

Division of Electrical Engineering and Computer Science	Research field	Audio Information Processing	Lab. ID EC03
Laboratory web site	<a href="http://oak.ec.t.kanazawa-u.ac.jp">http://oak.ec.t.kanazawa-u.ac.jp</a>		
Research subjects			
<p>A sound, such as speech, music, and noise, is one of the important media to carry various audio information. Our laboratory has been doing research on a media information processing that can make the sound more natural, fun, and useful. The main research subjects are as follows.</p> <p>(1) Speech enhancement: noise reduction, speech intelligibility restoration, distant speech recordings with a microphone array</p> <p>(2) Pronunciation analysis: acoustic analysis of Hokuriku-dialect speech, investigation of speech intelligibility</p> <p>(3) Singing information processing: singing voice synthesis, singing voice evaluation, music information retrieval</p> <p>(4) Spatial audio technology: Binaural sound reproduction</p>			
Master/Doctor course: Education policy, curriculum, typical activity in the laboratory			
<p>Our laboratory has a weekly seminar to see the progresses of the current research that are being done by the students. In the seminar, the students have a chance to present their works, discuss and find out solutions for their problems. The professors will give advices to the students if they get some problems in their research. There is also an individual weekly meeting. The purpose is to see the progress, conduct and maintain the right direction in doing the research.</p>			
Daily life in the laboratory, etc.			
<p>Our laboratory is equipped with anechoic room and sound proof room. The laboratory also boasts equipment and software capable of performing a variety of research. The main daily activity in this laboratory is doing research. While doing research, the students also take classes. To support their research, the students have to read journals, articles, books, etc. and all those needs are available in laboratory. And if there are some problems, the students will discuss each other especially if they have related topics. (D1)</p>			
Message or comments by the laboratory faculty staffs			
<p>Our laboratory participates in the open campus held in the beginning of August every year, and introduce the fun of the audio technologies for high school students. Our laboratory, in addition, deepens the relationship and friendship with some laboratories of other universities located in Hokuriku area.</p> <p>Major employers are electrical manufacturer, telecommunications carrier, and automotive manufacturer.</p>			
Recent Master theses in these 3 years (+ more if appropriate)			
year.month	Thesis title (including English translation of Japanese thesis title)		
2017.3	Dynamic changes in pitch of singing voice during interruption of auditory feedback		
2017.3	Tone control for audible feedback through loudspeaker reproduction to improve pronunciation		
2017.3	Relations among recordings of the same strings repeatedly pronounced		
2017.3	Clear capturing of distant speech with a vertical microphone array system		
2017.3	Generating choruses from a solo without losing its individuality		
2015.3	Enhancement of speech captured with a unidirectional microphone array		
2015.3	Capturing distant speech with an arched vertical microphone array		
2015.3	Converting the registers between modal and falsetto on synthesized singing voice		
2014.3	High quality singing synthesis on controlling acoustic features unique to operatic singing voices		
2014.3	Changes in acoustic characteristics of native Mikawa-ben living in KANAZAWA		
2014.3	Speech intelligibility affected by acoustic characteristics in noisy environment		
2014.3	Clearly recording distant speech with a 2D microphone array		
2014.3	Binaural sound reproduction using the amplitude control of adjacent virtual loudspeakers		
2013.3	On the spatial sound impression produced by "Miniature head simulator"		
2013.3	On a unidirectional microphone-unit of electrical steering-ability and its application to a linear microphone array		
2013.3	Evaluation of singing voice similarity based on "acoustic singing-structure"		
2013.3	On multipoint SPL control in the horizontal plane using vertical array of loudspeakers		
2013.3	A singing evaluation system based on "original-singing-ish"		
Recent Doctoral theses in these 3 years (+ more if appropriate)			
year.month	Thesis title (including English translation of Japanese thesis title)		
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