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

date = ToString[Evaluate[Input["Input the date of the experiment"]]]

mouse = ToString[Evaluate[Input["Input the mouse identity (e.g. Mouse123)"]]]

sessionNumBef = Evaluate[Input["Input the session number before manipulation"]]

sessionNumAft = Evaluate[Input["Input the session number after manipulation"]]

discROIsQ = ToString[Evaluate[Input["Are there any non-useable ROIs?"]]]

numROIs =
  Length[FileNames["*", File[StringJoin["S:/Imaging/Garrett/FMB208_2PRig/", date, "/",
      mouse, "/Session", ToString[sessionNumBef], "/dFOverF0TimeSeries/"]]]];

If[discROIsQ == "Yes",
 nonUseROIs = ToExpression[Import[StringJoin["S:/Imaging/Garrett/FMB208_2PRig/",
      date, "/", mouse, "/Session", ToString[sessionNumAft], "/", date, "_", mouse,
      "_Session", ToString[sessionNumAft], "_nonUseableROIs.txt"]]];, nonUseROIs = {};]

sigROIsBef = Import[StringJoin["S:/Imaging/Garrett/FMB208_2PRig/", date, "/",
    mouse, "/Session", ToString[sessionNumBef], "/WhiskerData/", date, "_",
    mouse, "_Session", ToString[sessionNumBef], "_whiskModROIs.txt"], "List"];

sigROIsAft = Import[StringJoin["S:/Imaging/Garrett/FMB208_2PRig/", date, "/",
    mouse, "/Session", ToString[sessionNumAft], "/WhiskerData/", date, "_",
    mouse, "_Session", ToString[sessionNumAft], "_whiskModROIs.txt"], "List"];

sigRespROIs = DeleteCases[Table[
    If[MemberQ[sigROIsBef, n] && MemberQ[sigROIsAft, n], n, Null], {n, 1, numROIs}], Null];
 (***ROIs are only acceptable if they were acceptable both before and after***)

nonSigRespROIs = Complement[Range[numROIs], sigRespROIs]

noGoodROIs = DeleteDuplicates[Join[nonSigRespROIs, nonUseROIs]]

usefulROIs = Complement[Range[numROIs], noGoodROIs]

(***For each ROI that can be used for paired analysis,
upload the locomotion modulation index for the 2 sessions,
and pair the indices for the sessions**)

Table[Evaluate@ToExpression[StringJoin["dffWhiskCCBef", ToString[n]]] =
    ToExpression /@ Import[StringJoin["S:/Imaging/Garrett/FMB208_2PRig/",
       date, "/", mouse, "/Session", ToString[sessionNumBef], "/WhiskerData/",
       date, "_", mouse, "_Session", ToString[sessionNumBef], "_",
       "dFFwhiskCrossCorr_ROI", ToString[n], ".txt"], "List"];, {n, usefulROIs}];

Table[Evaluate@ToExpression[StringJoin["dffWhiskCCAft", ToString[n]]] =
    ToExpression /@ Import[StringJoin["S:/Imaging/Garrett/FMB208_2PRig/",
       date, "/", mouse, "/Session", ToString[sessionNumAft], "/WhiskerData/",
       date, "_", mouse, "_Session", ToString[sessionNumAft], "_",
       "dFFwhiskCrossCorr_ROI", ToString[n], ".txt"], "List"];, {n, usefulROIs}];

catenatedWhiskerCrossCorrsBef =
  Table[ToExpression[StringJoin["dffWhiskCCBef", ToString[n]]], {n, usefulROIs}];
```

```
In[•]:= peakCrossCorrsBef = Table[Max[(catenatedWhiskerCrossCorrsBef[[n]])[[All, 2]]],
          {n, 1, Length[catenatedWhiskerCrossCorrsBef]}];

In[•]:= catenatedWhiskerCrossCorrsAft =
         Table[ToExpression[StringJoin["dffWhiskCCAft", ToString[n]]], {n, usefulROIs}];

In[•]:= peakCrossCorrsAft = Table[Max[(catenatedWhiskerCrossCorrsAft[[n]])[[All, 2]]],
          {n, 1, Length[catenatedWhiskerCrossCorrsAft]}];

In[•]:= Table[Evaluate@ToExpression[StringJoin["whiskModPaired", ToString[usefulROIs[[n]]]]] =
           {usefulROIs[[n]], Flatten@{peakCrossCorrsBef[[n]], peakCrossCorrsAft[[n]]}};,
         {n, 1, Length[usefulROIs]}];

       (***Visualize dFF-whisk correlation data for each ROI for the 2 sessions***)

In[•]:= Manipulate[{ListLinePlot[{ToExpression[StringJoin["dffWhiskCCBef", ToString[n]]],
           ToExpression[StringJoin["dffWhiskCCAft", ToString[n]]]},
          PlotStyle → {Black, Red}, PlotRange → All],
         ToExpression[StringJoin["whiskModPaired", ToString[n]]]}, {n, usefulROIs}]

In[•]:= (***********************************************)

In[•]:= Export[StringJoin["S:/Imaging/Garrett/FMB208_2PRig/", date, "/", mouse,
          "/PairedAnalysis/", date, "_", mouse, "_pairedROIsWhisker.txt"], usefulROIs];

In[•]:= Table[Export[StringJoin["S:/Imaging/Garrett/FMB208_2PRig/", date, "/", mouse,
           "/PairedAnalysis/", date, "_", mouse, "_whiskerModPaired_ROI", ToString[n], ".txt"],
          ToExpression[StringJoin["whiskModPaired", ToString[n]]]], {n, usefulROIs}];
```