

Model Manipulation

Move sectioning plane: Right mouse button
Rotate model: Left mouse button
Zoom model: Center mouse button/roller

Model Display

Show Collagen fibers: Hides/shows collagen fibers in the model volume
Show GAGs: Hides/shows GAGs in the model volume
Clip GAGs: Trims GAGs so only those contained in sectioning volume appear. Sliding the sectioning volume provides dynamic clippings of GAGs through the volume.
Fancy GAGs: Thickens/thins GAGs for visualization purposes

Model Input Parameters

Seed: Random number for model generation. Inputting the same seed number will generate the same model if all other parameters are held constant.
Field of view: Side length of the model volume cube (nm)
Collagen Parameters:
 Max Radius: Max radius of collagen fibril diameter distribution (nm)
 Min Radius: Min radius of collagen fibril diameter distribution (nm)
 Jitter: Degree of deviation from true hexagonal packing. Jitter = 0 yields true hexagonal packing. Values over 0.2 deviate from realistic collagen packing.
GAG Parameters:
 Length: Mean of Gaussian GAG length distribution
 Deviation: Standard deviation of Gaussian GAG length distribution
 Separation: Distance between D-period bands on collagen fibrils
 Density: Scaling factor for GAGs/unit volume in the model (~10 phys)

Misc. Controls & Outputs

Update: Updates model after parameter changes
Project: Creates 2D simulation of TEM data from the current sectioning volume, reducing GAGs to line elements and projecting 3D geometries onto a 2D viewing plane.
Stats: Values for average collagen radius (nm) and ratio of collagen cross sectional area to total model cross sectional area.

Menus

File: Exit
Stats: 3D stats including GAG Angle and GAG Length profiles for the model volume. 2D stats including GAG true length, GAG clipped length, GAG projected length, and GAG in-plane angle for the 2D projection of 3D data within the sectioning volume. Use the EXPORT button to save all 2D or 3D data in a *.txt file.
Help: Contact and Copyright information

