Read in the image, annotations and the data frame
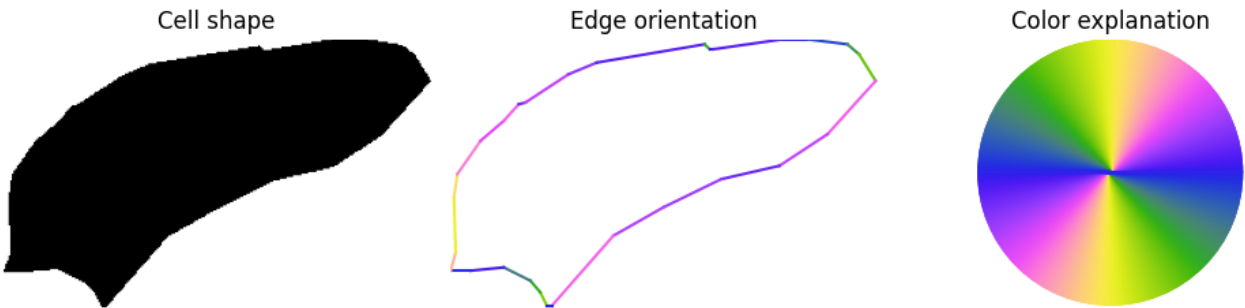
(27, 4, 512, 512)

Visualize orientation of cell edge

```
label                                                              1
area                                                           21500
centroid-0                                                416.317721
centroid-1                                                305.246605
bbox-0                                                           351
bbox-1                                                           191
bbox-2                                                           512
bbox-3                                                           448
eccentricity                                                0.927055
orientation                                                -1.159706
intensity_image          [[[0, 0, 0, 0, 0], [0, 0, 0, 0, 0], [0, 0, 0, ...
image                    [[False, False, False, False, False, False, Fa...
image_name               092622_ring_PDMSAp_10MCol_647-Act_561-Pax_488-...
vertices                 [[511.0, 249.5], [503.0, 245.5], [496.5, 239.0...
membrane_orientation     [0.46364760900080615, 0.7853981633974483, 1.10...
actin_detected           [[[239, 18], [218, 18]], [[30, 127], [54, 111]...
actin_angles             [-4.71238898038469, -0.982793723247329, -1.094...
actin_orientation                                          -1.090324
actin_spread                                                1.016503
plak_signal              [161.0, 227.0, 234.0, 219.0, 216.0, 210.0, 210...
outside_ring_regions     [[0, 197, 20], [0, 198, 20], [0, 199, 20], [0,...
signal_edge_00           [487.13100436681225, 934.7450980392157, 1447.5...
signal_edge_01           [446.30131004366814, 660.8823529411765, 659.57...
signal_edge_02           [400.69868995633186, 230.50980392156862, 302.3...
signal_edge_03           [146.6943231441048, 148.9607843137255, 152.627...
signal_radial_00         [43.7223578316456, 46.59869009353022, 61.15134...
signal_radial_01         [21.522029146627354, 21.356164052492932, 25.74...
signal_radial_02         [15.513594509026754, 18.263093022693766, 23.39...
signal_radial_03         [5.059163303284433, 5.015032505981584, 6.48582...
Name: 0, dtype: object
```
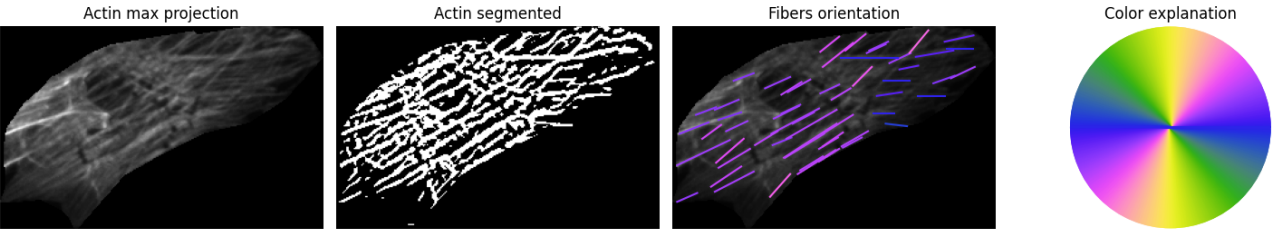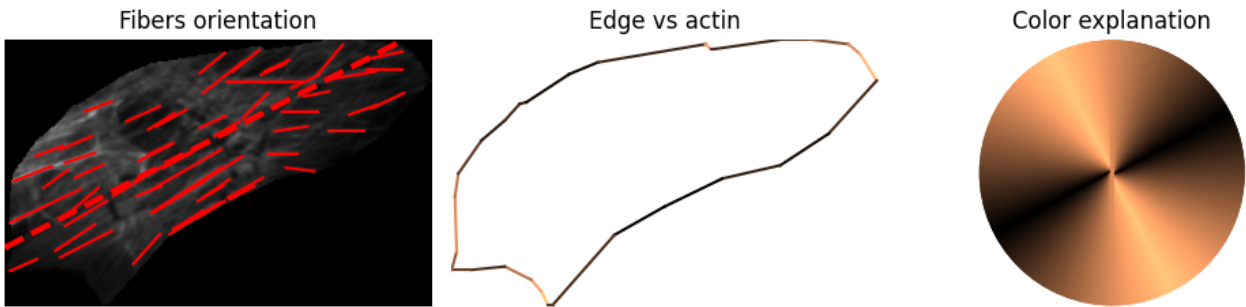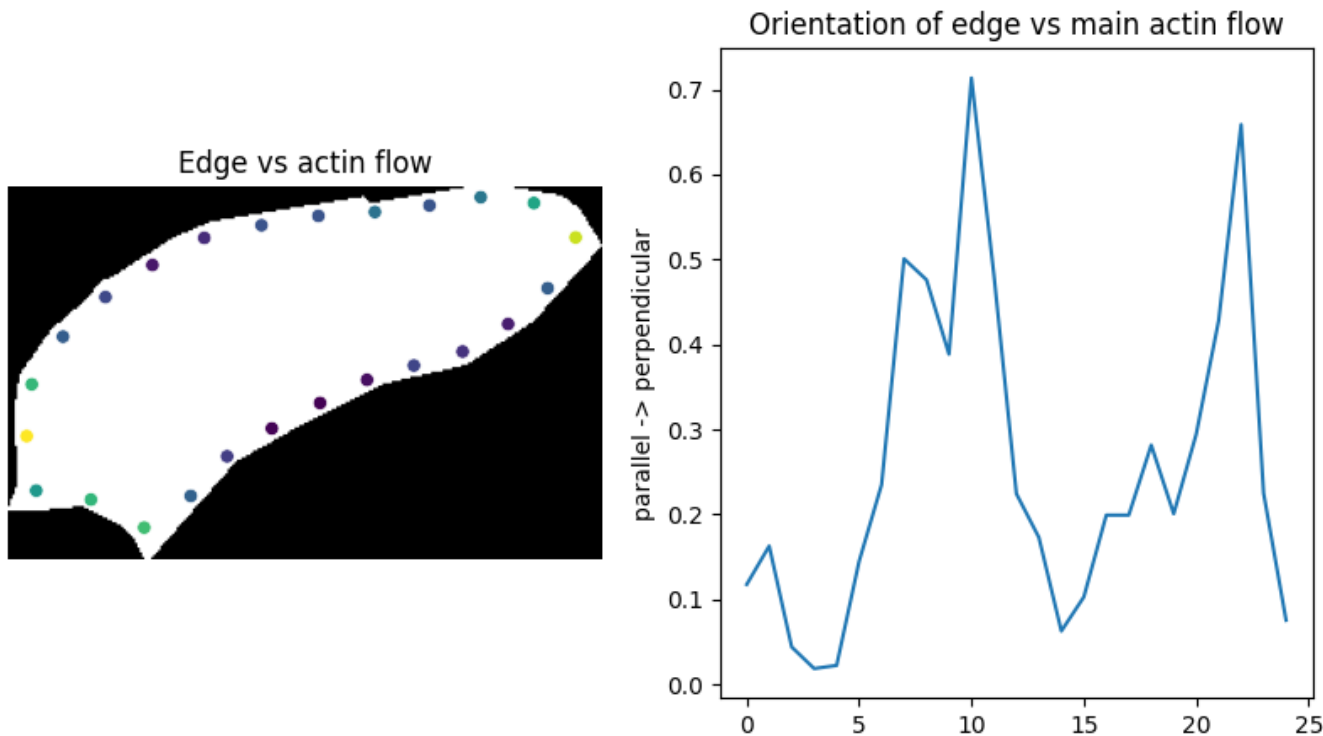

Cell shape   Edge orientation   Color explanation

Visualize actin orientation

Actin max projection   Actin segmented   Fibers orientation   Color explanation

Edge orientation vs main flow of actin

Fibers orientation   Edge vs actin   Color explanation

Calculate edge orientation based on edge regions
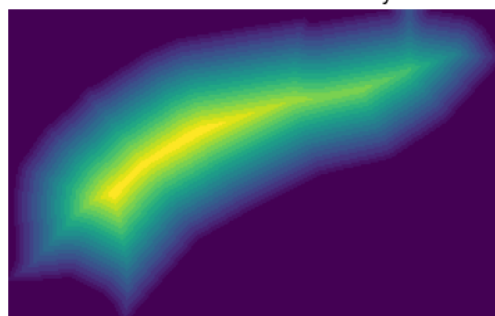
```
Text(0, 0.5, 'parallel -> perpendicular')
```


Edge vs actin flow

Orientation of edge vs main actin flow

Characterize distribution of plakoglobin

Order of edge measurements

Visualization of concentric layers

actin image
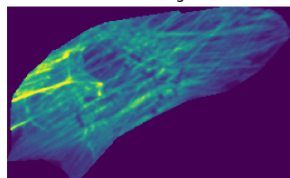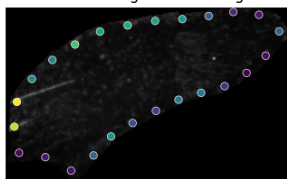
Detected signal at the edge
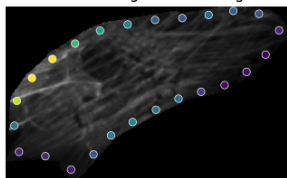
Edge actin vs edge orientation

Normalized signals

Normalized position along the edge

actin radial distribution

Fluorescence [a.u.]
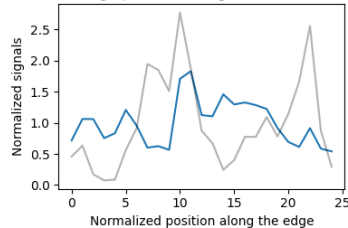
Normalized distance from the edge
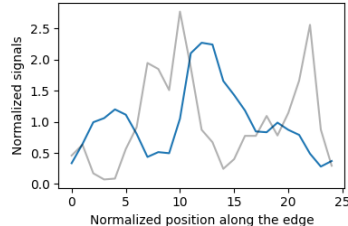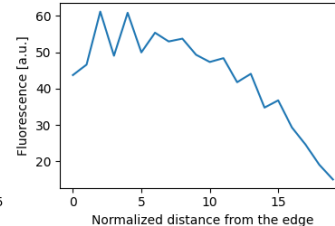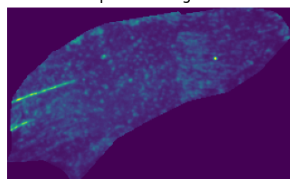
paxilin image

Detected signal at the edge

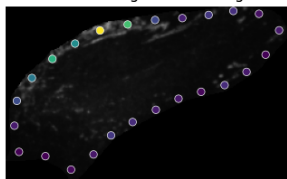### Edge paxilin vs edge orientation

Normalized signals

Normalized position along the edge

paxilin radial distribution
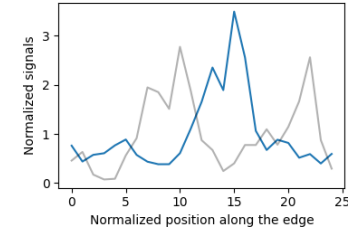
Fluorescence [a.u.]

Normalized distance from the edge
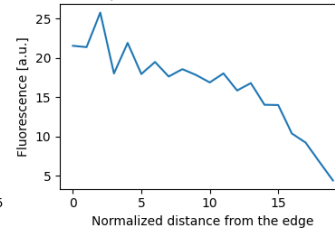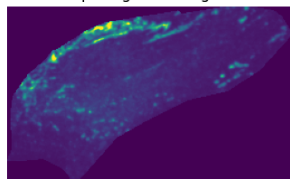
plakoglobin image

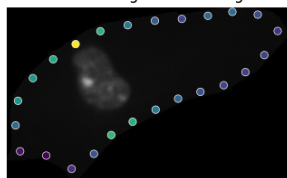Detected signal at the edge

Edge plakoglobin vs edge orientation

Normalized signals

Normalized position along the edge

plakoglobin radial distribution

Fluorescence [a.u.]

Normalized distance from the edge
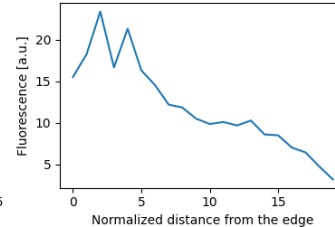
DAPI image
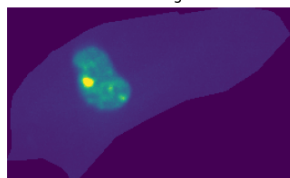
Detected signal at the edge

Edge DAPI vs edge orientation

Normalized signals

Normalized position along the edge

DAPI radial distribution

Fluorescence [a.u.]

Normalized distance from the edge