

Plotting

Monday, December 14, 2020 9:45 AM

General rules for pretty plots

- square plots work best for 2-column scientific publications
- large, uniform font that matches text (use same font for labels as legend etc)
- beautiful colors (seaborn FTW: rocket, cube-helix and many more)
- redundant information encoding (make datasets distinct with stroke, marker, fill, color etc)
- multi-panel plots
- large insets
- scale bar easy to read on micrographs (most other info can be removed)
- uniform, useful tick marks on both axes
- heat maps can include 2D versions of data on the sides

Basic plots

universal font increase: `plt.rcParams.update({'font.size' : 14})`

colorbrewer2.org nice way to grab colors easily for plotting in python

alpha to make markers semi transparent

`plt.tick_params(top=True, right=True, length=9)`

`xlabel`

`ylabel` (use `$$` latex writing)

data x y make y from x using exponential or something

basic plots

`plt.show()`

`plt.plot` (color, markers, lines...)

%%

categorical data

LOTR examples

9 lords of men

3 rings of elves

7 dwarflords

bar charts

scatter plots

barh charts

%%

histogram data

```
hist(data, bins=20)
```

```
# %%
```

```
error bar data in y and x error bars
```

```
capsize =3 to put caps on error bars
```

Advanced class

C:\Users\taylo\Google Drive\Sparks Group\software\Python Plotting\multipanel_error_bars
\example.py

- generic single plot
- multi-panel plot
- HHI fill between plot
- diffraction plot
- multi-axes
- heat map with wings
- 3D plotting