

Call for Participation INTERSPEECH 2011 Speaker State Challenge

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Intoxication and Sleepiness

Organisers:

Björn Schuller (TUM, Germany)
Stefan Steidl (ICSI, USA)
Anton Batliner (FAU Erlangen-Nuremberg, Germany)
Florian Schiel (BASSS/LMU, Germany)
Jarek Krajewski (University of Wuppertal, Germany)

The Challenge

While the first open comparative challenges in the field of paralinguistics targeted more "conventional" phenomena such as emotion, age, and gender, there still exists a multiplicity of not yet covered, but highly relevant speaker states and traits. Thus, the INTERSPEECH 2011 Speaker State Challenge broadens the scope by addressing two less researched speaker states while focusing on the crucial application domain of security and safety: the computational analysis of intoxication and sleepiness in speech. Apart from intelligent and socially competent future agents and robots, main applications are found in the medical domain and surveillance in high-risk environments such as steering or controlling.

For these Challenge tasks, the ALCOHOL LANGUAGE CORPUS (ALC) and the SLEEPY LANGUAGE CORPUS (SLC) with genuine intoxicated and sleepy speech will be provided by the organisers. The first consists of 39 hours of speech, stemming from 154 speakers in gender balance, and will serve to evaluate features and algorithms for the estimation of speaker intoxication. The second features 10 hours of speech recordings of 99 subjects, annotated in 10 different levels of sleepiness. The verbal material consists of different complexity reaching from sustained vowel phonation to natural communication. The corpora further feature detailed speaker meta-data, orthographic transcript, phonemic transcript, and segmentation and multiple annotation tracks. Both are given with distinct definitions of test, development, and training partitions, incorporating speaker independence as needed in most real-life settings. Benchmark results will be provided.

In these respects, the *INTERSPEECH 2011 Speaker State Challenge* shall help bridging the gap between excellent research on paralinguistic information in spoken language and low compatibility of results.

Two sub-challenges are addressed:

- In the *Intoxication Sub-Challenge*, alcoholisation of speakers has to be determined as two-class classification task: alcoholised for a BAC exceeding 0.5 or non-alcoholised. The Challenge measure will be the unweighted average recall of these two classes to better compensate for imbalance between classes.
- In the *Sleepiness Sub-Challenge*, sleepiness of speakers has to be determined by a suited algorithm and acoustic features. Two classes have to be recognised accordingly: sleepiness or non-sleepiness. Again, the Challenge measure is unweighted average recall of the two classes.

All Sub-Challenges allow contributors to find their own features with their own classification algorithm. However, a standard feature set will be given per corpus that may be used. Participants may report on results obtained on the development set, but have only a limited number of five trials to upload their results on the test set, whose labels are unknown to them. A participation has to be accompanied by a paper presenting the results that undergoes peer-review. Only contributions with an accepted paper will be eligible for the Challenge participation. The organisers preserve the right to re-evaluate the findings, but will not participate themselves in the Challenge. Participants are encouraged to compete in both Sub-Challenges. Overall, contributions using the provided or equivalent databases are sought in (but not limited to) the following areas:

- Participation in the Intoxication Sub-Challenge
- Participation in the Sleepiness Sub-Challenge
- Novel features and algorithms for the analysis of speaker state
- Cross-corpus and cross-task feature genericity analysis
- Exploitation of speaker trait meta-information in speaker state analysis

The results of the Challenge will be presented at Interspeech 2011 in Florence, Italy. Prizes will be awarded to the Sub-Challenge winners. If you are interested and planning to participate in the Speaker State Challenge, or if you want to be kept informed about the Challenge, please send the organisers an e-mail to indicate your interest and visit the [homepage](http://emotion-research.net/sigs/speech-sig/is11-speaker-state-challenge): <http://emotion-research.net/sigs/speech-sig/is11-speaker-state-challenge>