

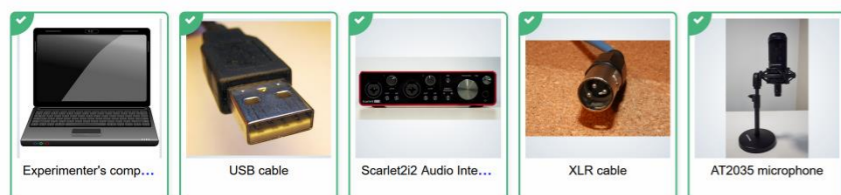
Project Leaders: Prof. Dr. Kevin Tang, Dr. Christopher Geissler, Eoin O'Reilly  
Content Creators: Jan Kels, Alina Schünemann

# Choose Your Own Adventure: Teleporting to a Virtual Phonetics Laboratory

An interactive first-person view experience to learn hands-on laboratory skills in phonetics

- Principle of Active Learning: students learn new content best when they *actively do things* and *think about what they are doing*
- Opportunity to experience and try out the phonetics lab from home, without any time limits or self-perceived pressure from other people watching interfering with active participation
- Students can work through the content flexibly and at their own pace

Drag to arrange the images in the correct sequence (from the experimenter to the participant).



Time spent  
0:05  
Total Moves  
2  
You got 5 of 5 points  
5/5

- Units are self-contained, so students/instructors choose themselves which ones should be completed
- The virtual lab thus reaches a vast target group (around 300 students per basis module/semester) and provides supporting content for a variety of courses



Get instant access  
to the virtual lab  
here!

Contents: Recording and analyzing speech data

The learning units are divided into two main areas:

## 1. Recording Units

- Basics of creating acoustic recordings in a laboratory including equipment, set-up and lab etiquette
- Creating own stimuli e.g. with *PsychoPy*
- Rules of good data management

## 2. Analysis Units

- Working with the basic applications of programs such as *TextGrid*, *Praat* and *R*
- Visualization of data via *ggplot*

Implementation in Moodle via h5p

- Course is available online via Moodle at any time for all registered users
- Units consist of informative reading parts mixed with different quizzes designed to enable the students to assess and evaluate their personal learning process in a playful manner
- Image-supported, interactive step-by-step instructions aim to enable students to work confidently with the programs mentioned and thus impart their knowledge on some basic skills of scientific work, which are also of great importance beyond the field of phonetics

- Both the informational content and the quizzes is made available in a variety of different formats:

- Interactive 360-degree tour of the laboratory with many elements that can be clicked on to view additional information about the respective equipment
- Equipment can be virtually set up for a simple speech production experiment
- Noise occurring during the audio recording in one video can be assigned to the respective source in a subsequent quiz

- Narrative framework unfolds over several video sequences integrated in the learning units

- Students can empathize with the protagonists and achieve the learning goals together with them

Reflection and Prospect

Although the initial idea of the course was to provide an easy and accessible pathway to the phonetics lab for all interested learners, it is now not only designed to improve phonetic-related skills, but for supporting students of all levels in planning and conducting experiments, presenting the results in an appropriate way and to establish sound knowledge of how to obtain high-quality results in terms of reliability, reproducibility and validity as a basis for good scientific work.

As only selected materials have been tested in a few seminars so far, there is currently not enough feedback from users to be able to evaluate the course. It is planned to set up a feedback option in Moodle.

