AUSTRIAN ACADEMY OF SCIENCES

ACOUSTICS RESEARCH INSTITUTE

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The 1st AMT Workshop

Vienna, 2.2.2022

Preliminaries

- Pandemic-related information

- Internet access?
- Sourceforge account?
- Git client installed?
- AMT environment?

The AMT Workshop: Aims and schedule

- What is the AMT and how can it be useful to you?
- General AMT structure and available tools
- AMT core functionality and coding conventions
- Make your own model:
  - Task 1: Quick hack using the AMT tools
  - Task 2: Create an your own experiment
  - Task 3: Digging deeper

Time	Issue
14:00	*Welcome, Downloads*
14:15	**Introduction**
14:30	**Structure**
14:45	**Coding Conventions**
15:00	**Workshop Tasks**
16:00	*Break*
17:30	**Wrap Up**
18:00	**End of the workshop**

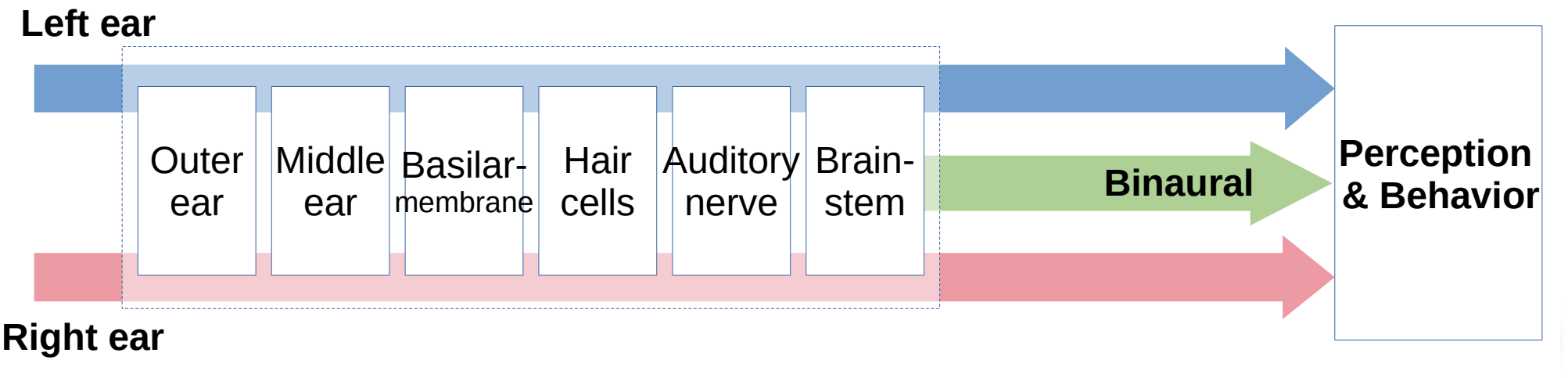
19:30	**Dinner in Wieden Bräu** Waaggasse 5, 1040 Wien

The AMT

- An open-source and open-access toolbox for auditory modeling
- A framework for developing new models by providing verified components
- A tool for performing scientific experiments with existing models
- An instrument to make a large number of models available in a common programming language
  - Core: Matlab/Octave; Supported: C, C++, Python; Extendable to any language*
- Development started in 2009, focus on sustainability
- Community work: Most of the models “donated” to the AMT

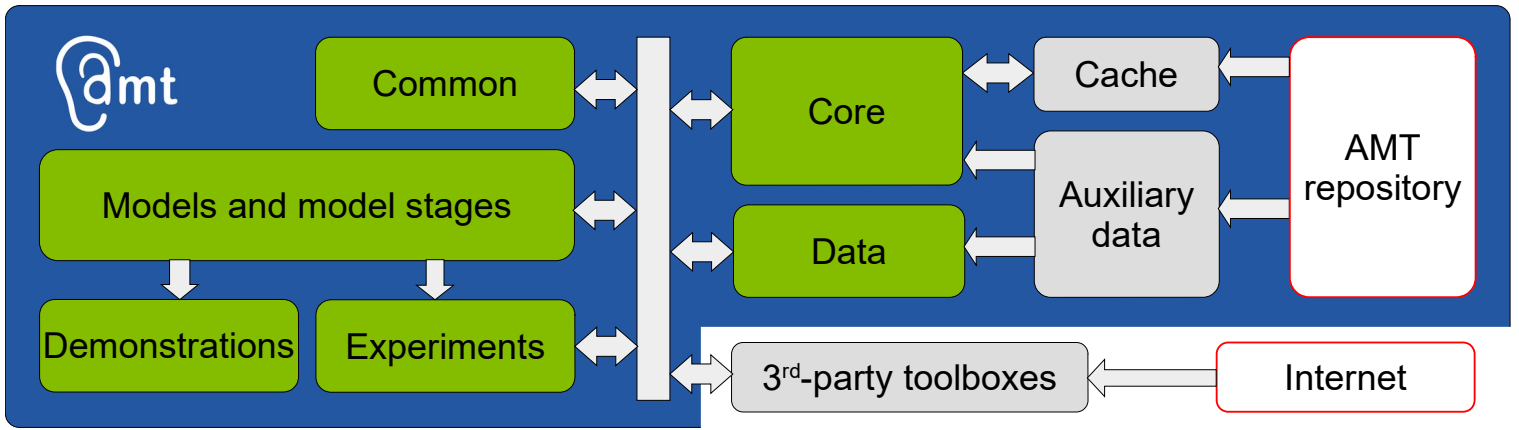
* but BrainFuck

Typical stages of auditory models



- Model ≠ Model implementation
- Models need data
- Model implementations often rely on toolboxes
- Many models use similar functionality

The AMT: General structure



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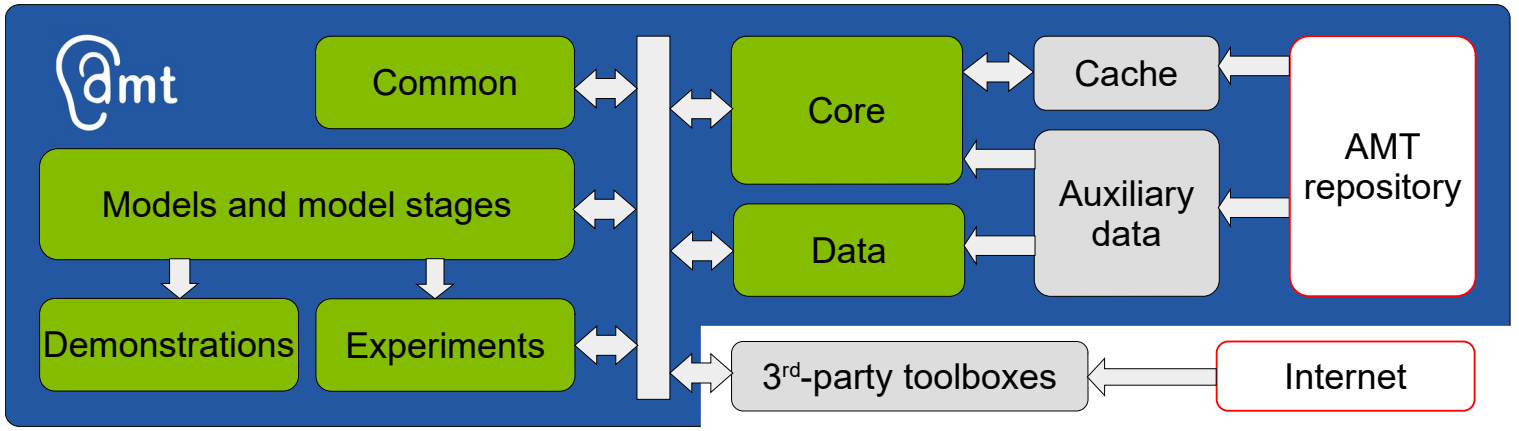
The AMT: General structure



- Model ≠ Model implementation: published only, <surname><year>
- Models need data: auxiliary data
- Model implementations often rely on toolboxes: third-party toolboxes
- Many models use similar functionality: common functions

The AMT: Documentation, code, environment

- Documentation: http://amtoolbox.org
  - Documentation per se
  - Model list and ratings
- Getting the code:
  - For **working** with the AMT only: download the release package
  - For **developing** (with) the AMT: get the source code
- Starting the AMT:
  - amt_start('install');
  - amt_start;
  - amt_stop;
- Testing the environment:
  - Simple test: demo_absolutethreshold
  - SOFA/HRTFs test: demo_baumgartner2014
  - C-compiler test: demo_zilany2014
  - Python test: demo_verhulst2012

The AMT Workshop: Summary of the introduction

- Do you know what is the AMT?
- Do you know what are the general components of the AMT?
- Do you have a basic idea of what you can do with the AMT?
- Are you able to start the installation of the AMT?

- Cheat sheet: http://amtoolbox.org