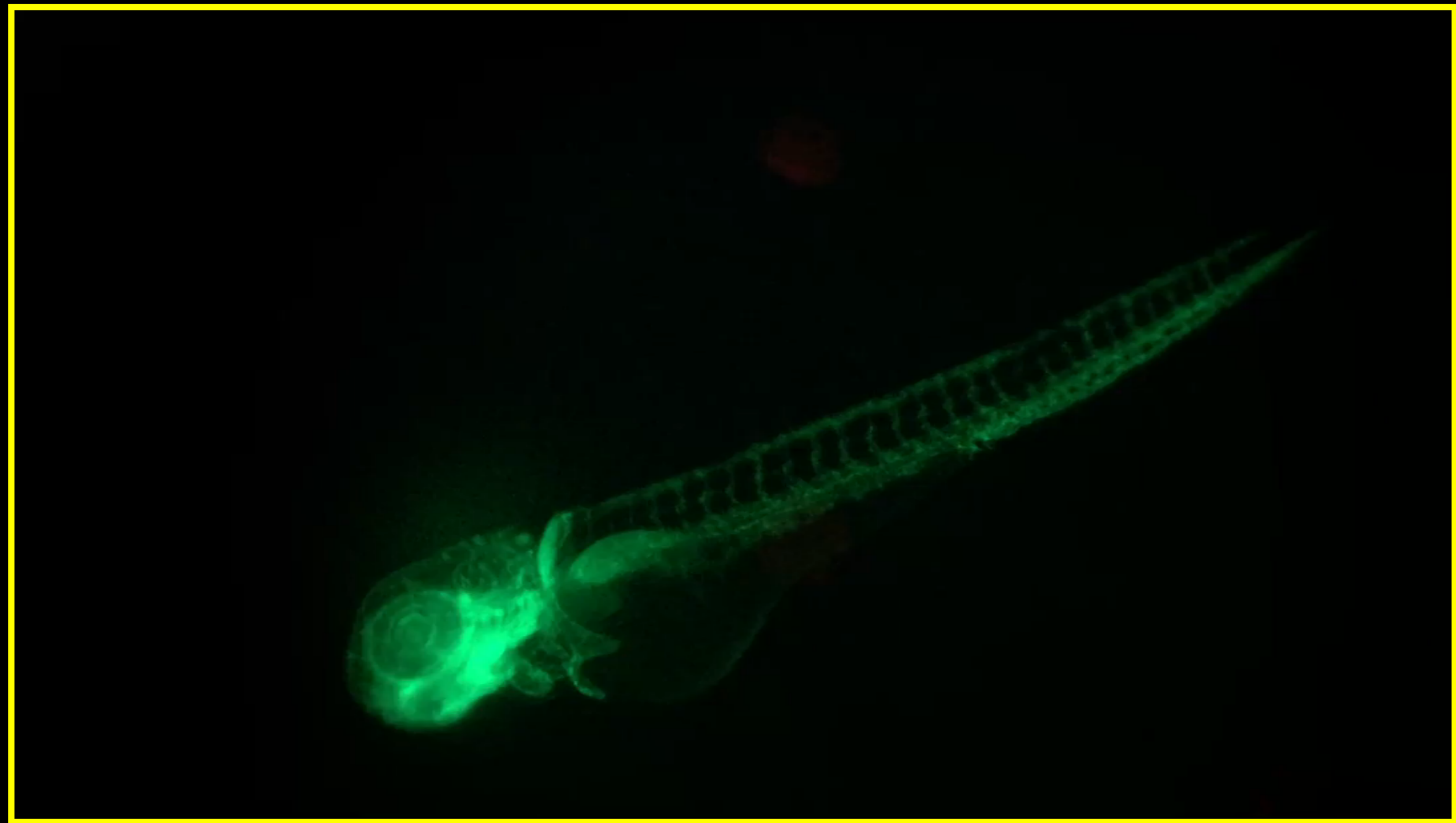


# IMAGING THE BEATING ZEBRAFISH HEART

**18,000,000**  
**DEATHS PER YEAR**

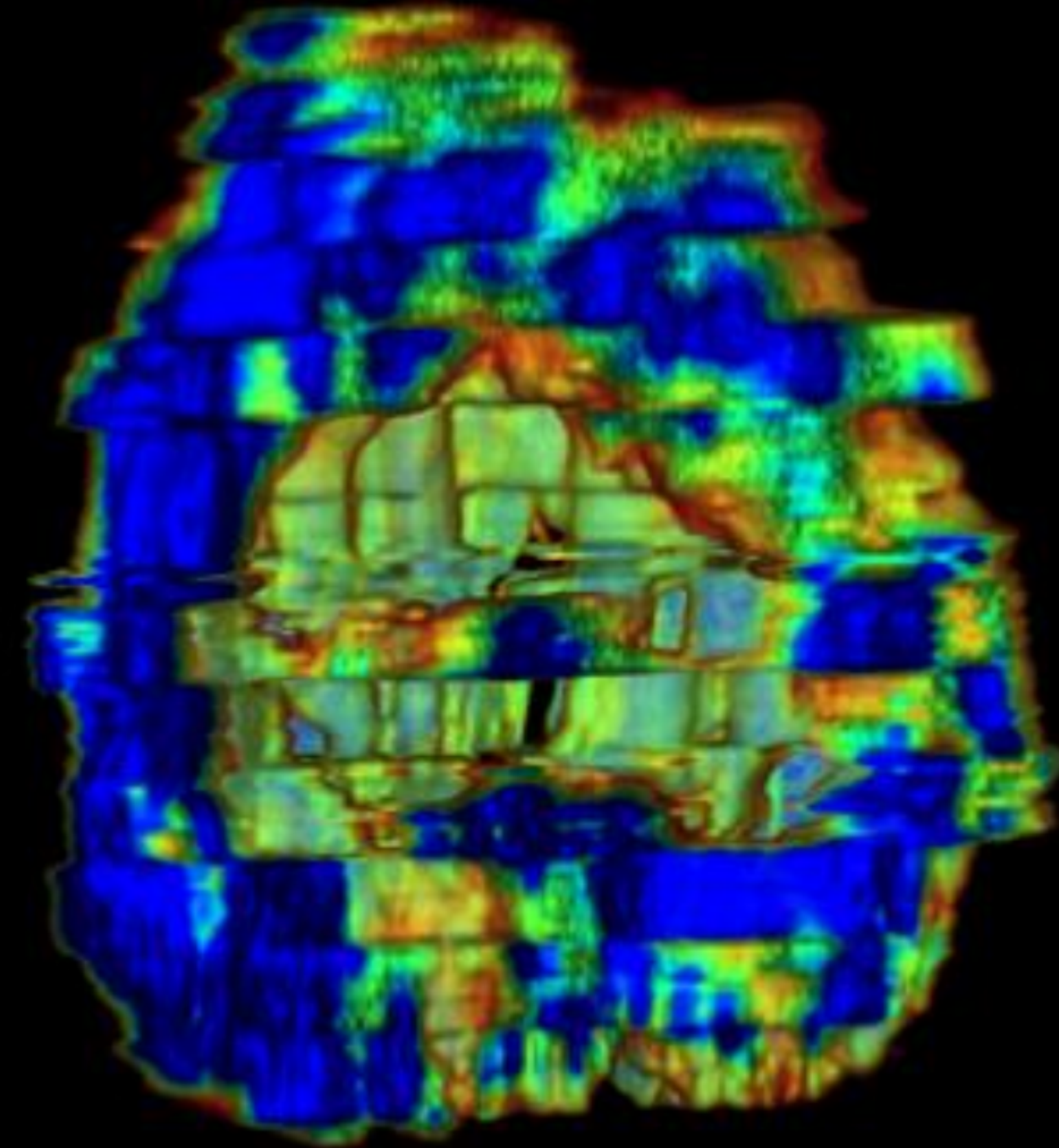


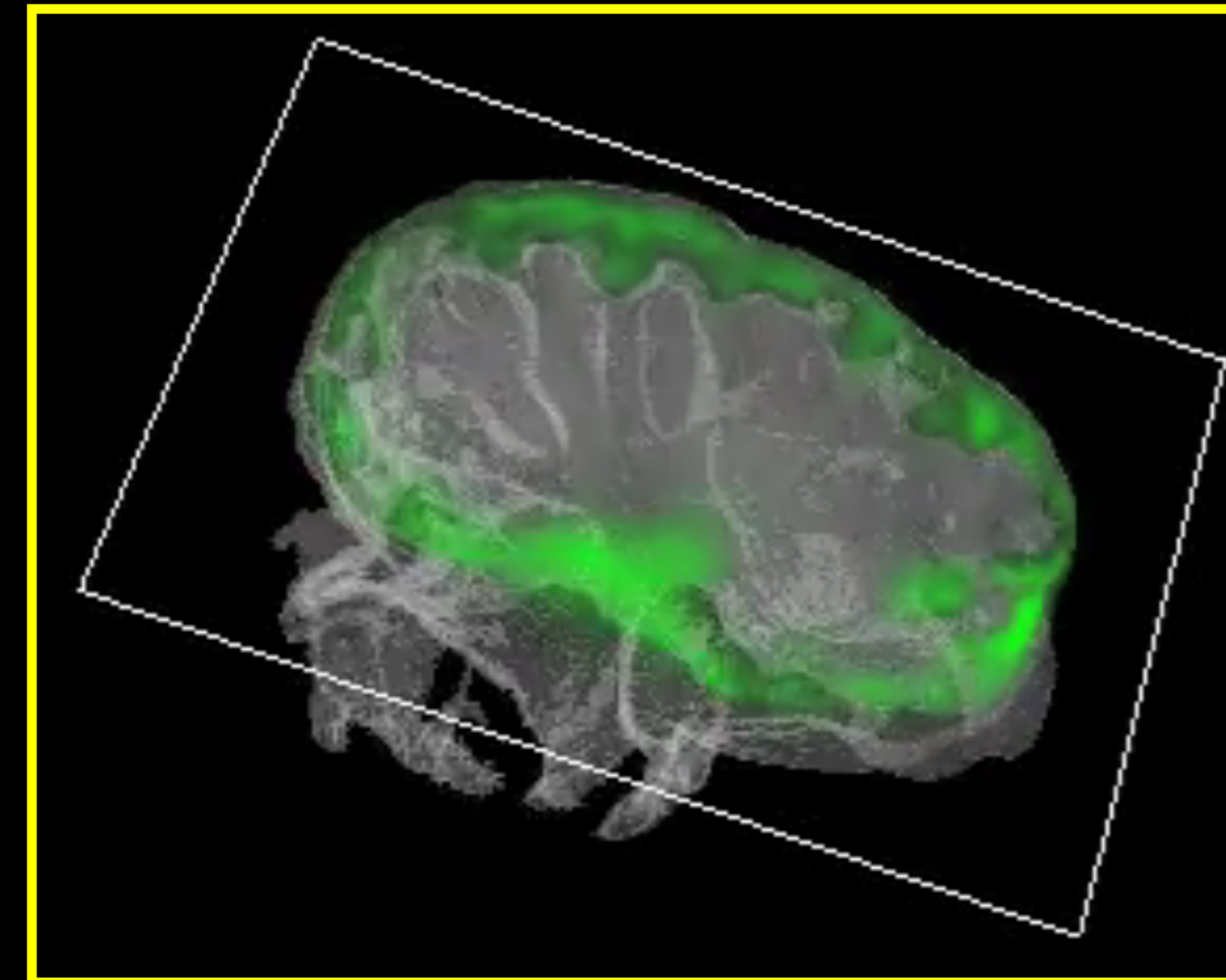


**3D**  
**24+ HOURS**  
**HEALTHY**

# CHALLENGE #1

## HEARTS BEAT QUICKLY

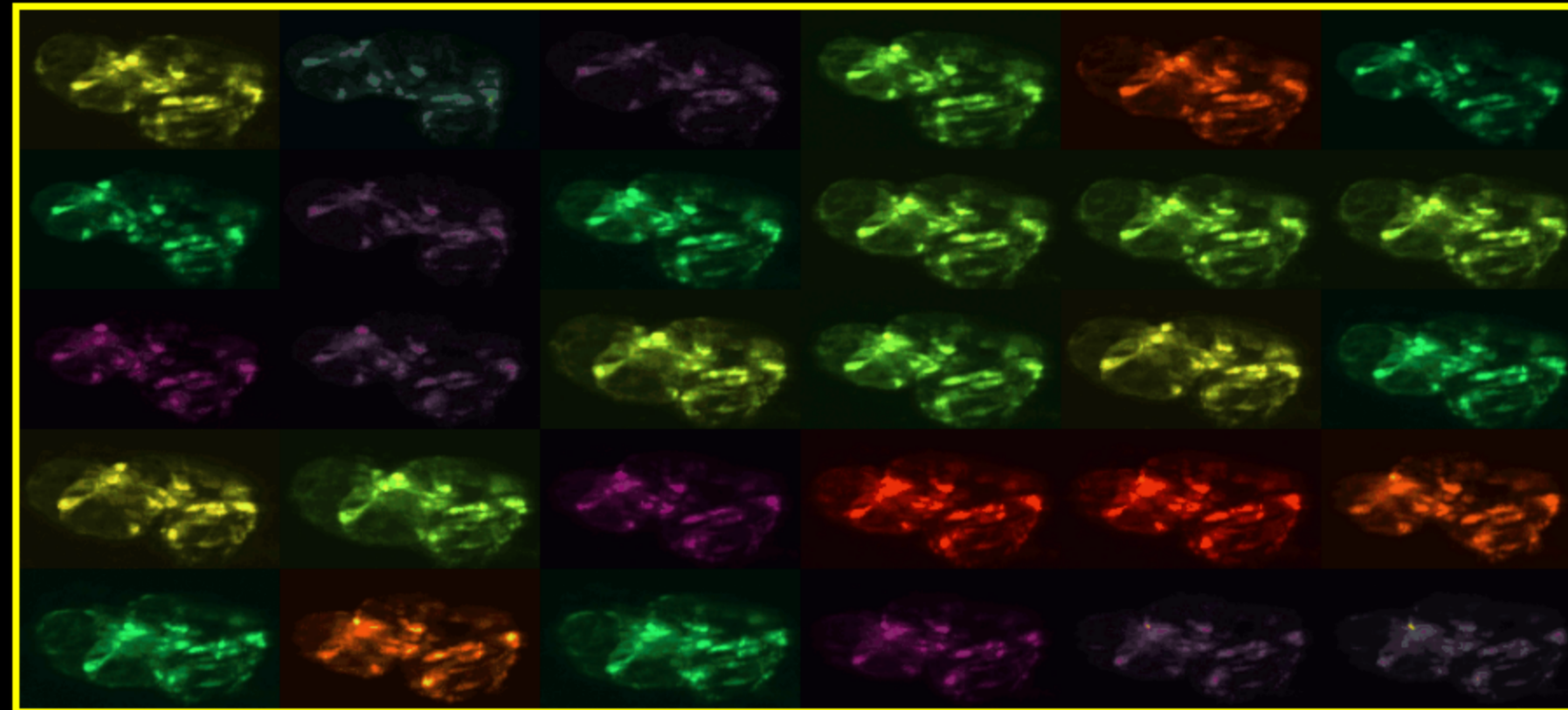




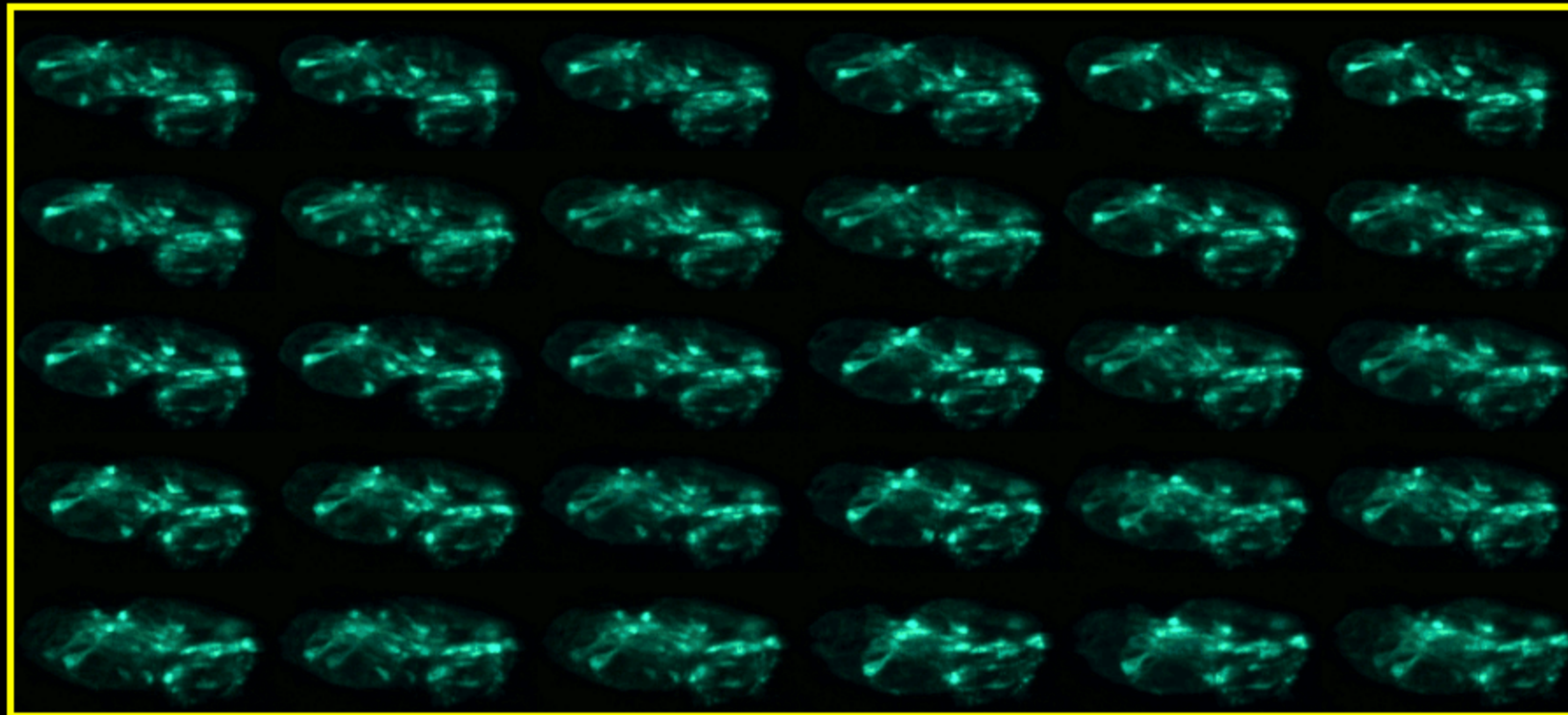
Liebling et al. IEEE ISBI (2006)

# SOLUTION #1A

## RETROSPECTIVE OPTICAL GATING



Liebling et al. IEEE ISBI (2006)



# SOLUTION #1B

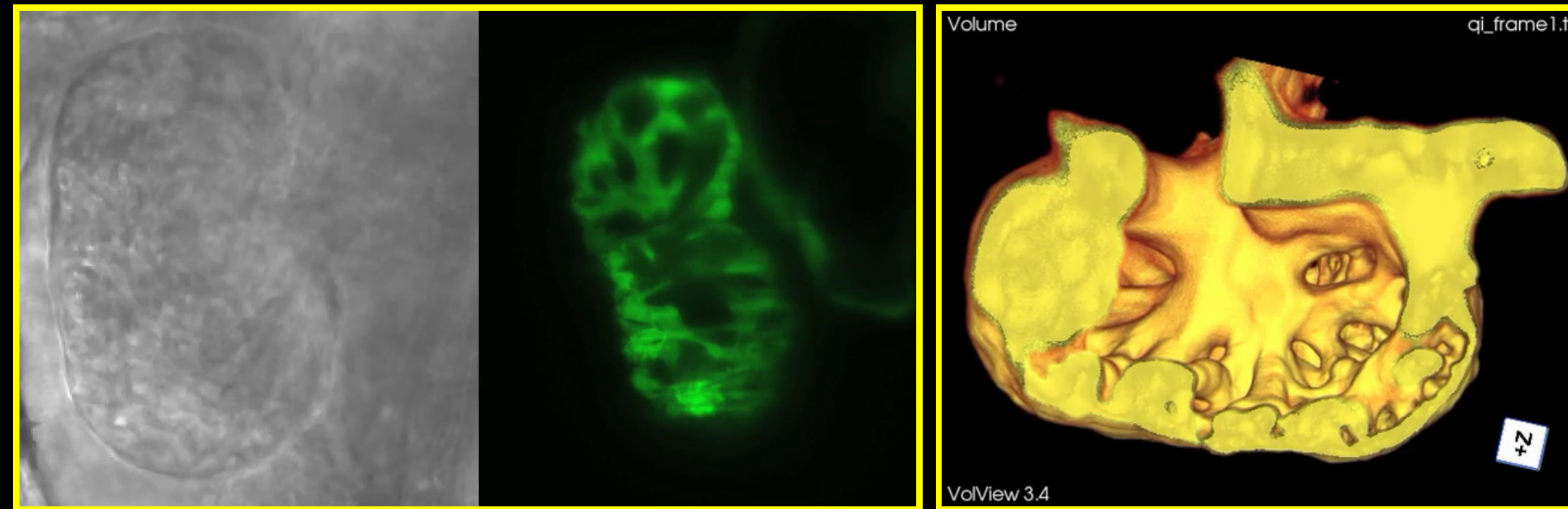
## PROSPECTIVE OPTICAL GATING



Taylor et al. J. of Biomedical Optics (2011)

# SOLUTION #1B

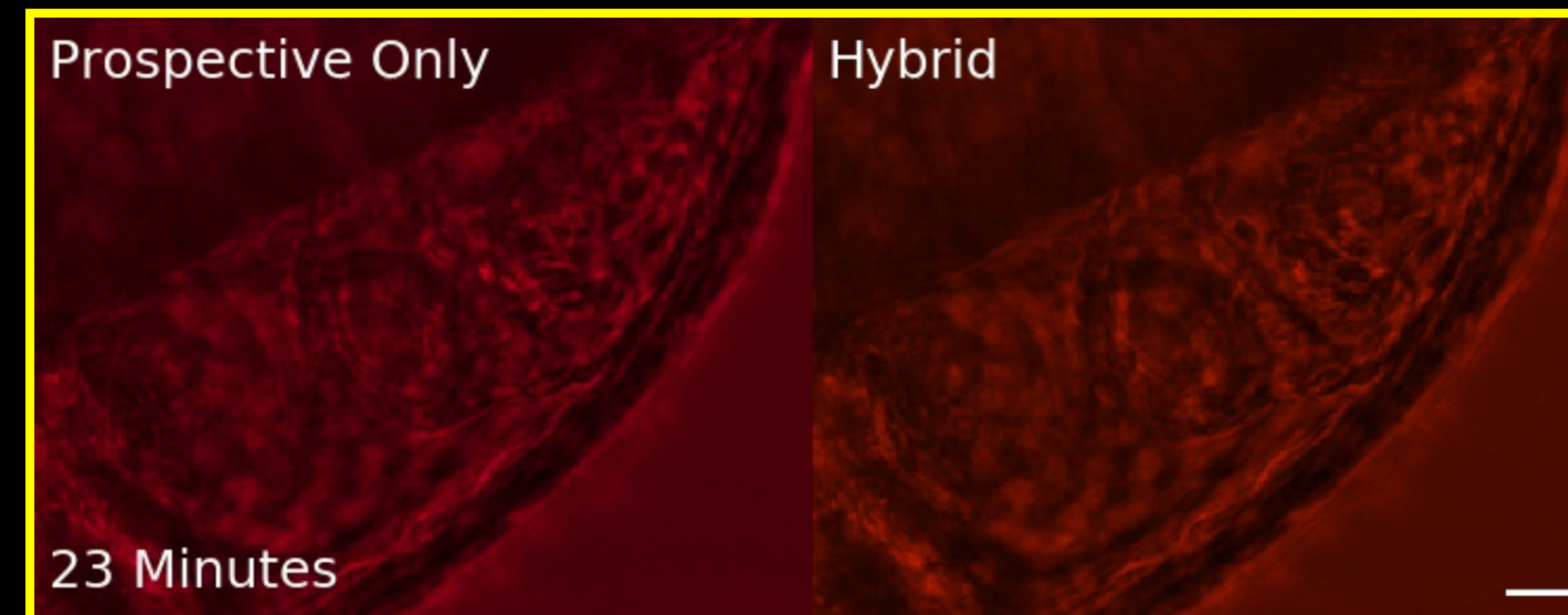
## PROSPECTIVE OPTICAL GATING



Taylor et al. J. of Biomedical Optics (2011)

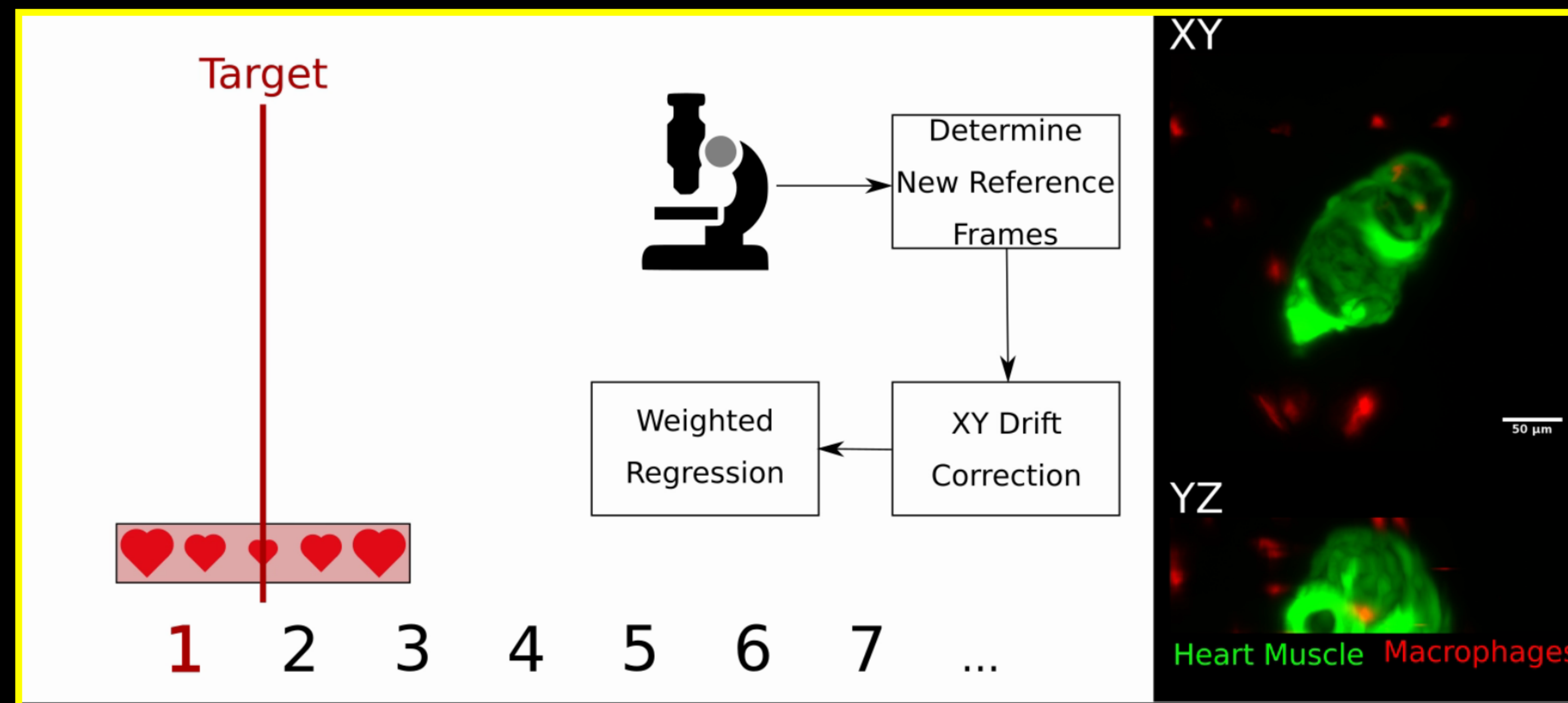
# CHALLENGE #2

## HEARTS CHANGE SHAPE AND SIZE



# SOLUTION #2

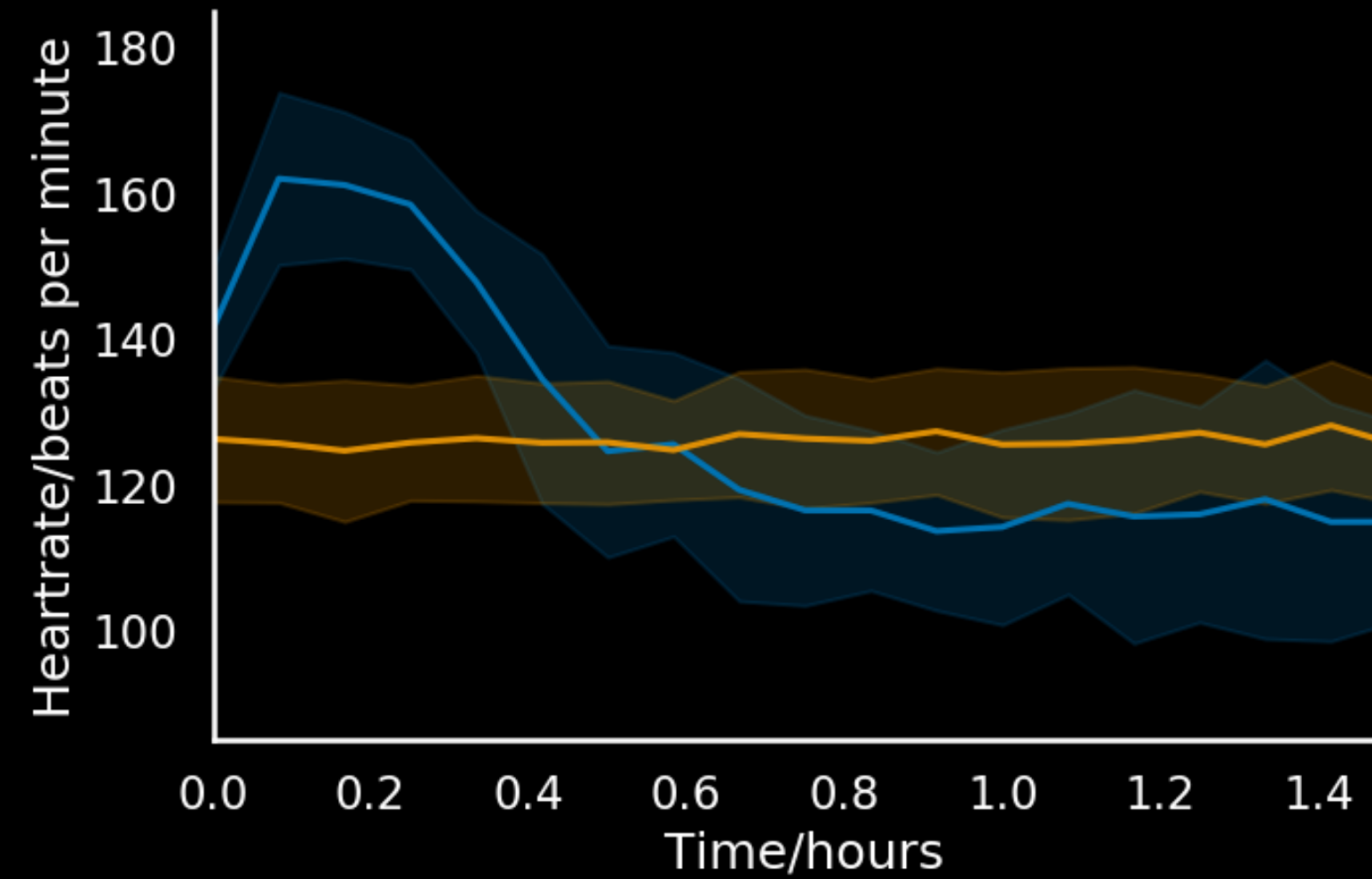
## HYBRID OPTICAL GATING



Submitted last week

# SOLUTION #2

## HYBRID OPTICAL GATING



Submitted last week



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