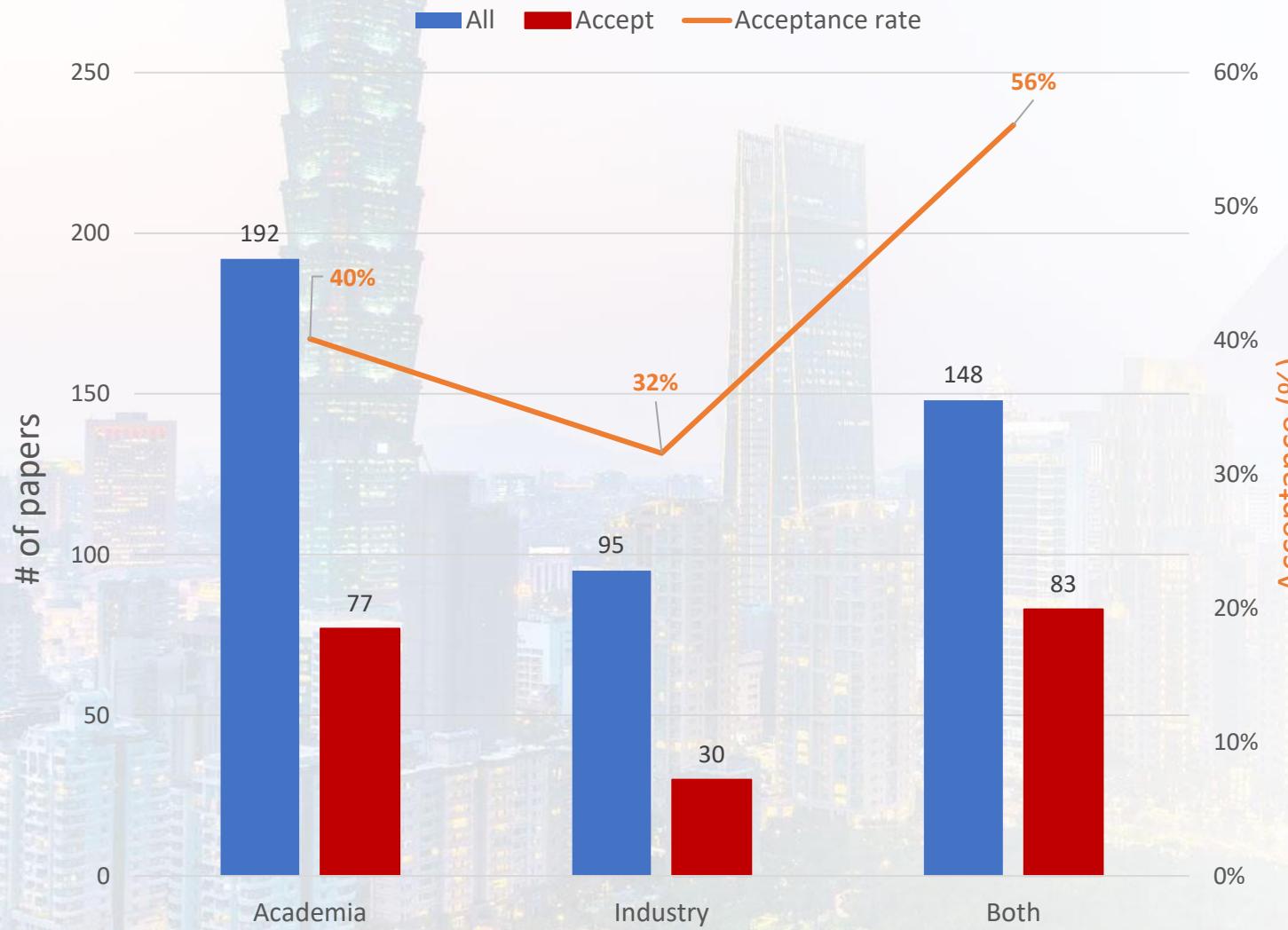
Submission by Area



- **43.6% acceptance rate**
- **Dominance of ASR research**
- **Special sessions are with submissions from**

SS01. Audio visual speech enhancement challenge 2
 SS02. ML-SUPERB
 SS03. Model adaptation for low resource ASR for Indian languages
 SS04. Multi-channel multi-party meeting transcription
 SS06. Singing voice conversion challenge
 SS07. VoiceMOS challenge

Submission by Academia/Industry

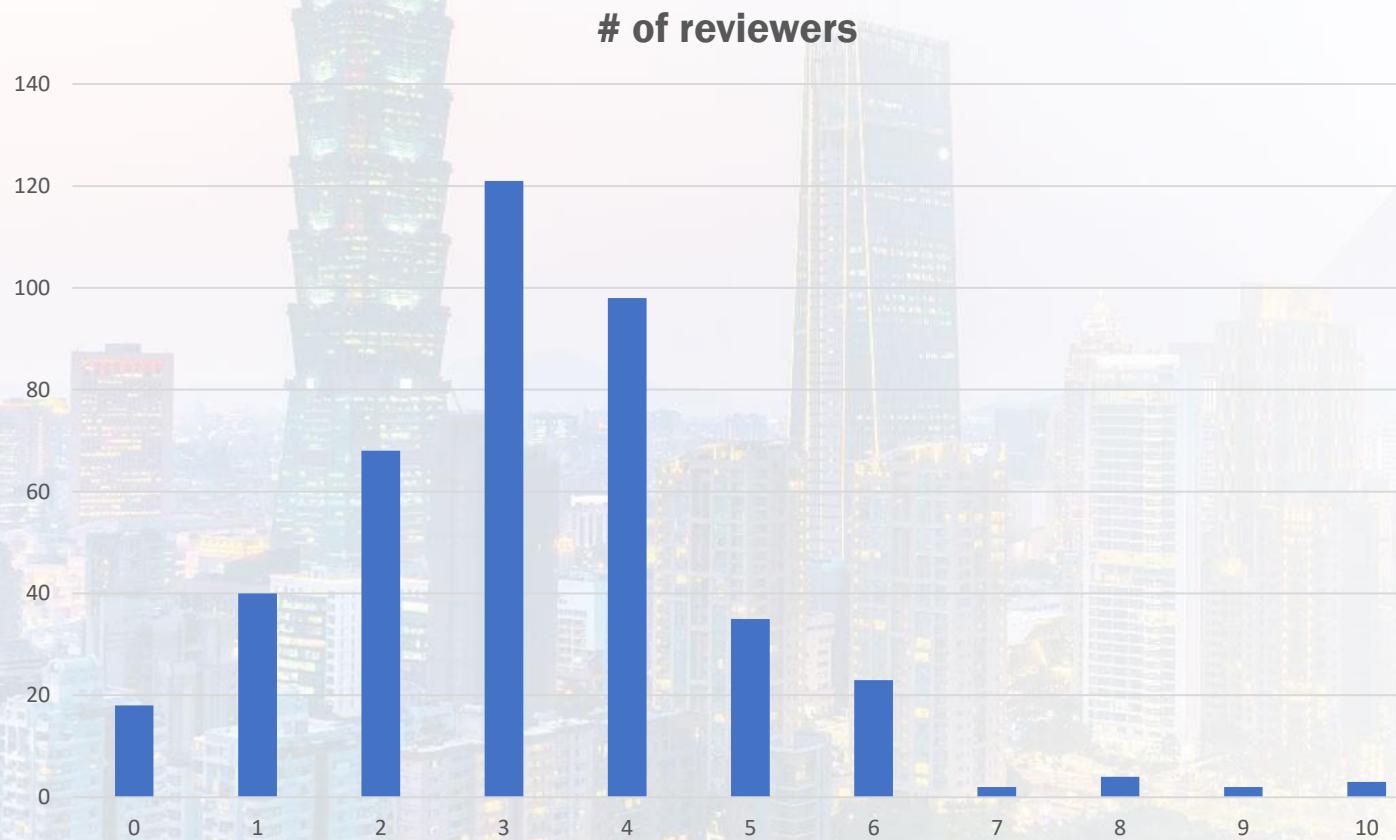


- Most papers are from academia
- Industry has the lowest acceptance rate
- The collaboration between academia and industry has the highest acceptance rate

Review Process

- Use Microsoft's Conference Management Toolkit (CMT)
- 414 reviewers
- At least 3 reviewers/paper
- Double-blind
- Author rebuttal
- Reviewer discussion

Review Workload



- 414 reviewers reviewing **on average 3 papers**
- 43 meta-reviewers handling between 3 and 15 papers

Meta Reviewers

- Adriana Stan (Technical University of Cluj-Napoca)
- Andreas Stolcke (Amazon)
- Berrak Sisman (University of Texas at Dallas)
- Chao Zhang (Tsinghua University)
- Daniele Giacobello (Apple)
- Douglas O'Shaughnessy (U. of Quebec)
- Duc Le (Meta)
- Ebru Arisoy (MEF University)
- Erica Cooper (National Institute of Informatics)
- Fei Chen (Southern University of Science and Technology)
- Gustav Eje Henter (KTH Royal Institute of Technology)
- Hagai Aronowitz (IBM Research - AI)
- Heysem Kaya (Utrecht University)
- Hung-yi Lee (National Taiwan University)
- Jesus Villalba (Johns Hopkins University)
- Jian Xue (Microsoft Corporation)
- Kia Dashtipour (Edinburgh Napier University)
- Konstantin Markov (University of Aizu)
- Lei Xie (Northwestern Polytechnical University)
- Marc Delcroix (NTT)
- Michiel Bacchiani (Google)

- Paola Garcia (Johns Hopkins University)
- Prasanta Ghosh
- Rohit Prabhavalkar (Google)
- Sabato Siniscalchi (Kore University of Enna)
- Sakriani Sakti (Japan Advanced Institute of Science and Technology)
- Shang-Wen Li (FAIR)
- Shinji Watanabe (Carnegie Mellon University)
- Szu-Wei Fu (Nvidia)
- Takaaki Hori (Apple)
- Takuya Yoshioka (Microsoft)
- Tara Sainath (Google)
- Theodora Chaspari (Texas A&M University)
- Tomoko Matsui (Institute of Statistical Mathematics)
- Xiaodong Cui (IBM T. J. Watson Research Center)
- Xie Chen (Shanghai Jiaotong University)
- Xugang Lu (NICT)
- Yangyang Shi (Facebook)
- Yun-Nung Chen (National Taiwan University)
- Zheng-Hua Tan (Aalborg University)
- Zhijian Ou (Tsinghua University)
- Zhizheng Wu (Chinese University of Hong Kong)

Top Reviewers



Among the 414 reviewers, meta-reviewers and TC have identified 13 that provided especially outstanding reviews

Recognize their effort with the best reviewer awards @ closing ceremony

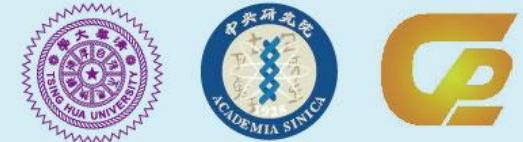
- **Piotr Żelasko**
- **Ryandhimas Zezario**
- **Yusuke Yasuda**
- **Jahn Heymann**
- **Yui Sudo**
- **Yosuke Higuchi**
- **Leo Yang**
- **Thomas Schaaf**
- **Yuma Koizumi**
- **Federico Landini**
- **Jose Luis Blanco-Murillo**
- **Robin Scheibler**
- **Wangyou Zhang**

3% Top Papers

Among the 435 papers, the Best Paper Award Committee has identified 12 papers as the top 3% papers.

The best paper and best student paper will be announced in the Closing Ceremony

Paper ID	Paper Title
64	The Singing Voice Conversion Challenge 2023
66	Pareto Efficiency of Learning-Forgetting Trade-Off in Neural Language Model Adaptation
73	Improving Large-scale Deep Biasing with Phoneme Features and Text-only Data in Streaming Transducer
134	NeuralKalman: A Learnable Kalman Filter for Acoustic Echo Cancellation
258	The VoiceMOS Challenge 2023: Zero-shot Subjective Speech Quality Prediction for Multiple Domains
301	On Decoder-only Architecture for Speech-to-text and Large Language Model Integration
379	Improved Long-form Speech Recognition by Jointly Modeling the Primary and Non-primary Speakers
383	Joint Audio and Speech Understanding
394	Unconstrained Dysfluency Modeling for Dysfluent Speech Transcription and Detection
406	Pseudo-label based Supervised Contrastive Loss for Robust Speech Representations
414	Few-Shot Spoken Language Understanding via Joint Speech-Text Models
423	SLM: Bridge the Thin Gap Between Speech and Text Foundation Models



Workshop on Automatic Speech Recognition
and Understanding

Workshop on Automatic Speech Recognition and Understanding

Asia Pacific Hotel, Beitou, Taipei
Speech Recognition and Understanding for Wellbeing

Arrangements/Logistics

Wi-Fi and Proceedings



Wi-Fi: aphotel

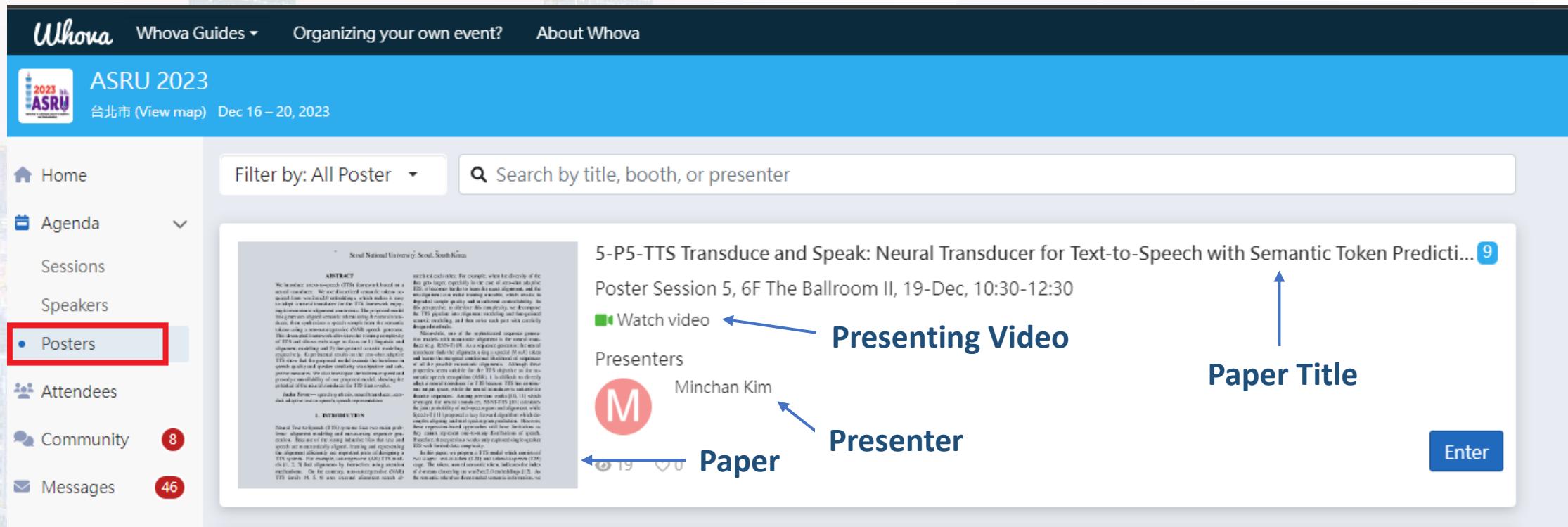
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Conference proceedings are also
available on Whova

Whova Information

- Whova: https://whova.com/portal/webapp/asru_202312/Artifact
- Access video of the presentations (for both virtual and physical ones)
- Connect with the presenter on Whova



The screenshot shows the Whova platform interface for the ASRU 2023 workshop. The top navigation bar includes links for Whova Guides, Organizing your own event?, and About Whova. The main header displays the ASRU 2023 logo and the event details: 台北市 (View map) Dec 16 – 20, 2023.

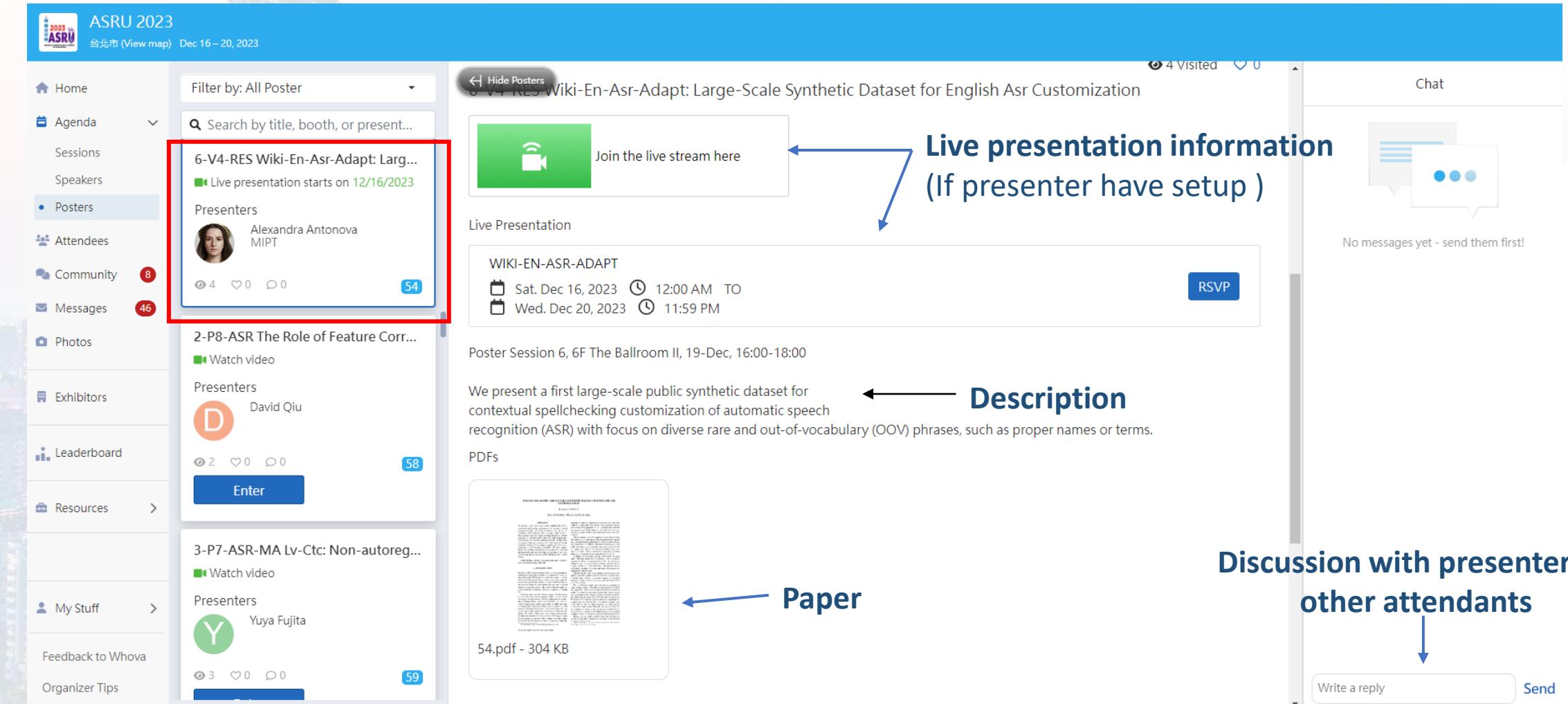
The left sidebar menu is as follows:

- Home
- Agenda
- Sessions
- Speakers
- Posters** (highlighted with a red box)
- Attendees
- Community (with 8 notifications)
- Messages (with 46 notifications)

The main content area shows a poster titled "5-P5-TTS Transduce and Speak: Neural Transducer for Text-to-Speech with Semantic Token Predict...". The poster is associated with the "Poster Session 5, 6F The Ballroom II, 19-Dec, 10:30-12:30". A blue arrow labeled "Presenting Video" points to the "Watch video" button. Another blue arrow labeled "Paper Title" points to the title of the poster. A third blue arrow labeled "Presenter" points to the name "Minchan Kim" next to a circular profile icon containing a white letter "M". The bottom right corner of the poster area has a blue "Enter" button.

Whova Information

- For Virtual Presenter



The screenshot shows the Whova platform interface for the ASRU 2023 workshop. The left sidebar lists various sections: Home, Agenda, Sessions, Speakers, Posters (selected), Attendees, Community (8 notifications), Messages (46 notifications), Photos, Exhibitors, Leaderboard, Resources, My Stuff, Feedback to Whova, and Organizer Tips. The main content area displays a poster titled "6-V4-RES Wiki-En-Asr-Adapt: Large-Scale Synthetic Dataset for English Asr Customization". The poster has a green video icon and the text "Join the live stream here". Below it is a "Live Presentation" section for "WIKI-EN-ASR-ADAPT" with dates: Sat. Dec 16, 2023 (12:00 AM TO 11:59 PM) and Wed. Dec 20, 2023 (12:00 AM TO 11:59 PM). It also includes an "RSVP" button. The poster description states: "We present a first large-scale public synthetic dataset for contextual spellchecking customization of automatic speech recognition (ASR) with focus on diverse rare and out-of-vocabulary (OOV) phrases, such as proper names or terms." Below the description is a "PDFs" section showing a thumbnail of a document titled "54.pdf - 304 KB". A red box highlights the "Posters" section in the sidebar and the poster details on the right. Three blue arrows point from the text labels "Live presentation information (If presenter have setup)", "Description", and "Paper" to their respective corresponding elements on the page.

ASRU 2023
台北市 (View map) Dec 16 – 20, 2023

Home

Agenda

Sessions

Speakers

Posters

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Community (8)

Messages (46)

Photos

Exhibitors

Leaderboard

Resources >

My Stuff >

Feedback to Whova

Organizer Tips

Filter by: All Poster

Search by title, booth, or present...

Hide Posters

6-V4-RES Wiki-En-Asr-Adapt: Large-Scale Synthetic Dataset for English Asr Customization

Join the live stream here

Presenters

Alexandra Antonova
MIPT

4 0 0 54

2-P8-ASR The Role of Feature Corr...

Watch video

Presenters

David Qiu

2 0 0 58

Enter

3-P7-ASR-MA Lv-Ctc: Non-autoreg...

Watch video

Presenters

Yuya Fujita

3 0 0 59

4 Visited 0

Chat

No messages yet - send them first!

Live presentation information
(If presenter have setup)

Description

Paper

Discussion with presenter or
other attendants

Write a reply

Send

The ASRU Badge



Yu Tsao

Academia Sinica



Upper Side



Bottom Side

The ASRU Badge



Public Hot Spring 50% off

1F
09:00-22:00
NT\$ 1,800 > NT\$ 900



Happy Hour

1F
15:30-17:30
NT\$ 399
(one complimentary
beverage)/per person



SPA 5% off

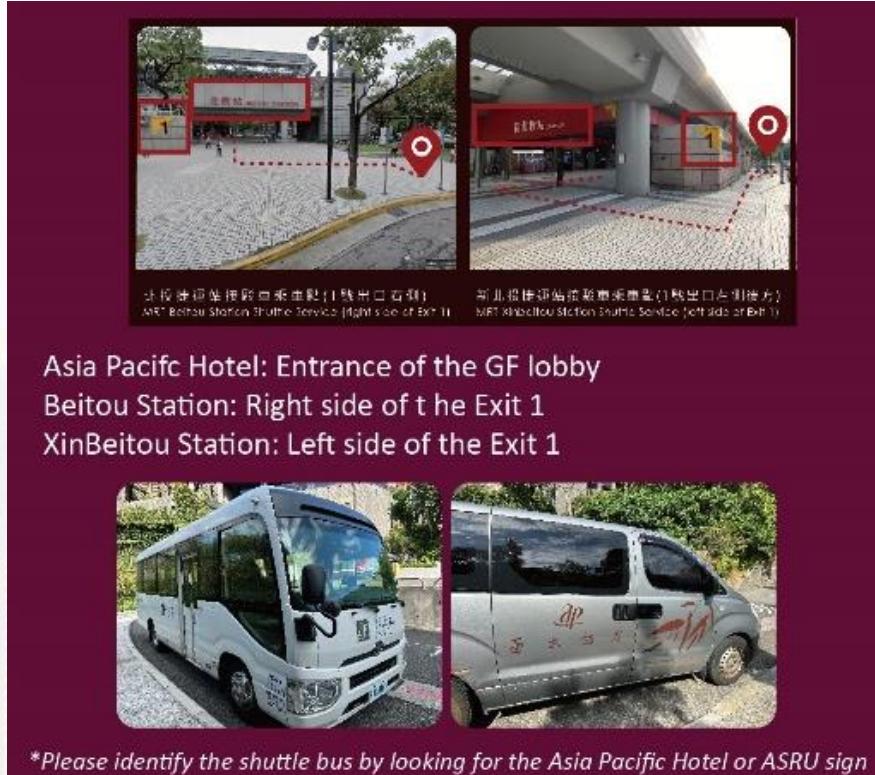
2F
11:00-19:00

Free Shuttle Bus (MRT↔Venue)

Shuttle Bus Time Table

	Asia Pacifi Hotel	MRT XinBeitou Station	MRT Beitou Station	Note
2023/12/15-20	06:50	07:05	07:00	
	/	08:00	/	available on 12/17
	/	08:10	/	available on 12/17
	/	08:30	/	available on 12/17-12/20
	08:20	08:40	08:35	
	/	08:45	/	available on 12/17
	/	08:55	/	available on 12/18-12/20
	/	09:10	/	available on 12/17
	09:10	09:30	09:25	
	/	09:15	/	available on 12/18-12/20
	/	09:40	/	available on 12/17
	/	09:50	/	available on 12/18-12/20
	10:10	10:30	10:25	
	11:10	11:30	11:25	
	12:10	12:30	12:25	
	13:10	13:30	13:25	
	13:50	14:10	14:05	
	14:30	14:50	14:45	
	15:20	15:40	15:35	
	16:20	16:40	16:35	
	17:20	17:40	17:35	
	17:30	17:45	/	available on 12/16, 12/18
	18:00	18:15	/	available on 12/16, 12/18
	18:20	18:40	18:35	
	18:30	18:45	/	available on 12/16, 12/18
	19:00	19:15	/	available on 12/16
	19:20	19:40	19:35	
	19:40	/	/	available on 12/16
	20:20	20:40	20:35	
	21:20	21:40	21:35	
	22:20	22:40	22:35	

The Stop of the Shuttle bus



Asia Pacific Hotel
 No. 31, Youya Rd, Beitou District, Taipei City
 Tel: +886 2 2898-3088

Lunch

Free Lunch Box Provided

- Lunchbox will be provided at the **entrance of Ballroom I, 6F** on Dec 17-19
- You can enjoy the lunchbox at Room Sunrise in Green Restaurant and Room Phoenix, GF and Ballroom I, 6F
- For delegates attending the symposium on December 20, please collect the lunchbox at Room Sunrise in Green Restaurant, GF

Green Restaurant



Room Sunrise



Entrance of Ballroom I, 6F



Room Phoenix



Social Event



Pre-dinner Night Market Fun

Jungle Banquet Mall, Taipei Garden Mall

17th December, Sunday

18:30-21:00

Shuttle bus will be available at 18:00, please meet at the lobby of Asia Pacific Hotel



Taiwan's Most Famous Night
Market
Food and Drinks
Fun Games

Social Event



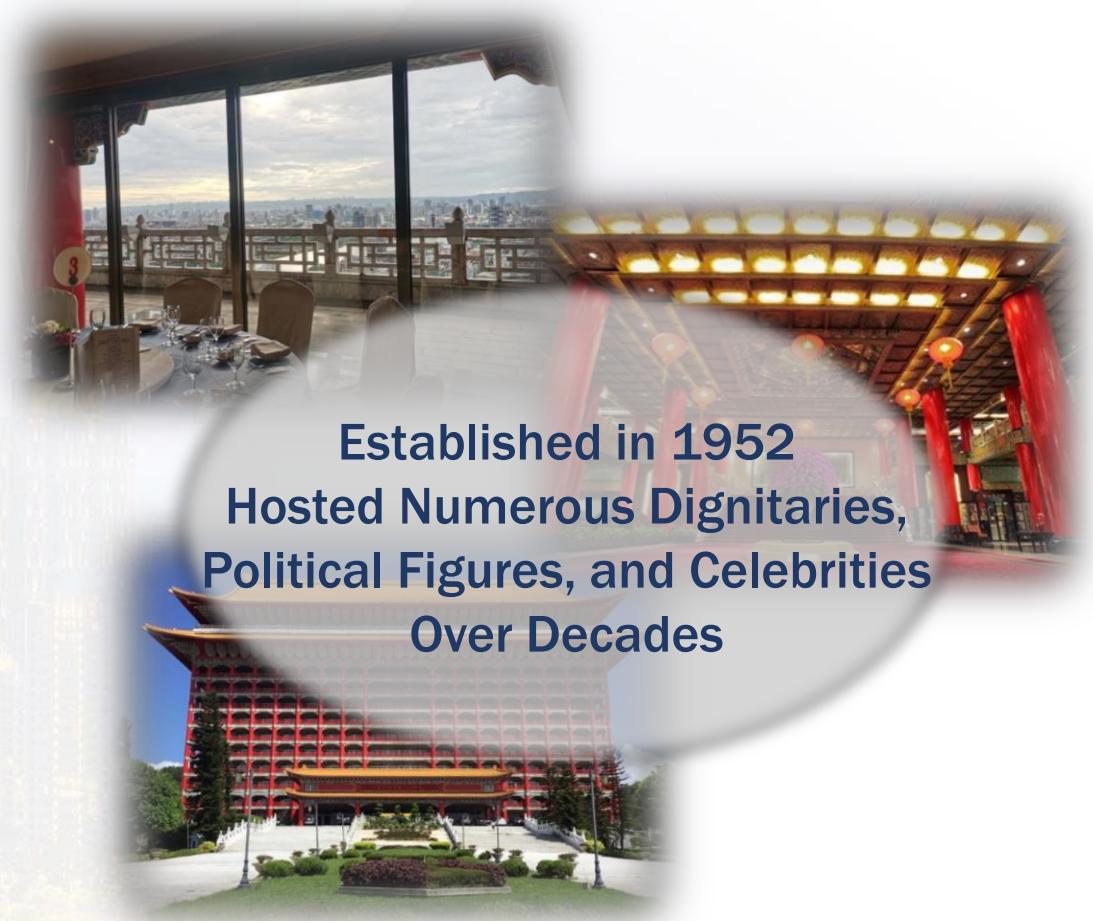
Banquet (Non-student only)

Kun Lun Room, 12F, The Grant Hotel

19th December, Tuesday

18:30-21:00

Shuttle bus will be available at 18:00, please meet at the lobby of Asia Pacific Hotel



Established in 1952
Hosted Numerous Dignitaries,
Political Figures, and Celebrities
Over Decades

Social Event



Student Party

Boulevard Cafe

19th December, Tuesday

18:30-21:00

Shuttle bus will be available at 18:00, please meet at the lobby of Asia Pacific Hotel



Others



The staffs are DRESSED in **BLUE**



Exploring Beitou



Thermal Valley



Long Nice Private Hot Spring
Oldest Hot Spring in Beitou



Beitou Park
Outdoor Hot Spring



Beitou Public Library
Eco-friendly Architecture



Beitou Hot Spring Museum

Exploring Local Food



Xiao Long Bao



Fried Stinky Tofu



Braised Pork Rice

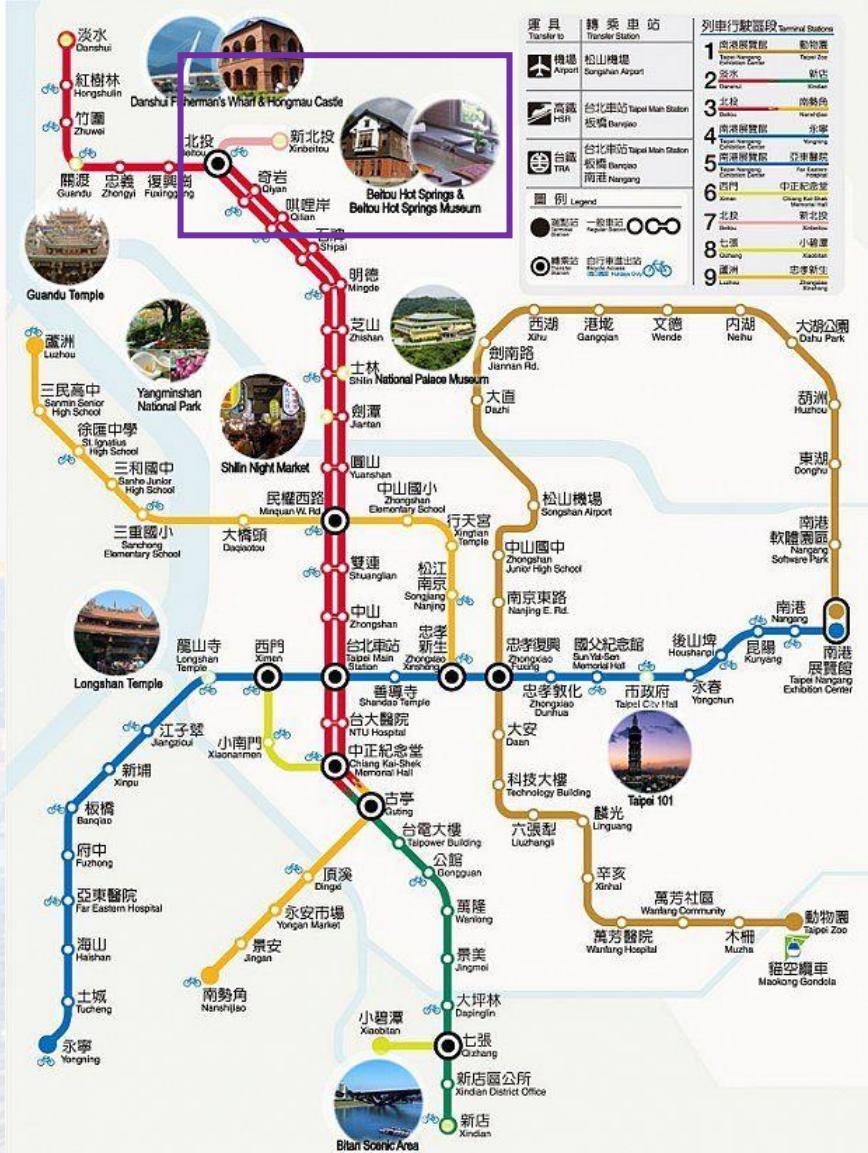


Taiwanese Oyster Noodles

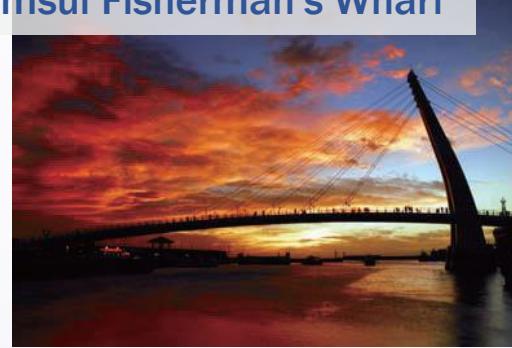


Fresh Spring Roll

Exploring Taipei



Tamsui Fisherman's Wharf



Dadaocheng Street



National Palace Museum



Lungshan Temple



Taipei 101



Easy Card



- Each new card purchased contains NT\$200.
- Can be used for MRT, buses, YouBike (shared bikes) and small purchases at convenience stores
- Can be purchased at MRT stations and convenience stores
- Can be topped up at MRT stations and convenience stores



Thanks

Enjoy ASRU

Keynote 1

Presented by Dr. Xuedong Huang
Chaired by Prof. Lin-shan Lee