New Features CadnaR - 2018

- Calculation/Configuration
  - New CUDA option for the particle model: uses the parallel computing power of an Nvidia-GPU (requires Nvidia graphics card with at least "shader model 2.0")
  - CUDA option: particle visualization up to 50th order possible
  - Configuration/Particle Model: global scattering coefficient now applies to the room and to all areas in the table Partial Areas
  - Configuration/Particle Model: new options "equal number of particles per source" or "... per octave" for RIA calculations (default: on)
  - Configuration/Particle Model: new option "maximum reflection loss" (default: off, default value: 60 dB)
  - Configuration/Particle Model: new option for particle diffraction (requires the option "generate particles by octave" activated)
  - Modifications for menu command Calculate Receiver Chains: With the SHIFT key pressed, just the actual variant is calculated. With the SHIFT key pressed while having a receiver chain selected, just this chain for the actual variant is recalculated.

- CadnaR-Objects
  - Receiver + receiver chain: level, RIR quality criteria and Sigma values are now stored per variant in attributes (no longer as string variables in the Memo-Window): access by variant number attached, e.g.: LPV03 to access the level of the 3rd variant, EDT_2000V05 to access the Early Decay Time at 2 kHz of the 5th variant etc. (with no variant number attached: value of the actual variant)
  - Dialog Receiver: dialog enlarged to display spectral RIA quality criteria and RIA single values (+ level, sigma, sigma iter.)
  - Dialog Receiver Chain: dialog enlarged to display spectral RIA quality criteria
  - Tables Receiver + Receiver Chain: new table columns for Sigma A and T20 (in addition STI male for receiver)
  - Dialog Bitmap: now the bitmap can be saved within the CadnaR file
Further New Features

- **dialog Modify Attribute** (via dialog Modify Objects): button "Defaults" enables Select/Save of presets
- **dialog Options | Miscellaneous**: new graphic option "Offset per Group Level" (offset = distance from the outer object frame, zero = no overlap)
- New context menu command **Set Length** for polygons
- **command Convert to**: converting receiver chain/s into individual receivers
- **new command Purge Tables** (on menu Tables | Miscellaneous): deletes double spectra from the local libraries or spectra not addressed by any source (holds for spectra of sound power level, sound reduction index, absorption, and scattering coefficient)
- **dialog Modify Objects**: Now, besides a numerical condition also a condition for text strings can be used.
- **dialog Modify Objects**, action "Delete" for Auxiliary Polygons: condition for deleting rays available per default (expression: match(ID$, "RAY*") ).
- **menu Options | Evaluate Receiver Chains**: now specifying the averaged T20 spectrum for all points of all receiver chains (text can be copied to the clipboard)
- **menu Options | Spatial mean reverberation times| Tables**: spatially averaged reverberation times at receivers and for receiver chains now available also as a table
- **dialog Options for 3D Representation**: visual transparency in 3D specifiable per object (new button "3D" on object dialogs for Box-type Obstacle, Barrier, PolyMesh, Box-type Source, transparency 0 (opaque) <= x <=1 (invisible)
- **dialog Options for 3D Representation**: option "not selectable in 3D view" to set an object not selectable per mouse in 3D view (to enable access per mouse to objects below)
- **Consistency Check**: now checks for validity of referenced library objects in object dialogs (for sound power, absorption, scattering coefficient, and transmission)

Miscellaneous

- **double click on the Group frame in 2D** opens the dialog **ObjectTree | Definition** showing the respective tree
- **new folder symbol serving as object symbol for groups** (in dialogs Layer, Appearance, Select Object)
- In 2D, a selected group frame is now highlighted in cyan color and with increased line width.
- **Invalid frequency bands of the sound pressure level spectrum** are no longer displayed (before -99).
- The display of spectra in object tables is now restricted to the frequency range specified in the Configuration of Calculation.
- **menu Extras**: new system info displays CPU and RAM data
- **toolbar**: new icon for command „Calculate Voxel Grid”

Import/Export

- **menu VoxelGrid | Export**: exports the voxel grid to a proprietary binary format to be imported by the software „pCon.planner“ from EasternGraphics GmbH, Germany
CadnaR-Options