**NeuroDOT Tutorials ReadMe**

This document will serve to outline the different tutorials in the toolbox and their purposes.

**NeuroDOT Dependencies**

Before you start, you must install the following dependencies to successfully run NeuroDOT.

1. Matlab 2020b
2. NIRFASTer (<https://github.com/nirfaster/NIRFASTer>)
3. SNIRF (<https://github.com/fNIRS/snirf>)
   1. easyh5 (<https://github.com/NeuroJSON/easyh5>)
   2. jsnirfy (<https://github.com/NeuroJSON/jsnirfy>)
4. GIFTI (<https://github.com/gllmflndn/gifti>)
5. FreeSurfer 7.2 (<https://surfer.nmr.mgh.harvard.edu/fswiki/rel7downloads>)
6. Connectome Workbench (<https://humanconnectome.org/software/get-connectome-workbench>)

**About NeuroDOT**

* Getting Started
  + **PPT:** NeuroDOT\_Tutorial\_Getting\_Started
  + **Script:** none
* Loading Raw Data
  + **PPT:** NeuroDOT\_Tutorial\_for\_Loading\_Raw\_Data
  + **Script:** Script\_for\_Loading\_Raw\_Data
* Data Organization
  + **PPT:** NeuroDOT\_Tutorial\_Data\_Organization
  + **Script:** none
* Visualization Overview
  + **PPT:** NeuroDOT\_Tutorial\_Visualization\_Overview
  + **Script:** NeuroDOT\_Visualization\_Script
* Visualization Overview with CCW2
  + **PPT:** NeuroDOT\_Tutorial\_Visualization\_Overview\_CCW2\_221026
  + **Script:** NeuroDOT\_Visualization\_Script

**Light Modeling Tutorials**

* Basic Light Modeling Tutorial with AlignMe
  + **PPT:** NeuroDOT\_Tutorial\_Generating\_a\_Light\_Model\_Pad\_24x28\_With\_AlignMe
  + **Script:** Basic\_Light\_Modeling\_with\_AlignMe\_Tutorial
  + **Pad file:** Pad\_AdultV24x28.mat
* Sparse Pad Tutorial with AlignMe
  + **PPT:** NeuroDOT\_Tutorial\_Generating\_a\_Light\_Model\_Pad\_24x28\_With\_AlignMe
  + **Script:** Basic\_Light\_Modeling\_with\_AlignMe\_Tutorial
  + **Pad file:** Pad\_AdultV24x28.mat
* Light Modeling with a Subset of Measurements
  + **PPT:** NeuroDOT\_Tutorial\_Generating\_a\_Light\_Model\_With\_Subset\_of\_ Measurements\_Pad\_24x28\_and\_AlignMe
  + **Script:** Light\_Modeling\_with\_Subset\_of\_Measurements\_and\_AlignMe\_Tutorial
  + **Pad file:** Pad\_AdultV24x28.mat
* Split Pad Tutorial
  + **PPT:** NeuroDOT\_Tutorial\_Split\_Pad\_Light\_Modeling\_With\_LUMO\_Adult\_ Temporal\_Pad\_and\_AlignMe
  + **Script:** Split\_Pad\_Light\_Modeling\_with\_LUMO\_Adult\_Temporal\_Pad\_and\_ AlignMe\_Tutorial
  + **Pad file:** LUMO\_adult\_temporal\_pad.mat
* Basic Light Modeling with Hummingbird
  + **PPT:** NeuroDOT\_Tutorial\_Generating\_a\_Light\_Model\_Pad\_24x28\_With\_ Hummingbird
  + **Script:** Basic\_Light\_Modeling\_with\_Hummingbird\_Tutorial
  + **Pad file:** Pad\_AdultV24x28.mat
* Sparse Pad Tutorial with Hummingbird
  + **PPT:** NeuroDOT\_Tutorial\_Generating\_a\_Light\_Model\_SparsePad\_32x32\_ With\_Hummingbird
  + **Script:** Basic\_Light\_Modeling\_with\_sparse\_Pad\_and\_Hummingbird\_Tutorial
  + **Pad file:** Pad\_FullHead\_32x32.mat
* Light Modeling with Adult 96x92 Pad
  + **PPT:** NeuroDOT\_Tutorial\_Generating\_a\_Light\_Model\_Pad\_Adult\_ 96x92\_Example
  + **Script:** Basic\_Light\_Modeling\_with\_AlignMe\_Tutorial\_Pad\_Adult\_ 96x92
  + **Pad file:** Pad\_Adult\_96x92.mat
  + Note: this tutorial’s PowerPoint is in an older style
* Pad File Generation Tutorial
  + **PPT:** NeuroDOT\_Tutorial\_PadFile\_Generation
  + **Script:** Pad\_File\_Generation\_Script
* AlignMe Tutorial
  + **PPT:** NeuroDOT\_Tutorial\_AlignMe
  + **Script:** AlignMe\_Standalone\_Tutorial

**Processing Pipelines**

* Preprocessing
  + **PPT:** NeuroDOT\_Tutorial\_PreProcessing
  + **Script:** NeuroDOT\_PreProcessing\_Script
* Full Data Processing
  + **PPT:** NeuroDOT\_Tutorial\_Full\_Data\_Processing\_Overview
  + **Script:** NeuroDOT\_Full\_Processing\_Script
* Full Data Processing with CCW2
  + **PPT:** NeuroDOT\_Tutorial\_Full\_Data\_Processing\_Overview\_CCW2\_221026
  + **Script:** NeuroDOT\_Full\_Processing\_Script
* Image Reconstruction
  + **PPT:** NeuroDOT\_Tutorial\_ImageReconstruction
  + **Script:** NeuroDOT\_ImageReconstruction\_Script