

# Medical Image Processing Project

Two approaches

- 1) Deal with the MIPs (Maximal Intensity Projections) : Apply algorithms to fit ellipse and give a confidence measure
- 2) Deal with raw files
  - Extract trajectories by tracking individual particles in the images

Track Points:

- Threshold image 1 to get a fixed number of points
- for each subsequent image:
  - Otsu threshold the image
  - For each point that is being tracked,
    - find the point inside a window that minimizes following energy
    - $E = a \cdot \text{intensityDiff} + b \cdot x\text{Diff} + c \cdot y\text{Diff} + d \cdot vx\text{Diff} + e \cdot vy\text{Diff}$ ;
    - Update vx, vy

- Compare the trajectories with ellipse or other structures