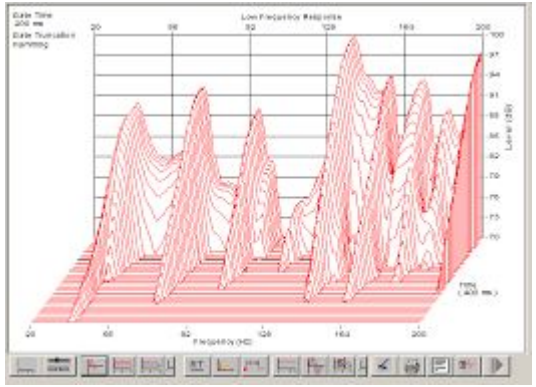
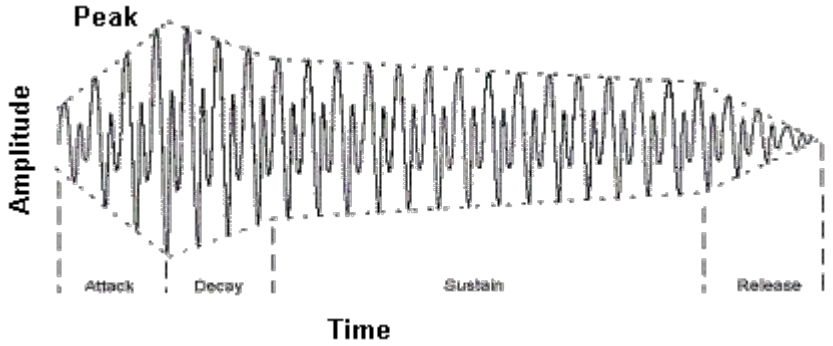
Modelling Instrument Sound Decay

- Architecture
  - One LSTM for one instrument. Try out specific models from papers
- Data-Set
  - Ableton Sound Library
- Representation
  - Try raw sound wave first, then spectrogram
- Loss function
  - ??? What do we want to optimize?
- Goals
  - 1. Learn sound decay over different pitches for one instrument
  - 2. See if LSTM can generalize to families of instruments

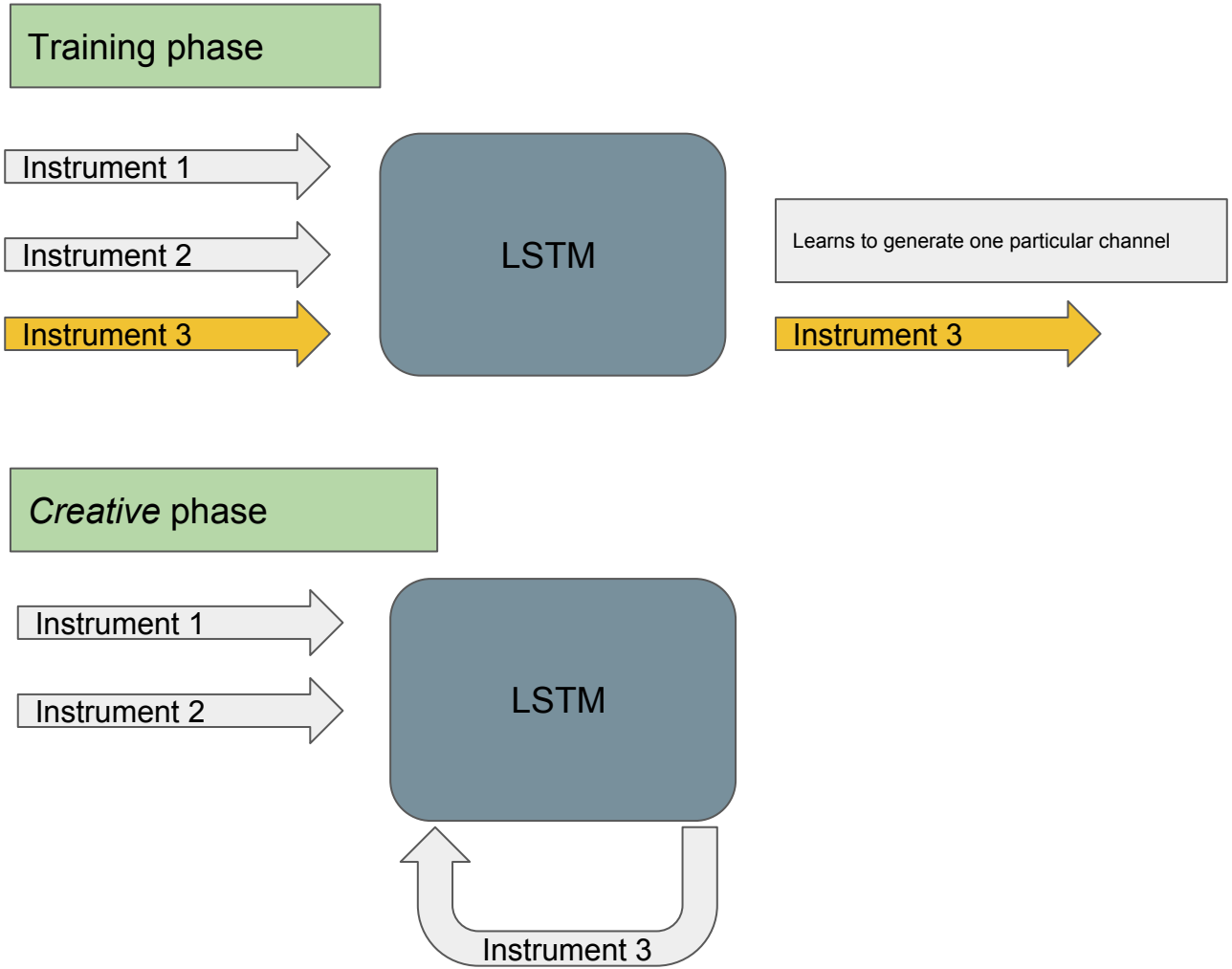
Signal representation





Generating Alongside Additional Channels

- Architecture
  - LSTM with multi-channel audio input and single channel output
- Data-Set
  - Multi channel audio files (play-along CDs, Choir recordings, etc.)
  - of the same ensemble, recording conditions and composer.
- Representation
  - Depends on results of the prior task.
  - Possibly MIDI as last resort for a proof of concept


Training phase
Instrument 1
Instrument 2
Instrument 3
LSTM
Learns to generate one particular channel
Instrument 3
Creative phase
Instrument 1
Instrument 2
LSTM
Instrument 3

Planning next 2 weeks

1. Week 1 - Modelling Instrument Sound Decay
2. Week 2 - Generating Alongside Additional Channels
3. Weekend 25/26 June - Write report