```
(***Input identifying information***)

In[•]:= date = ToString[Evaluate[Input["Input the date of the experiment"]]]
Out[•]= 050423

In[•]:= mouse = ToString[Evaluate[Input["Input the mouse identity (e.g. Mouse123)"]]]
Out[•]= Mouse23167

In[•]:= sessionNum = Evaluate[Input["Input the session number"]]
Out[•]= 1

In[•]:= (***Import the frame times for the 2P images and calculate the frame rate***)

In[•]:= tpFrameTimes =
  Drop[Drop[(Import[StringJoin["S:/Imaging/Garrett/FMB208_2PRig/", date, "/",
       mouse, "/Session", ToString[sessionNum], "/", date, "_", mouse, "_",
       "Session", ToString[sessionNum], "_2PFrameTimes.txt"], "List"]), 16], -1];

In[•]:= numMovies =
  Length[FileNames["*", File[StringJoin["S:/Imaging/Garrett/FMB208_2PRig/", date,
      "/", mouse, "/Session", ToString[sessionNum], "/moco/New folder/"]]]];

In[•]:= numFramesPerAcq = Round[Length[tpFrameTimes] / (numMovies)];

In[•]:= tpFrameRate = Round[Mean[numFramesPerAcq / Flatten[Differences /@
       ({First[#], Last[#]} & /@ (Partition[tpFrameTimes, numFramesPerAcq]))]]];

In[•]:= (****Cell bodies*****)

In[•]:= numROIsCBs = Length[
    FileNames["*", File[StringJoin["S:/Imaging/Garrett/FMB208_2PRig/", date, "/", mouse,
      "/Session", ToString[sessionNum], "/dFOverF0TimeSeries_CellBodies_Unfilt/"]]]];

In[•]:= Table[Evaluate@ToExpression[StringJoin["spikePosCB", ToString[n]]] =
    Round@Import[StringJoin["S:/Imaging/Garrett/FMB208_2PRig/", date, "/",
      mouse, "/Session", ToString[sessionNum], "/deConvdFFsCellBodies/",
      "deconvSpikecb", ToString[n], ".txt"], "List"];, {n, 1, numROIsCBs}];

In[•]:= (****Axons*****)

In[•]:= numROIsAxons =
  Length[FileNames["*", File[StringJoin["S:/Imaging/Garrett/FMB208_2PRig/", date, "/",
      mouse, "/Session", ToString[sessionNum], "/dFOverF0TimeSeries_Axons_Unfilt/"]]]];

In[•]:= Table[Evaluate@ToExpression[StringJoin["spikePosAxon", ToString[n]]] =
    Round@Import[StringJoin["S:/Imaging/Garrett/FMB208_2PRig/", date,
      "/", mouse, "/Session", ToString[sessionNum], "/deConvdFFsAxons/",
      "deconvSpikeaxon", ToString[n], ".txt"], "List"];, {n, 1, numROIsAxons}];

In[•]:= (****Average event rates during session***)

In[•]:= totalSessDur = Total[Flatten[Differences /@
      ({First[#] + 8, Last[#] - 8} & /@ (Partition[tpFrameTimes, numFramesPerAcq]))]];
```

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In[•]:= Table[Evaluate@ToExpression[StringJoin["eventRateCB", ToString[n]]] =
          Length[(ToExpression[StringJoin["spikePosCB", ToString[n]]])] /
           totalSessDur;, {n, 1, numROIsCBs}];

In[•]:= Table[Evaluate@ToExpression[StringJoin["eventRateAxon", ToString[n]]] =
          Length[(ToExpression[StringJoin["spikePosAxon", ToString[n]]])] /
           totalSessDur;, {n, 1, numROIsAxons}];

In[•]:= (***Export data***)

In[•]:= CreateDirectory[StringJoin["S:/Imaging/Garrett/FMB208_2PRig/", date, "/",
          mouse, "/Session", ToString[sessionNum], "/", "MeanInferredFiringRates/"]];

In[•]:= Table[Export[StringJoin["S:/Imaging/Garrett/FMB208_2PRig/", date, "/", mouse, "/Session",
           ToString[sessionNum], "/", "MeanInferredFiringRates/", date, "_", mouse, "_",
           "Session", ToString[sessionNum], "_meanFR_cellBody", ToString[n], ".txt"],
          ToExpression[StringJoin["eventRateCB", ToString[n]]], {n, 1, numROIsCBs}];

In[•]:= Table[Export[StringJoin["S:/Imaging/Garrett/FMB208_2PRig/", date, "/", mouse, "/Session",
           ToString[sessionNum], "/", "MeanInferredFiringRates/", date, "_", mouse,
           "_", "Session", ToString[sessionNum], "_meanFR_axon", ToString[n], ".txt"],
          ToExpression[StringJoin["eventRateAxon", ToString[n]]], {n, 1, numROIsAxons}];
```