Online Experiments for Language Scientists

Lecture 1: Introduction

Kenny Smith

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Reminder of rules for in-person classes

Guiding principle: **let's look out for each other**

- If you are unwell, or think you might be, don't come to class!
- We encourage you to wear a mask, particularly when it won't interfere with communication
- If you can't be here you can participate remotely via Learn or Teams

- If someone's here, trust that they're safe
- If someone's not wearing a mask, trust that they have reasons
- It's normal to cough sometimes!

What is this course about?

Language is something that humans do, so all subfields of linguistics involve collecting data from humans

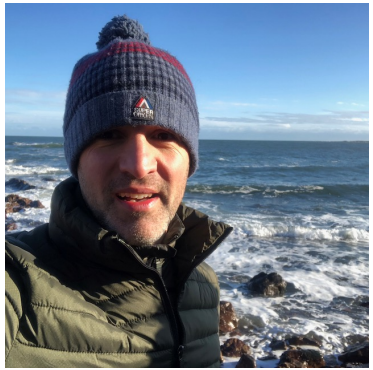
- Grammaticality judgments, naturalistic recordings, sociolinguistic interviews, preferential looking/listening in infants, reading times, reaction times and/or choices in psycholinguistic experiments, …

This kind of data can be collected in person

Or it can be collected online (i.e. via a web browser)

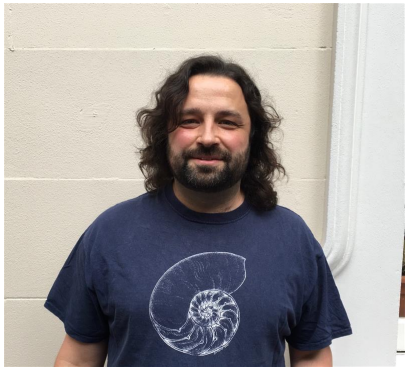
This course shows you how to build language-relevant experiments that run in browsers, and how to crowdsource experiment participants

Who teaches on it?



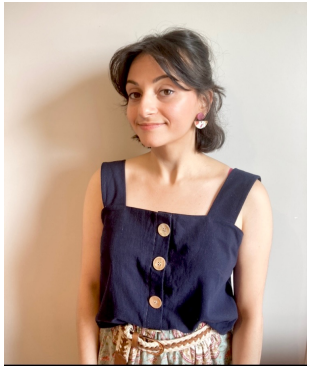
Kenny Smith
Prof

Lectures
Labs
Course organiser



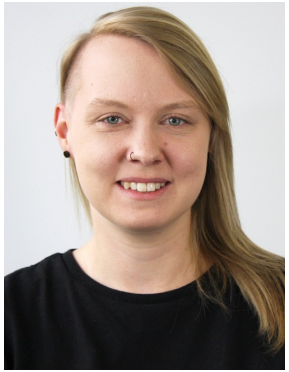
Alisdair Tullo
Programming and Apps Manager

Labs



Maisy Hallam
PhD student, Linguistics

Labs



Aislinn Keogh
PhD student, Linguistics

Labs

Vilde Reksnes
PhD student, Linguistics

Labs

How is it delivered?

In-person lectures (Mondays 9am-9.50am)

In-person labs (Wednesdays 9am-10.50am)

Lectures

- In person, but with a live-streaming option
- Bit of context by me, **plus discussion / Q&A time**
- Each lecture has associated pre-reading, **do the readings before the lectures** so we can discuss any questions/thoughts you have

Labs

- In person, but with a remote participation option via Teams (limited numbers only!)
- Work through the practicals, with support on hand!

How is it assessed?

Assessment 1: annotated bibliography, worth 30%, due 10th November

- Brief summary plus evaluation of 4 papers
- Papers can come from course readings or elsewhere

Assessment 2: coding project + report, worth 70%, due 8th December

- A functioning web experiment
- A short report explaining the motivation for that experiment, discussing and evaluating critical implementation decisions

Lots of information re. rationale and expectations available in the assignment brief

There will be a cut-off date for questions on the assignments!

Where can I find all this information?

Course Learn page

- Links to course pages on github
- Lecture live streams/recordings
- Access code to set up Teams remote labs (if you need it)
- Assignment submission links

Course pages on github

- Everything else

Any questions on course organization, admin?

(Kenny, remember to check online Q&A)

Three components of running an online experiment

Building an experiment that will run in a web browser

- We'll be using javascript and jsPsych
- Also useful for running experiments in-person!

Making it openly available online

- PPLS / the Uni provide servers

Connecting with experiment participants

- E.g. through **crowdsourcing websites**

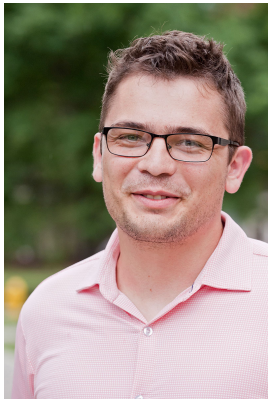
A look at some simple experiments

Javascript and jsPsych

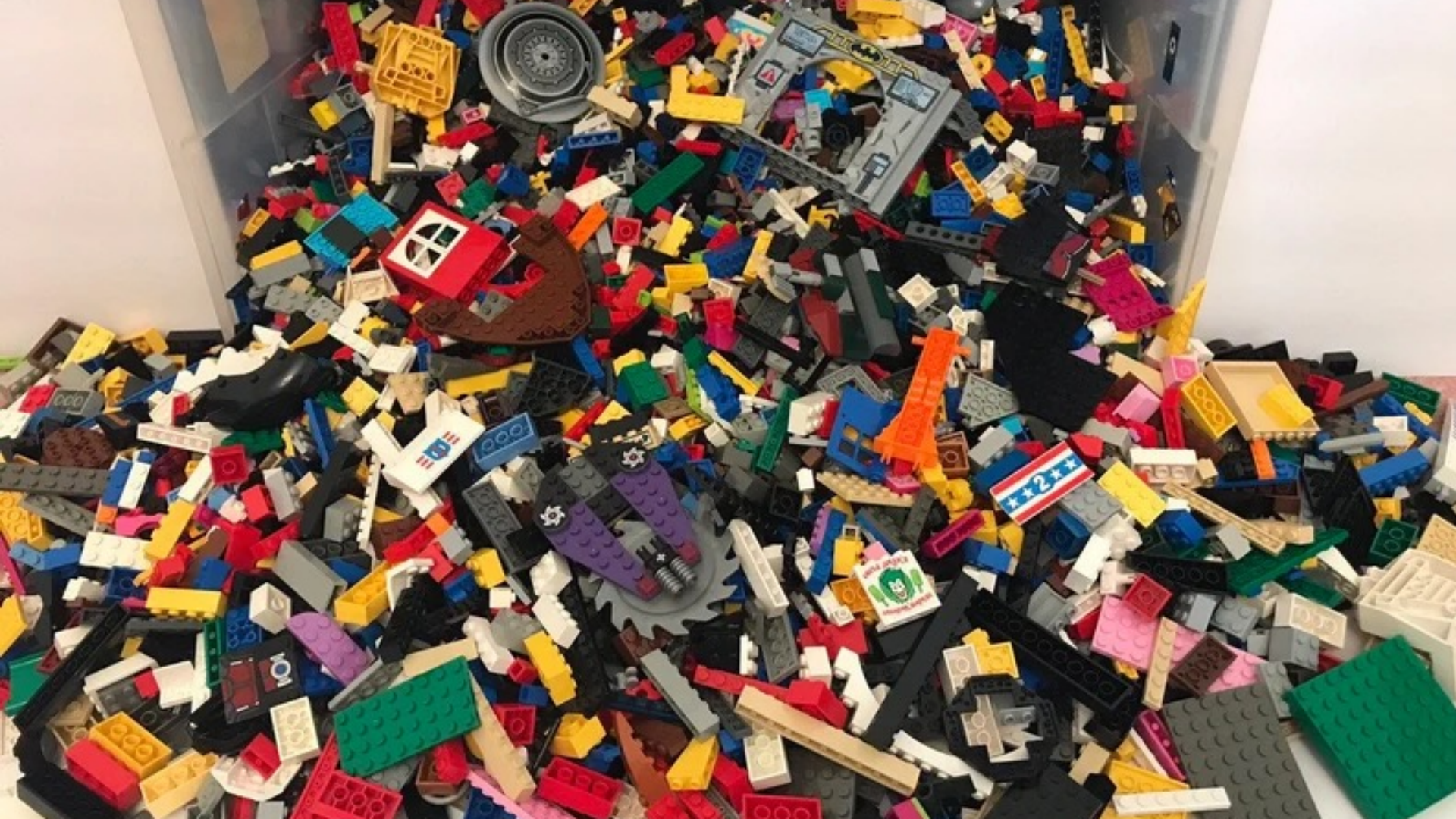
Javascript: a programming language that runs in web browsers

jsPsych: a library that makes it easy to build experiments (https://www.jspsych.org)

de Leeuw, J. R. (2015). jsPsych: A JavaScript library for creating behavioral experiments in a web browser. *Behavior Research Methods*, *47*, 1-12. doi:10.3758/s13428-014-0458-y.



Josh de Leeuw
Vassar College



Plugins and timelines

Plugins: basic building blocks

```
var hello_trial = {
  type: jsPsychHtmlKeyboardResponse,
  stimulus: 'Hello world!'
}
```

Timeline: a sequence of those building blocks

```
var timeline = hello_trial;
```

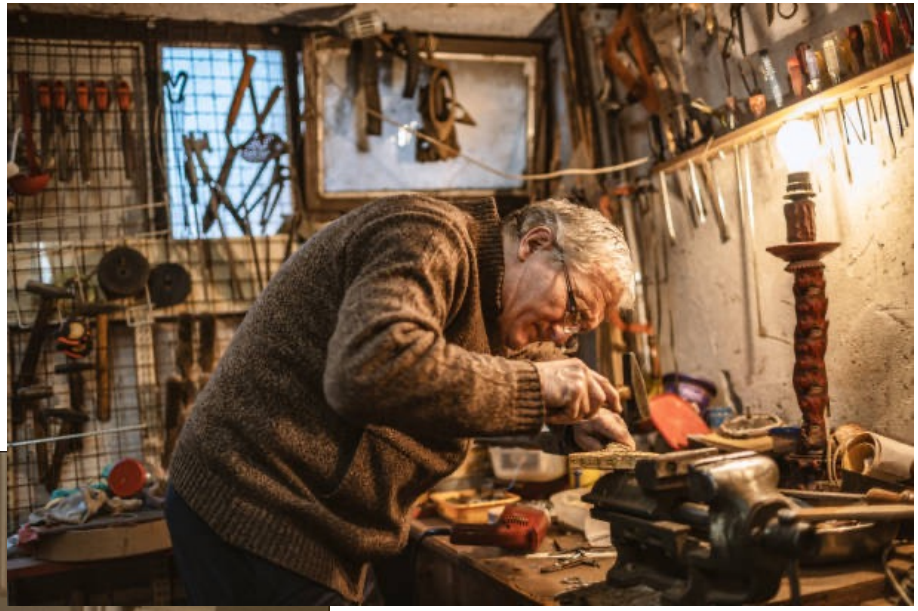
A wide range of plugins available

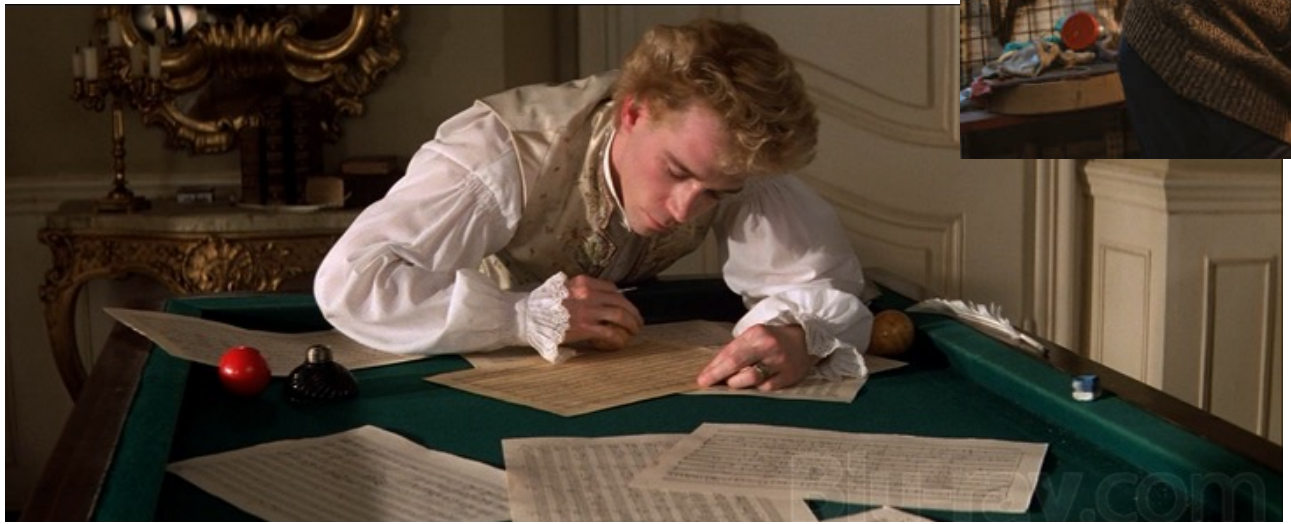
See https://www.jspsych.org/7.3/plugins/list-of-plugins/

Building an experiment involves

- Knowing how to use plugins
- Figuring out how to piece them together to make the experiment you want
- Some tiny bits of html and javascript to connect the plugins and make them do what you want
- (Occasionally, and optionally, making your own plugin)

A quick word about coding and realistic expectations!





Any questions/concerns so far?

(Kenny, remember to check online Q&A)

Next up

Now: first (truncated) lab!

- Week 1 practical, linked from the github page

Next Monday, 9am: lecture 2, crowdsourcing experimental data

- Our normal lecture room (S1, 7 George Square)
- **Do the reading beforehand!**