



















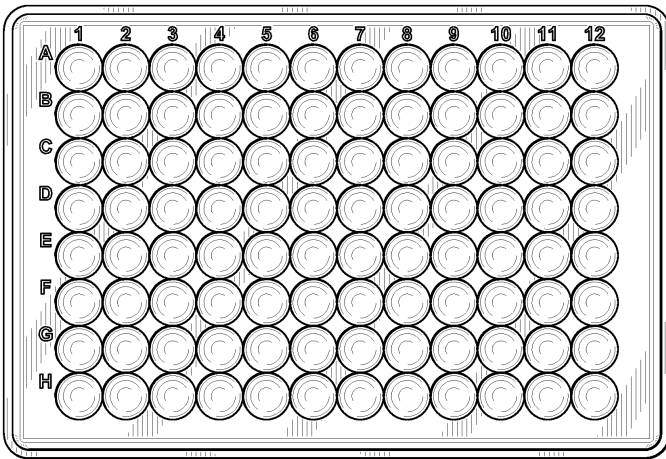


Part 1

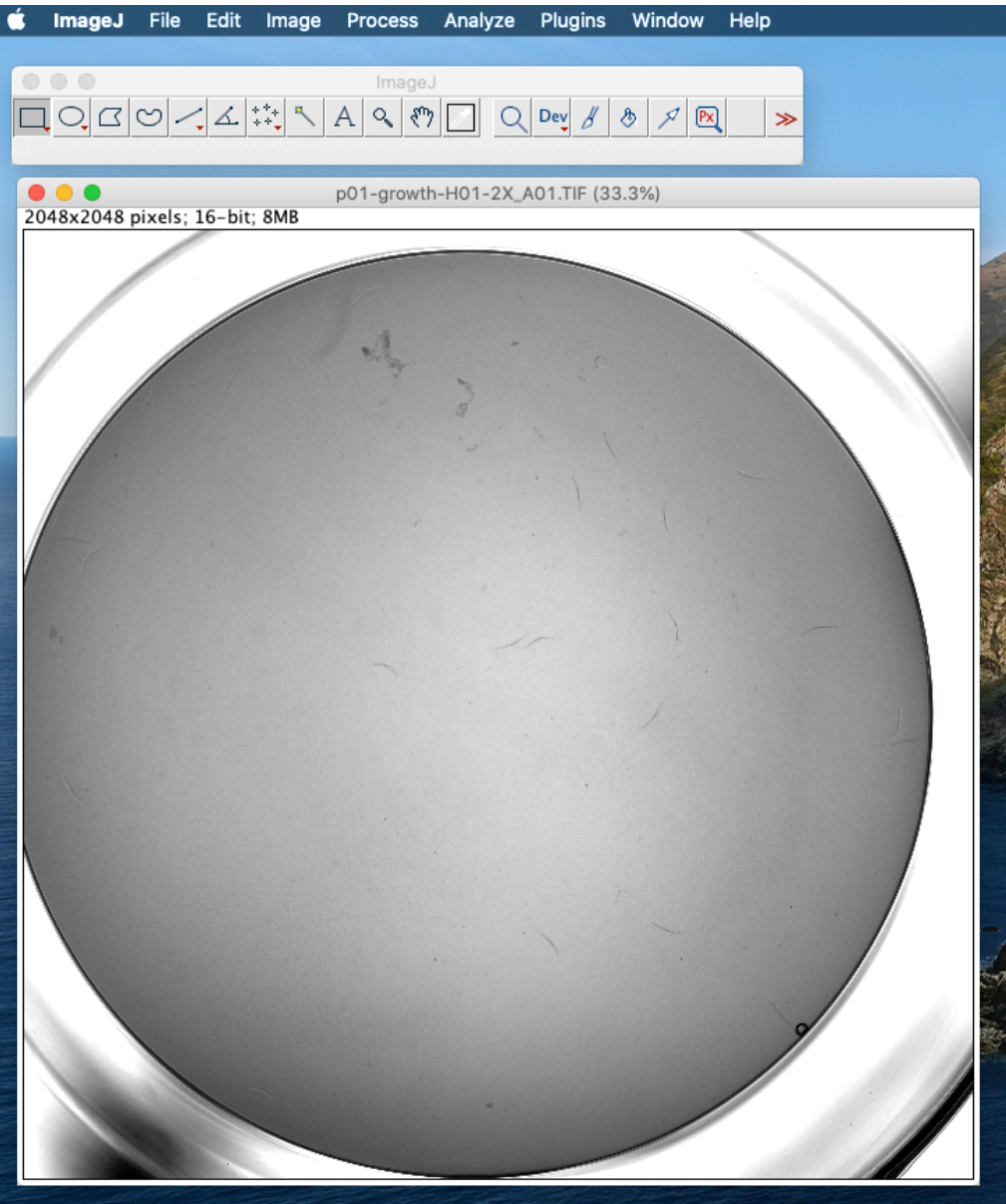
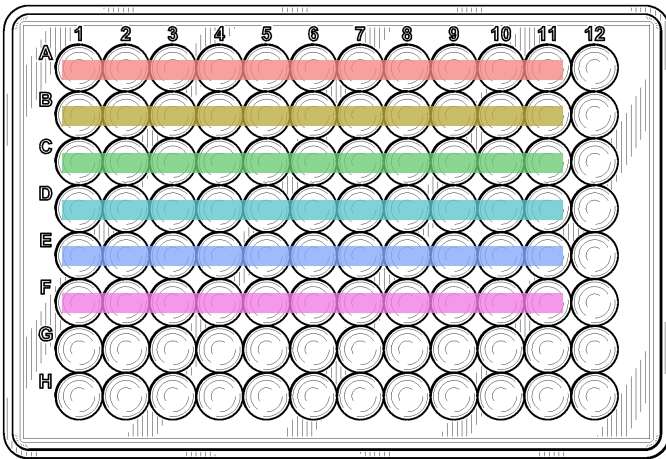
	IntroR	
	IntroR.key	
	Reading_Data.html	
	Reading_Data.Rmd	
	Tidy-Process-Data.html	
	Tidy&Process Data.Rmd	
	Visualize_Data.html	
	Visualize_Data.Rmd	
	worm_measurement_protocol	
	worm_measurement_protocol.pdf	



When I performed this experiment I imaged a single plate every hour.



This plate contains data for 6 independent replicates (A - F)























** it is important to measure length **first** and width **second** for each worm

Results				
	Label	Area	Angle	Length
1	p01-growth-H01-2X_A01.TIF	79	0.000	78.999
2	p01-growth-H01-2X_A01.TIF	7	120.964	5.831
3	p01-growth-H01-2X_A01.TIF	75	0.000	74.168
4	p01-growth-H01-2X_A01.TIF	6	126.870	4.680
5	p01-growth-H01-2X_A01.TIF	83	0.000	82.056
6	p01-growth-H01-2X_A01.TIF	6	-33.690	4.670
7	p01-growth-H01-2X_A01.TIF	78	0.000	77.605
8	p01-growth-H01-2X_A01.TIF	6	-116.565	4.924
9	p55-growth-H55-2X_A01.TIF	354	0.000	354.070
10	p55-growth-H55-2X_A01.TIF	17	135.000	16.028
11	p55-growth-H55-2X_A01.TIF	323	0.000	322.690
12	p55-growth-H55-2X_A01.TIF	18	132.510	16.651
13	p55-growth-H55-2X_A01.TIF	362	0.000	362.102
14	p55-growth-H55-2X_A01.TIF	18	128.157	17.414
15	p55-growth-H55-2X_A01.TIF	371	0.000	371.168
16	p55-growth-H55-2X_A01.TIF	19	33.690	17.903

Results				
	Label	Area	Angle	Length
1	p01-growth-H01-2X_A01.TIF	79	0.000	78.999
2	p01-growth-H01-2X_A01.TIF	7	120.964	5.831
3	p01-growth-H01-2X_A01.TIF	75	0.000	74.168
4	p01-growth-H01-2X_A01.TIF	6	126.870	4.680
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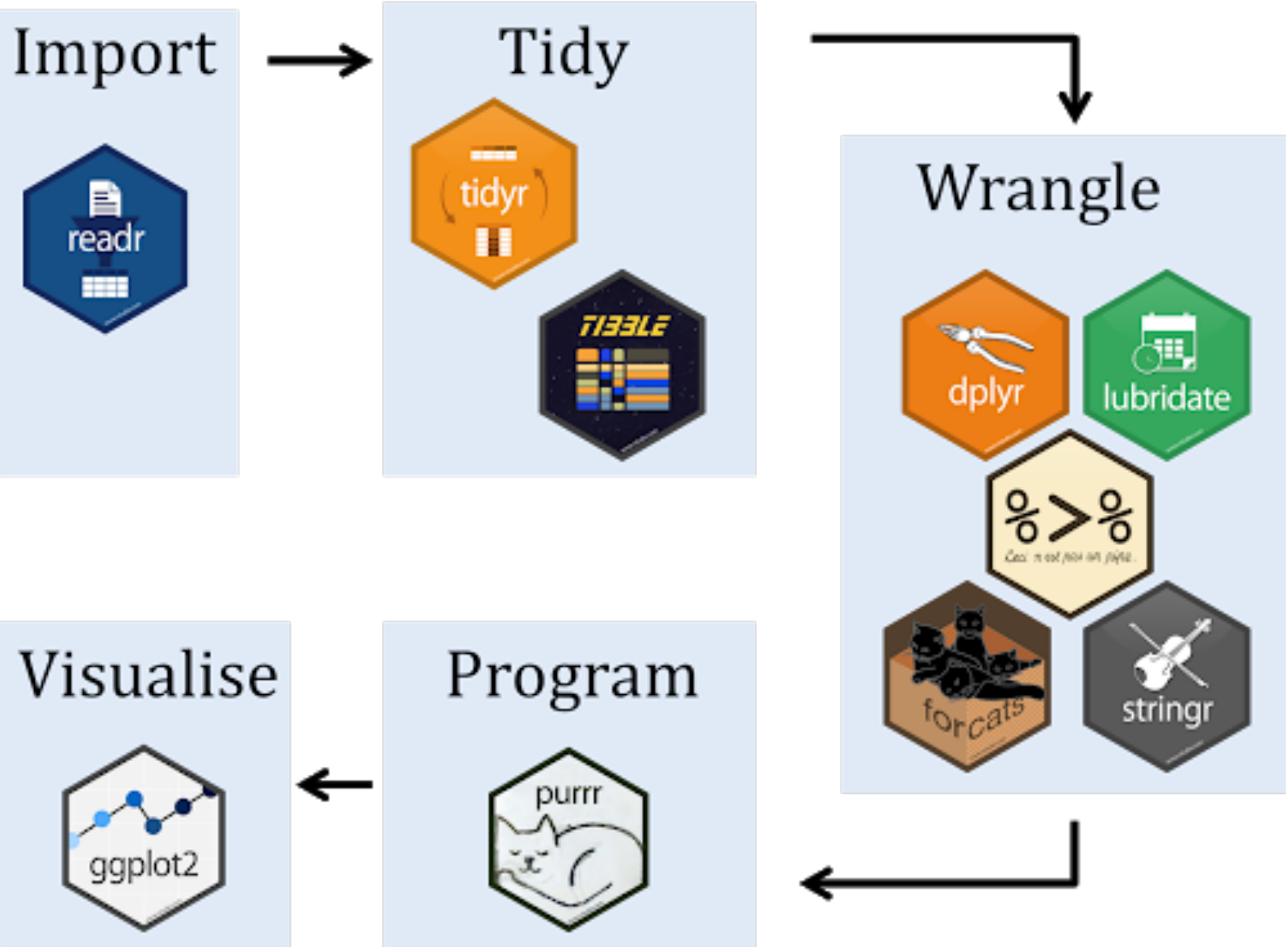
Part 2

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What is a package?























First 10 rows of Izzy's data

	X1	Label	Area	Angle	Length
1	p01	growth-H01-2X_F01.TIF	79	0.000	78.675
2	p01	growth-H01-2X_F01.TIF	7	-69.444	5.696
3	p01	growth-H01-2X_F01.TIF	83	0.000	82.100
4	p01	growth-H01-2X_F01.TIF	6	29.982	5.003
5	p01	growth-H01-2X_F01.TIF	65	0.000	64.593
6	p01	growth-H01-2X_F01.TIF	5	0.000	4.868
7	p01	growth-H01-2X_F01.TIF	86	0.000	85.628
8	p01	growth-H01-2X_F01.TIF	4	36.870	2.500
9	p01	growth-H01-2X_F01.TIF	81	0.000	80.141
10	p01	growth-H01-2X_F01.TIF	6	59.349	5.231

First 4 rows of data

Plate	Experiment	Hour	Magnification	Well	Animal	Length	Width	Radius	Volume
p01	growth	01	2X	B01	1	264.9288	12.76309	6.381544	3124.370
p01	growth	01	2X	B01	2	252.9924	16.80116	8.400582	5170.208
p01	growth	01	2X	B01	3	276.7070	16.73200	8.365998	5608.381
p01	growth	01	2X	B01	4	231.9127	13.76108	6.880539	3179.445

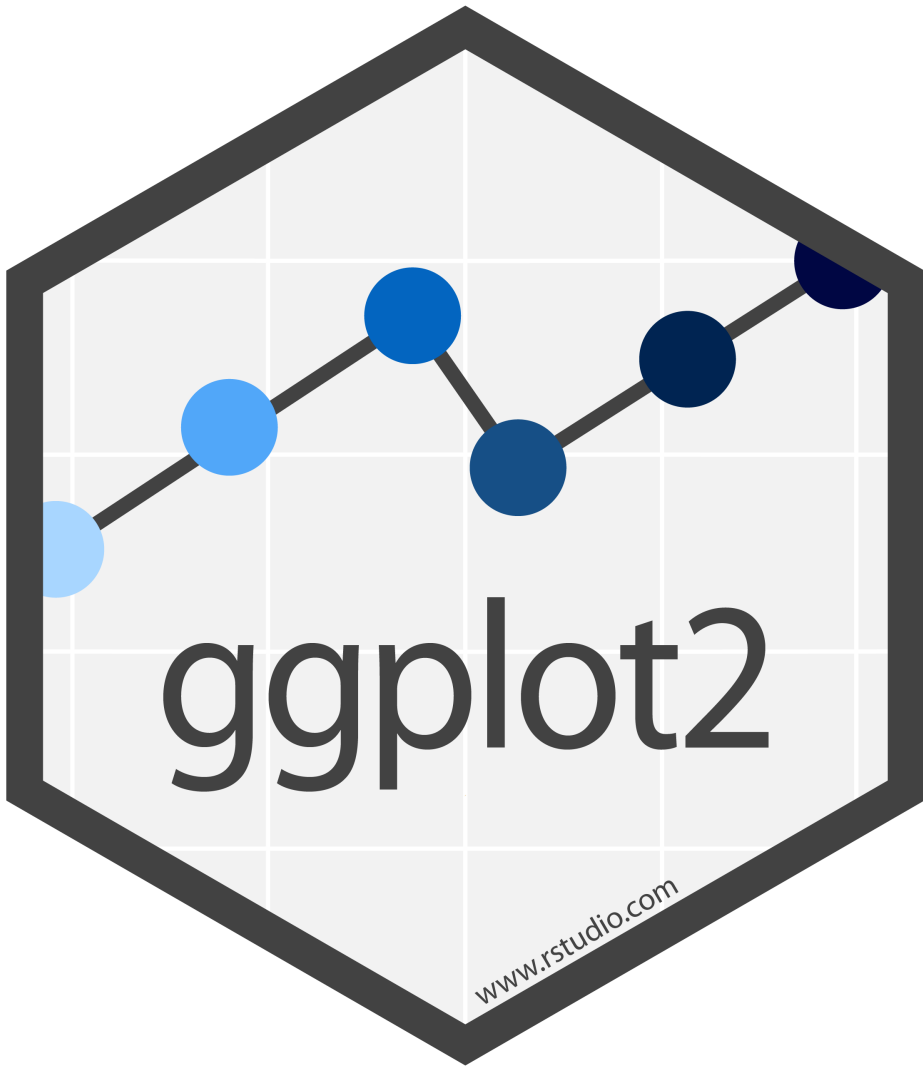
Part 3

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First 4 rows of data

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p01	growth	01	2X	B01	4	231.9127	13.76108	6.880539	3179.445



```
> rnorm(1000)
[1] 0.7414303363 -0.9383127854 -0.5898356239 -1.4879381203 -0.1659582252 0.4690914210 -0.3598660699
[11] 2.6412618078 0.2321025525 -0.1327265269 1.5190948454 0.9066730669 0.8596798670 1.4650258834
[21] 0.3458054361 -0.4886197680 1.3973476592 -1.5638681539 1.2853007445 0.4101364885 0.2294735247
[31] 0.4139866417 -0.6954449569 0.8041125473 0.5535330655 -0.4694144802 1.7690122917 0.4707698513
[41] -0.4594998205 0.4043386537 -1.6870132729 -0.1942175306 1.1583540288 -0.0002630832 -0.1468545234
[51] -0.4410132764 0.7364134275 2.0252124219 -1.4500256740 1.9125350969 -0.2343692491 1.3286159719
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[71] -0.0686987744 -0.1373026497 0.6094719385 -1.4732265606 0.7573958380 -0.7515556914 -1.2857906361
[81] -0.8857107791 -0.4069381352 -2.1758080948 -0.3569778668 -0.0397559943 -0.0961785023 0.6472138988
[91] -0.8830039848 -2.0658918174 2.2363978861 -0.9000721943 1.1227886790 2.1469963330 -1.0971182540
[101] 0.8612006384 -1.0684987091 1.5397207327 -0.0174112748 0.6287091546 -0.9850152543 1.4317789228
[111] -0.9610323091 -0.8214297129 0.0698531890 -0.2544790671 0.9626996188 1.4312750227 1.1144196341
[121] 0.8893473243 -1.2105287954 -1.2804874114 -1.5417165424 -0.5225043177 -0.2443883469 1.0395231050
[131] -0.0216148381 1.0670464559 -1.0937062759 -0.3949936928 0.6399457290 0.3473726551 -0.5487464459
[141] 2.1042373099 -0.8215960512 1.1647203780 -0.5018804363 -0.6276899976 -0.8121978140 -1.9868618662
[151] -2.5904304497 0.5526988025 -0.3580881297 -0.3931144287 -0.6494195785 -0.1096485904 0.0678612489
[161] 1.6343875443 -0.0683924766 1.2130360802 -0.6313426788 0.9838639622 -0.4797304977 0.1817758260
[171] 0.0095651300 1.0314607326 -2.0653772732 -0.0865188406 -1.1631547204 0.5729574962 -1.2640545629
[181] -0.9050088656 0.2930384939 -0.2051316675 0.9764933512 -0.2243143242 -0.9517134217 -0.3218631511
[191] -0.1991329532 -0.0923899862 -1.9904200615 -1.3877169486 -0.7618046746 0.2040072200 1.9060898324
[201] 2.2255402250 0.2455760800 0.2728450244 0.1507408710 0.0274071126 1.1745755015 0.8060070500
```

Data

x y z

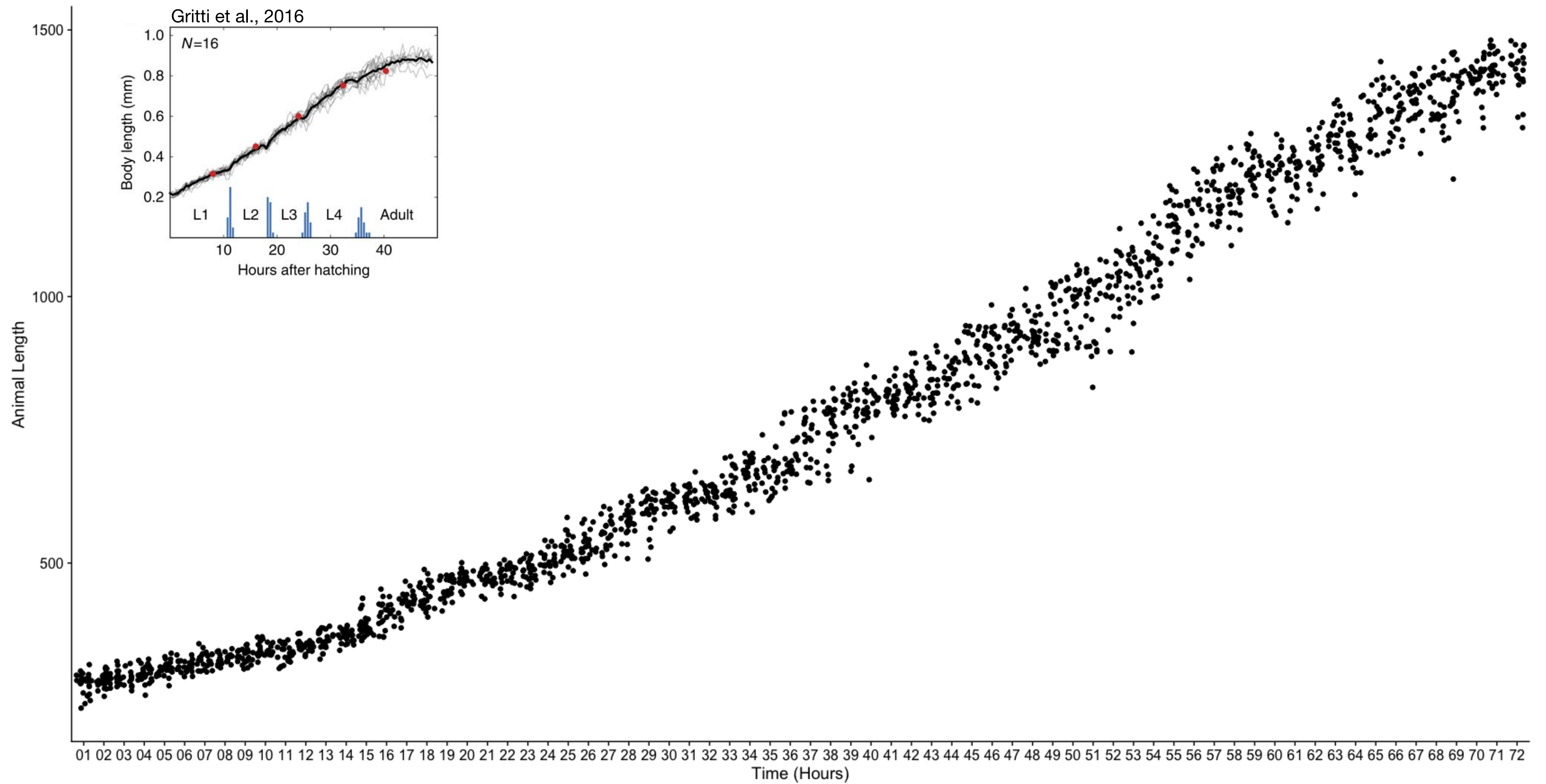
color

Aesthetics

points boxplot

line

Geometric objects



Uppaluri & Brangwynne, 2015

