```
v1Color = RGBColor["#ff1f5b"];

lpColor = RGBColor["#009ade"];

lmColor = RGBColor["#f28522"];

rlColor = RGBColor["#6cba7d"];

alColor = RGBColor["#ffc61e"];

mouseList = {"Mouse21196", "Mouse21180", "Mouse22447", "Mouse21185", "Mouse21137",
    "Mouse21200", "Mouse22448", "Mouse21177", "Mouse21197", "Mouse22439"};

(*********************************************)
(*******Generate plot in Figure 1D***************)
(*********************************************)

normCellCountsV1 = Table[ToExpression /@
     Import[StringJoin["F:/FigureGeneration/Figure1/Fig1Data/", mouseList[[n]], "/",
       mouseList[[n]], "_RH_V1_NormCellCounts.txt"], "List"], {n, 1, Length[mouseList]}];

normCellCountsLP = Table[ToExpression /@
     Import[StringJoin["F:/FigureGeneration/Figure1/Fig1Data/", mouseList[[n]], "/",
       mouseList[[n]], "_RH_LP_NormCellCounts.txt"], "List"], {n, 1, Length[mouseList]}];

normCellCountsRL = Table[ToExpression /@
     Import[StringJoin["F:/FigureGeneration/Figure1/Fig1Data/", mouseList[[n]], "/",
       mouseList[[n]], "_RH_RL_NormCellCounts.txt"], "List"], {n, 1, Length[mouseList]}];

normCellCountsAL = Table[ToExpression /@
     Import[StringJoin["F:/FigureGeneration/Figure1/Fig1Data/", mouseList[[n]], "/",
       mouseList[[n]], "_RH_AL_NormCellCounts.txt"], "List"], {n, 1, Length[mouseList]}];

normCellCountsLM = Table[ToExpression /@
     Import[StringJoin["F:/FigureGeneration/Figure1/Fig1Data/", mouseList[[n]], "/",
       mouseList[[n]], "_RH_LM_NormCellCounts.txt"], "List"], {n, 1, Length[mouseList]}];

(***)

xValsV1 = Mean[normCellCountsV1][[All, 1]];

meanNormCellCountsV1 = Mean[normCellCountsV1][[All, 2]];

semNormCellCountsV1 =
  StandardDeviation[normCellCountsV1][[All, 2]] / Sqrt[Length[mouseList]];
```

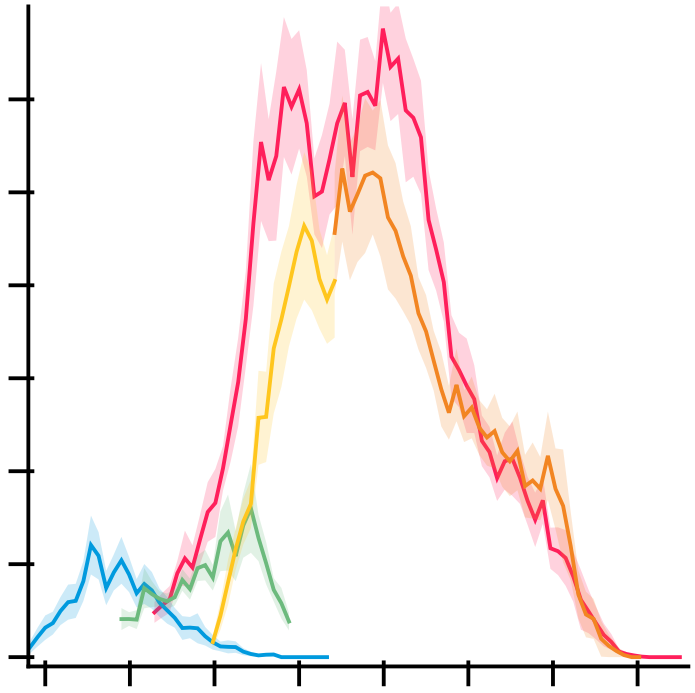
```
In[•]:= g1 = ListLinePlot[{Partition[Riffle[xValsV1, meanNormCellCountsV1], 2],
          Partition[Riffle[xValsV1, (meanNormCellCountsV1 + semNormCellCountsV1)], 2],
          Partition[Riffle[xValsV1, (meanNormCellCountsV1 - semNormCellCountsV1)], 2]},
         PlotRange → {{1.4, 5.3}, {-0.01, 0.7}},
         Filling → {1 → {{2}, Directive[Opacity[0.2], v1Color]},
           1 → {{3}, Directive[Opacity[0.2], v1Color]}},
         PlotStyle → {{v1Color, Thick}, Transparent, Transparent}, Joined → True, FrameTicks →
          {{LinTicks[0, 0.7, MajorTickLength → {0, .03}, MinorTickLength → {0, 0}], None},
           {LinTicks[1.4, 5.3, MajorTickLength → {0, .03}, MinorTickLength → {0, 0}], None}},
         Frame → {{True, None}, {True, None}}, Axes → False, TicksStyle → Thick,
         FrameStyle → Thick, AspectRatio → 1,
         FrameTicksStyle -> Directive[FontOpacity -> 0, FontSize -> 0]];

In[•]:= (***)

In[•]:= xValsLP = Mean[normCellCountsLP][[All, 1]];

In[•]:= meanNormCellCountsLP = Mean[normCellCountsLP][[All, 2]];

In[•]:= semNormCellCountsLP =
          StandardDeviation[normCellCountsLP][[All, 2]] / Sqrt[Length[mouseList]];

In[•]:= g2 = ListLinePlot[{Partition[Riffle[xValsLP, meanNormCellCountsLP], 2],
          Partition[Riffle[xValsLP, (meanNormCellCountsLP + semNormCellCountsLP)], 2],
          Partition[Riffle[xValsLP, (meanNormCellCountsLP - semNormCellCountsLP)], 2]},
         PlotRange → {{1.4, 5.3}, {-0.01, 0.7}},
         Filling → {1 → {{2}, Directive[Opacity[0.2], lpColor]},
           1 → {{3}, Directive[Opacity[0.2], lpColor]}},
         PlotStyle → {{lpColor, Thick}, Transparent, Transparent}, Joined → True, FrameTicks →
          {{LinTicks[0, 0.7, MajorTickLength → {0, .03}, MinorTickLength → {0, 0}], None},
           {LinTicks[1.4, 5.3, MajorTickLength → {0, .03}, MinorTickLength → {0, 0}], None}},
         Frame → {{True, None}, {True, None}}, Axes → False, TicksStyle → Thick,
         FrameStyle → Thick, AspectRatio → 1,
         FrameTicksStyle -> Directive[FontOpacity -> 0, FontSize -> 0]];

In[•]:= (***)

In[•]:= xValsRL = Mean[normCellCountsRL][[All, 1]];

In[•]:= meanNormCellCountsRL = Mean[normCellCountsRL][[All, 2]];

In[•]:= semNormCellCountsRL =
          StandardDeviation[normCellCountsRL][[All, 2]] / Sqrt[Length[mouseList]];
```

```
In[•]:= g3 = ListLinePlot[{Partition[Riffle[xValsRL, meanNormCellCountsRL], 2],
          Partition[Riffle[xValsRL, (meanNormCellCountsRL + semNormCellCountsRL)], 2],
          Partition[Riffle[xValsRL, (meanNormCellCountsRL - semNormCellCountsRL)], 2]},
         PlotRange → {{1.4, 5.3}, {-0.01, 0.7}},
         Filling → {1 → {{2}, Directive[Opacity[0.2], rlColor]},
           1 → {{3}, Directive[Opacity[0.2], rlColor]}},
         PlotStyle → {{rlColor, Thick}, Transparent, Transparent}, Joined → True, FrameTicks →
          {{LinTicks[0, 0.7, MajorTickLength → {0, .03}, MinorTickLength → {0, 0}], None},
           {LinTicks[1.4, 5.3, MajorTickLength → {0, .03}, MinorTickLength → {0, 0}], None}},
         Frame → {{True, None}, {True, None}}, Axes → False, TicksStyle → Thick,
         FrameStyle → Thick, AspectRatio → 1,
         FrameTicksStyle -> Directive[FontOpacity -> 0, FontSize -> 0]];

In[•]:= (***)

In[•]:= xValsAL = Mean[normCellCountsAL][[All, 1]];

In[•]:= meanNormCellCountsAL = Mean[normCellCountsAL][[All, 2]];

In[•]:= semNormCellCountsAL =
          StandardDeviation[normCellCountsAL][[All, 2]] / Sqrt[Length[mouseList]];

In[•]:= g4 = ListLinePlot[{Partition[Riffle[xValsAL, meanNormCellCountsAL], 2],
          Partition[Riffle[xValsAL, (meanNormCellCountsAL + semNormCellCountsAL)], 2],
          Partition[Riffle[xValsAL, (meanNormCellCountsAL - semNormCellCountsAL)], 2]},
         PlotRange → {{1.4, 5.3}, {-0.01, 0.7}},
         Filling → {1 → {{2}, Directive[Opacity[0.2], alColor]},
           1 → {{3}, Directive[Opacity[0.2], alColor]}},
         PlotStyle → {{alColor, Thick}, Transparent, Transparent}, Joined → True, FrameTicks →
          {{LinTicks[0, 0.7, MajorTickLength → {0, .03}, MinorTickLength → {0, 0}], None},
           {LinTicks[1.4, 5.3, MajorTickLength → {0, .03}, MinorTickLength → {0, 0}], None}},
         Frame → {{True, None}, {True, None}}, Axes → False, TicksStyle → Thick,
         FrameStyle → Thick, AspectRatio → 1,
         FrameTicksStyle -> Directive[FontOpacity -> 0, FontSize -> 0]];

In[•]:= (***)

In[•]:= xValsLM = Mean[normCellCountsLM][[All, 1]];

In[•]:= meanNormCellCountsLM = Mean[normCellCountsLM][[All, 2]];

In[•]:= semNormCellCountsLM =
          StandardDeviation[normCellCountsLM][[All, 2]] / Sqrt[Length[mouseList]];
```

In[•]:=
```
g5 = ListLinePlot[{Partition[Riffle[xValsLM, meanNormCellCountsLM], 2],
    Partition[Riffle[xValsLM, (meanNormCellCountsLM + semNormCellCountsLM)], 2],
    Partition[Riffle[xValsLM, (meanNormCellCountsLM - semNormCellCountsLM)], 2]},
   PlotRange → {{1.4, 5.3}, {-0.01, 0.7}},
   Filling → {1 → {{2}, Directive[Opacity[0.2], lmColor]},
     1 → {{3}, Directive[Opacity[0.2], lmColor]}},
   PlotStyle → {{lmColor, Thick}, Transparent, Transparent}, Joined → True, FrameTicks →
    {{LinTicks[-0.1, 0.7, MajorTickLength → {0, .03}, MinorTickLength → {0, 0}], None},
     {LinTicks[1.4, 5.3, MajorTickLength → {0, .03}, MinorTickLength → {0, 0}], None}},
   Frame → {{True, None}, {True, None}}, Axes → False, TicksStyle → Thick,
   FrameStyle → Thick, AspectRatio → 1,
   FrameTicksStyle -> Directive[FontOpacity -> 0, FontSize -> 0]];
```

In[•]:=
```
Show[g1, g2, g3, g4, g5]
```

Out[•]=



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

In[•]:=
```
totalCellDensitiesPerMouseV1 = Table[ToExpression /@
    Import[StringJoin["F:/FigureGeneration/Figure1/Fig1Data/", "/", mouseList[[n]], "/",
      mouseList[[n]], "_RH_V1_TotalCellDensity.txt"], "List"], {n, 1, Length[mouseList]}];
```

In[•]:=
```
totalCellDensitiesV1 = Flatten[totalCellDensitiesPerMouseV1];
```

In[•]:=
```
(**)
```

In[•]:=
```
totalCellDensitiesPerMouseLP = Table[ToExpression /@
    Import[StringJoin["F:/FigureGeneration/Figure1/Fig1Data/", "/", mouseList[[n]], "/",
      mouseList[[n]], "_RH_LP_TotalCellDensity.txt"], "List"], {n, 1, Length[mouseList]}];
```

In[•]:=
```
totalCellDensitiesLP = Flatten[totalCellDensitiesPerMouseLP];
```

In[•]:=
```
(**)
```

```
In[•]:= totalCellDensitiesPerMouseRL = Table[ToExpression /@
          Import[StringJoin["F:/FigureGeneration/Figure1/Fig1Data/", "/", mouseList[[n]], "/",
            mouseList[[n]], "_RH_RL_TotalCellDensity.txt"], "List"], {n, 1, Length[mouseList]}];

In[•]:= totalCellDensitiesRL = Flatten[totalCellDensitiesPerMouseRL];

In[•]:= (**)

In[•]:= totalCellDensitiesPerMouseAL = Table[ToExpression /@
          Import[StringJoin["F:/FigureGeneration/Figure1/Fig1Data/", "/", mouseList[[n]], "/",
            mouseList[[n]], "_RH_AL_TotalCellDensity.txt"], "List"], {n, 1, Length[mouseList]}];

In[•]:= totalCellDensitiesAL = Flatten[totalCellDensitiesPerMouseAL];

In[•]:= (**)

In[•]:= totalCellDensitiesPerMouseLM = Table[ToExpression /@
          Import[StringJoin["F:/FigureGeneration/Figure1/Fig1Data/", "/", mouseList[[n]], "/",
            mouseList[[n]], "_RH_LM_TotalCellDensity.txt"], "List"], {n, 1, Length[mouseList]}];

In[•]:= totalCellDensitiesLM = Flatten[totalCellDensitiesPerMouseLM];

In[•]:= (*************)

In[•]:= maxTotCellDens = Round[Max[Join[totalCellDensitiesV1, totalCellDensitiesLP,
           totalCellDensitiesRL, totalCellDensitiesAL, totalCellDensitiesLM]]];

In[•]:= v1Xvals = Table[1 + RandomReal[{-0.2, 0.2}], {Length[totalCellDensitiesV1]}];

In[•]:= lpXvals = Table[2 + RandomReal[{-0.2, 0.2}], {Length[totalCellDensitiesLP]}];

In[•]:= rlXvals = Table[3 + RandomReal[{-0.2, 0.2}], {Length[totalCellDensitiesRL]}];

In[•]:= alXvals = Table[4 + RandomReal[{-0.2, 0.2}], {Length[totalCellDensitiesAL]}];

In[•]:= lmXvals = Table[5 + RandomReal[{-0.2, 0.2}], {Length[totalCellDensitiesLM]}];

In[•]:= (***)

In[•]:= v1XYcoordsPerMouse = Partition[Riffle[v1Xvals, Flatten@totalCellDensitiesPerMouseV1], 2];

In[•]:= lpXYcoordsPerMouse = Partition[Riffle[lpXvals, Flatten@totalCellDensitiesPerMouseLP], 2];

In[•]:= rlXYcoordsPerMouse = Partition[Riffle[rlXvals, Flatten@totalCellDensitiesPerMouseRL], 2];

In[•]:= alXYcoordsPerMouse = Partition[Riffle[alXvals, Flatten@totalCellDensitiesPerMouseAL], 2];

In[•]:= lmXYcoordsPerMouse = Partition[Riffle[lmXvals, Flatten@totalCellDensitiesPerMouseLM], 2];
```

In[•]:=
```
Show[BarChart[{Style[Mean@totalCellDensitiesV1, EdgeForm[{Thickness[0.015], v1Color}]],
   Style[Mean@totalCellDensitiesLP, EdgeForm[{Thickness[0.015], lpColor}]],
   Style[Mean@totalCellDensitiesRL, EdgeForm[{Thickness[0.015], rlColor}]],
   Style[Mean@totalCellDensitiesAL, EdgeForm[{Thickness[0.015], alColor}]],
   Style[Mean@totalCellDensitiesLM, EdgeForm[{Thickness[0.015], lmColor}]]},
  ChartStyle → {Transparent, Transparent, Transparent, Transparent, Transparent},
  FrameTicks → {{LinTicks[0, 200, MajorTickLength → {0, .03}, MinorTickLength → {0, 0}],
     None}, {None, None}}, Frame → {{True, None}, {True, None}}, Axes → False,
  TicksStyle → Thick, FrameStyle → Thick, PlotRange → {{0, 6}, {0, maxTotCellDens}}],
 ListPlot[Partition[Riffle[v1Xvals, totalCellDensitiesV1], 2],
  PlotStyle → Directive[v1Color, PointSize[Large]], FrameTicks →
   {{LinTicks[0, 200, MajorTickLength → {0, .03}, MinorTickLength → {0, 0}], None},
    {None, None}}, Frame → {{True, None}, {True, None}}, Axes → False,
  TicksStyle → Thick, FrameStyle → Thick, PlotRange → {{0, 6}, {0, maxTotCellDens}}],
 ListPlot[Partition[Riffle[lpXvals, totalCellDensitiesLP], 2],
  PlotStyle → Directive[lpColor, PointSize[Large]], FrameTicks →
   {{LinTicks[0, 200, MajorTickLength → {0, .03}, MinorTickLength → {0, 0}], None},
    {None, None}}, Frame → {{True, None}, {True, None}}, Axes → False,
  TicksStyle → Thick, FrameStyle → Thick, PlotRange → {{0, 6}, {0, maxTotCellDens}}],
 ListPlot[Partition[Riffle[rlXvals, totalCellDensitiesRL], 2],
  PlotStyle → Directive[rlColor, PointSize[Large]], FrameTicks →
   {{LinTicks[0, 200, MajorTickLength → {0, .03}, MinorTickLength → {0, 0}], None},
    {None, None}}, Frame → {{True, None}, {True, None}}, Axes → False,
  TicksStyle → Thick, FrameStyle → Thick, PlotRange → {{0, 6}, {0, maxTotCellDens}}],
 ListPlot[Partition[Riffle[alXvals, totalCellDensitiesAL], 2],
  PlotStyle → Directive[alColor, PointSize[Large]], FrameTicks →
   {{LinTicks[0, 200, MajorTickLength → {0, .03}, MinorTickLength → {0, 0}], None},
    {None, None}}, Frame → {{True, None}, {True, None}}, Axes → False,
  TicksStyle → Thick, FrameStyle → Thick, PlotRange → {{0, 6}, {0, maxTotCellDens}}],
 ListPlot[Partition[Riffle[lmXvals, totalCellDensitiesLM], 2],
  PlotStyle → Directive[lmColor, PointSize[Large]], FrameTicks →
   {{LinTicks[0, 200, MajorTickLength → {0, .03}, MinorTickLength → {0, 0}], None},
    {None, None}}, Frame → {{True, None}, {True, None}}, Axes → False, TicksStyle → Thick,
  FrameStyle → Thick, PlotRange → {{0, 6}, {0, maxTotCellDens}}], ListLinePlot[
  Table[{v1XYcoordsPerMouse[[n]], lpXYcoordsPerMouse[[n]], rlXYcoordsPerMouse[[n]],
    alXYcoordsPerMouse[[n]], lmXYcoordsPerMouse[[n]]}, {n, 1, Length[mouseList]}],
  PlotStyle → Table[{Black, Dashed}, {Length[mouseList]}], FrameTicks →
   {{LinTicks[0, 200, MajorTickLength → {0, .03}, MinorTickLength → {0, 0}], None},
    {None, None}}, Frame → {{True, None}, {True, None}}, Axes → False,
  TicksStyle → Thick, FrameStyle → Thick, PlotRange → {{0, 6}, {0, maxTotCellDens}}],
 AspectRatio → 1, FrameTicksStyle -> Directive[FontOpacity -> 0, FontSize -> 0]]
```

Out[ ]=