Introduction

In the first part of this lecture we will quickly look at how to bridge the gap between the abstract world of discrete-time signals and what is known as the "analog world", that is, the world described in mathematical terms that are used in physics and electronics. In particular, we will lay down the basic principles that are at work in your computer soundcard when you play a digital sound file.

In the second part of the lecture we will illustrate a simple, and yet surprisingly effective, sound synthesis system, known as the Karplus-Strong algorithm. You will be able to see that, even with the limited DSP tools at our disposal at this point in the class, we can already perform some non-trivial signal processing. By the way, don't forget to check out the associated Python notebook so you can play with the Karplus-Strong synthesizer!