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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

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<th>Issue</th>
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<tr>
<td>14:00</td>
<td>Welcome, Downloads</td>
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<tr>
<td>14:15</td>
<td>Introduction</td>
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<td>Structure</td>
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<td>14:45</td>
<td>Coding Conventions</td>
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<td>15:00</td>
<td>Workshop Tasks</td>
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<td>16:00</td>
<td>Break</td>
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<td>17:30</td>
<td>Wrap Up</td>
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<td>End of the workshop</td>
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<td>19:30</td>
<td>Dinner in Wieden Bräu</td>
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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

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