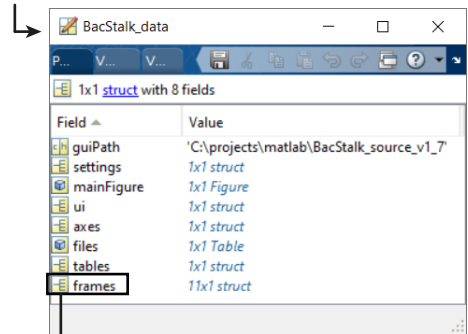
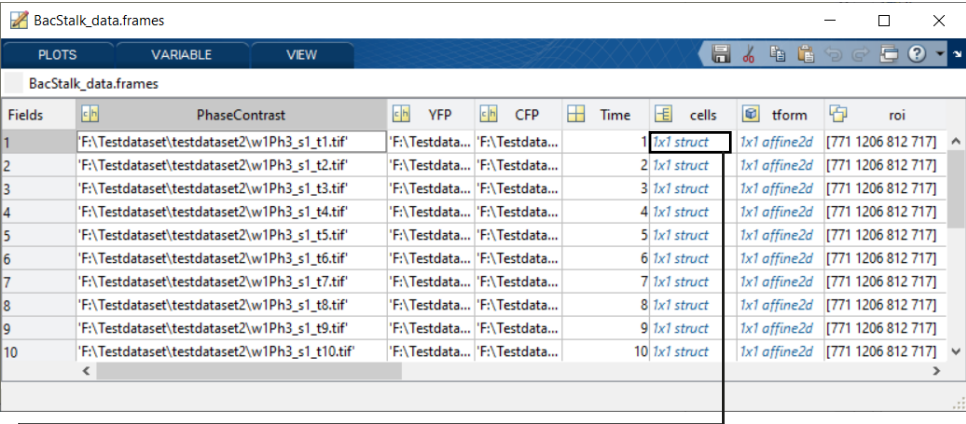


BacStalk data structure (version 1.7 stable)

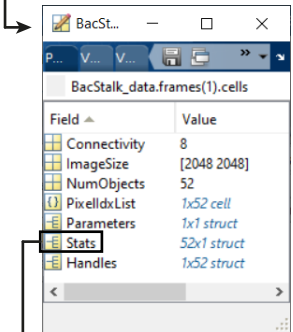
```
BacStalk_data = getUIData(gcf)
```



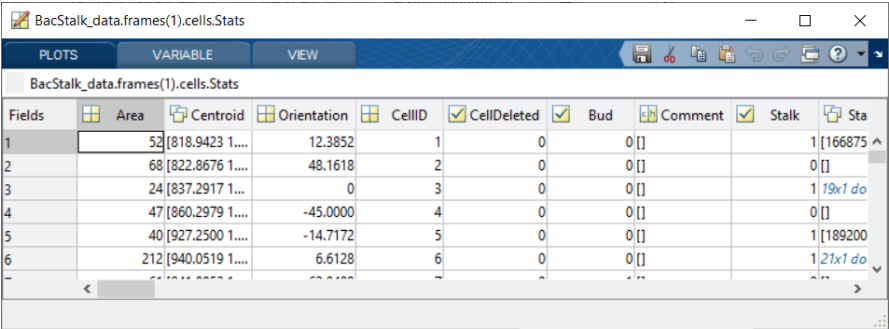
- *guiPath*: path to BacStalk
- *settings*: structure containing internal program settings
- *mainFigure*: handle to main figure
- *ui*: structure containing handles to major GUI structuring elements
- *axes*: structure containing handles to all axes elements
- *files*: table of input files
- *tables*: structure containing handles to all analysis tables
- **frames**: structure containing processed cell data



- *PhaseContrast*, *YFP*, *CFP*: dynamic columns created during assignment of channels; containing corresponding file names
- *Time*: dynamic column created during metadata-assignment (containing time information for each frame in this case)
- **cells**: structure to single cell masks and measurements
- *tform*: Matlab *affine2d* object containing frame registration information relative to previous frame
- *roi*: region of interest for this frame [x y width height]



- *Connectivity*: with *ImageSize*, *NumObjects* and *PixelIdxList*: output from Matlab's *bwconncomp*; labeled cell masks for frame *i* can be obtained with `cell_masks = Labelmatrix(BacStalk_data.frames(i).cells)`
- *ImageSize*: size of image, see above
- *NumObjects*: number of cells, see above
- *PixelIdxList*: cell array with pixel indices for each cell, see above
- *Parameters*: structure containing user-defined cell detection parameters used for this frame
- **Stats**: structure containing single cells measurements
- *Handles*: structure containing handles to graphical representation of each cell



List of single cell measurements (listed are only those which are not available through the BacStalk GUI)

- *Centroid*: cell centroid coordinates (px)
- *StalkIdx*: pixel indices of stalk (starting at stalk attachment point)
- *StalkCoordinates*: coordinates of stalk (px), corresponding to *StalkIdx*
- *CellMedialAxisIdx*: pixel indices of medial axis (starting at cell pole)
- *CellMedialAxisCoordinates*: coordinates of medial axis (px), corresponding to *CellMedialAxisIdx*
- *CellOutlineIdx*: pixel indices of cell outline
- *CellOutlineCoordinates*: coordinates of cell outline (px)
- *MedialAxisIntensity_ChX*: mean intensity profile along medial axis (as measured along *CellMedialAxisIdx*) in ch X
- *MedialAxisIntensity_max_ChX*: max intensity profile along medial axis (as measured along *CellMedialAxisIdx*) in ch X
- *StalkIntensity_ChX*: intensity profile of stalk (as measured along *StalkIdx*) in ch X