

Inaugural Editorial

Innovations in an Era of Ubiquitous Audio, Speech, and Language Processing

THIS issue marks the beginning of my term as the Editor-of-chief (EiC) of the IEEE/ACM TRANSACTIONS ON AUDIO, SPEECH, AND LANGUAGE PROCESSING (T-ASLP), and I am honored to write this opening editorial. I would like to start by thanking the previous EiCs Isabel Trancoso, Mari Ostendorf, Helen Meng, Li Deng, Haizhou Li for growing the journal to its current form and for nominating me for this position. Previous EiC Haizhou Li and Sergios Theodoridis, our Vice-President (VP) of Publications are passing me an already very strong T-ASLP and a wonderful team of Associate Editors. I would like to further thank Haizhou Li for guiding me into this role since the past couple of months by providing information and background. I also wish to thank the editorial board members, reviewers, and authors for all their efforts in guaranteeing the quality and innovativeness of the published articles.

Throughout my career as a researcher, I have been involved in different ways with this journal as a reader, author, reviewer, and associate editor. I am grateful to be part of the team that is observing the transformation of the T-ASLP. We live in an era of ubiquitous speech processing, where innovations have been more important than ever and more relevant to academic and industry communities beyond the core audio, speech, and language processing scientists and engineers. From situated multimodal conversational artificial intelligence (AI) to embedded multi-sensor IoT devices and wearables to Do-it-Yourself AI (DIY-AI) kits, the core topics of this journal are now established as essential technologies in this new age of AI. This excitement can easily be seen in the exploding number of applications using these technologies and the depth of algorithmic advancements in each of these areas. Audio, speech, and language processing combined with machine learning being at the center of these advancements, we have a unique opportunity to make our publication even better, and we need your help and involvement through reviewing and submitting novel contributions.

I have witnessed the efforts in the leadership of T-ASLP, since the early days I served as an associate editor between 2005 and 2008. I will continue these efforts and work on improving the paper processing time of 12.2 weeks as demonstrated by the previous EiC [item 1] in the Appendix]. I will also work with the editorial board to maintain and improve the diversity of submission and publication areas, encouraging continuation of publications in audio and acoustic processing, while extending the scope of the journal to new and upcoming areas, such as conversational AI, for which audio, speech, and language processing form the foundations. Following the footsteps of my

previous EiCs, I also plan to work with the editorial board to improve the diversity of the authors, reviewers, the editorial board itself and hopefully the readers, creating opportunities for the stellar researchers in the new generations and connecting them with great minds across/within the community.

Due to the recent excitement around machine learning and AI, the number of papers is increasing every day. While this is a great trend, often times the quality of the papers is not ensured, leaving the load to deal with this to all of us, researchers. In order to keep up with the overwhelming number of papers and the associated information overload, having a pioneering journal is critical. I agree with Haizhou Li on the fact that there is no need to be obsessed with the impact factor; we have no doubts that T-ASLP is and will continue to be the place where readers in our field find the good work [item 1] in the Appendix]. I also believe, one of the main indicators of having such a pioneering journal is a high impact factor. My previous EiCs, starting from the earlier days have been very successful in this task, our impact factor has mainly been increasing (except when the journal name was changed when the IEEE Transactions were merged with the ACM Transactions in 2013, which is expected). During my associate editorship, for example, I have seen how hard Mari Ostendorf worked on coordination with conference board so that our conferences enforce keywords in the published articles, so that the citations in these conference papers are also counted towards impact factor, and this was gradually reflected to increases in the T-ASLP impact factor. Later on, the increase in the ICASSP paper page limits from the historical four pages to five including one additional reference page, and efforts to make ICASSP papers more connected with our T-ASLP publications [item 2] in the Appendix] also accelerated this trend. These are only two of the many examples. I will work with the editorial board to continue the trend of increasing the T-ASLP impact factor.

Finally, I am always open to listening suggestions to improve the speech science and our main publication. Please do not hesitate to email me at dilek@ieee.org with new ideas and suggestions for improvements. Looking forward to working with all of the community to grow our transactions even further.

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APPENDIX
RELATED WORK

- 1) H. Li, “Inaugural editorial: Embracing new opportunities for growth,” *IEEE/ACM Trans. Audio, Speech, Lang. Process.*, vol. 23, no. 1, pp. 5–6, Jan. 2015.
- 2) L. Deng, “Keeping up the momentum of innovations,” *IEEE/ACM Trans. Audio, Speech, Lang. Process.*, vol. 22, no. 12, p. 1687, Dec. 2014.



Dilek Hakkani-Tür (F'14) received the B.Sc. degree from Middle East Technical University, Ankara, Turkey, in 1994, and the M.Sc. and Ph.D. degrees from the Department of Computer Engineering, Bilkent University, Ankara, in 1996 and 2000, respectively.

She is currently a Senior Principal Scientist with Amazon Alexa AI focusing on enabling natural dialogues with machines. Prior to joining Amazon, she was leading the dialogue research group at Google (2016–2018), a Principal Researcher with Microsoft Research (2010–2016), International Computer Science Institute (ICSI, 2006–2010), and AT&T Labs-Research (2001–2005). She has more than 50 patents that were granted and co-authored more than 200 papers in natural language and speech processing. Her research interests include conversational AI, natural language and speech processing, spoken dialogue systems, and machine learning for language processing.

Dr. Hakkani-Tür is the recipient of three best paper awards for her work on active learning for dialogue systems, from IEEE Signal Processing Society, ISCA and EURASIP. She was a member of the IEEE Speech and Language Technical Committee (2009–2014), Area Editor for speech and language processing for Elsevier’s *Digital Signal Processing Journal* and IEEE SIGNAL PROCESSING LETTERS (2011–2013), and is currently on ISCA Advisory Council (2015–2019). She has been a fellow of ISCA since 2014.