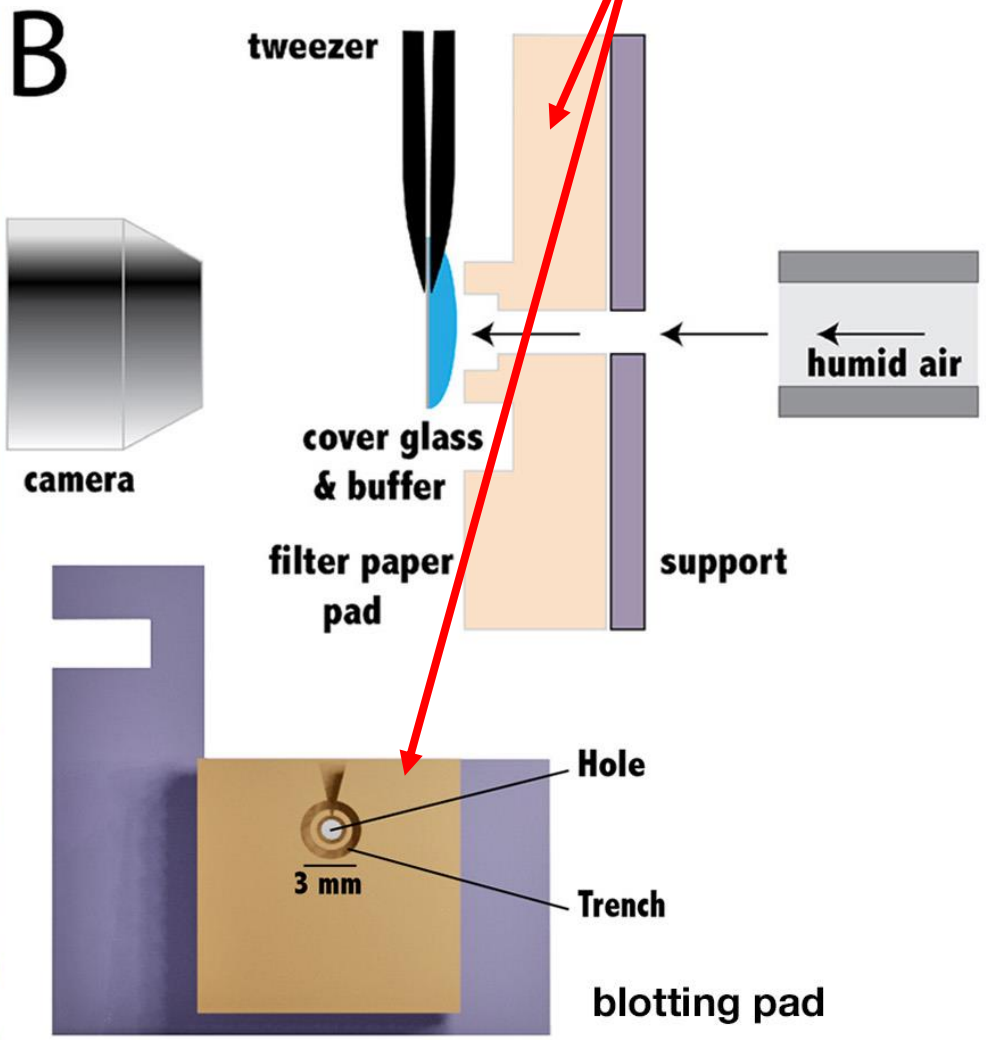
# Figures included as background, in support of the NCCAT application for Rapid Access

Robert M Glaeser

Lawrence Berkeley National Laboratory

# Axisymmetric draining as executed in a modified Vitrobot & observed with a RICM camera


## Older design of the blotting pad

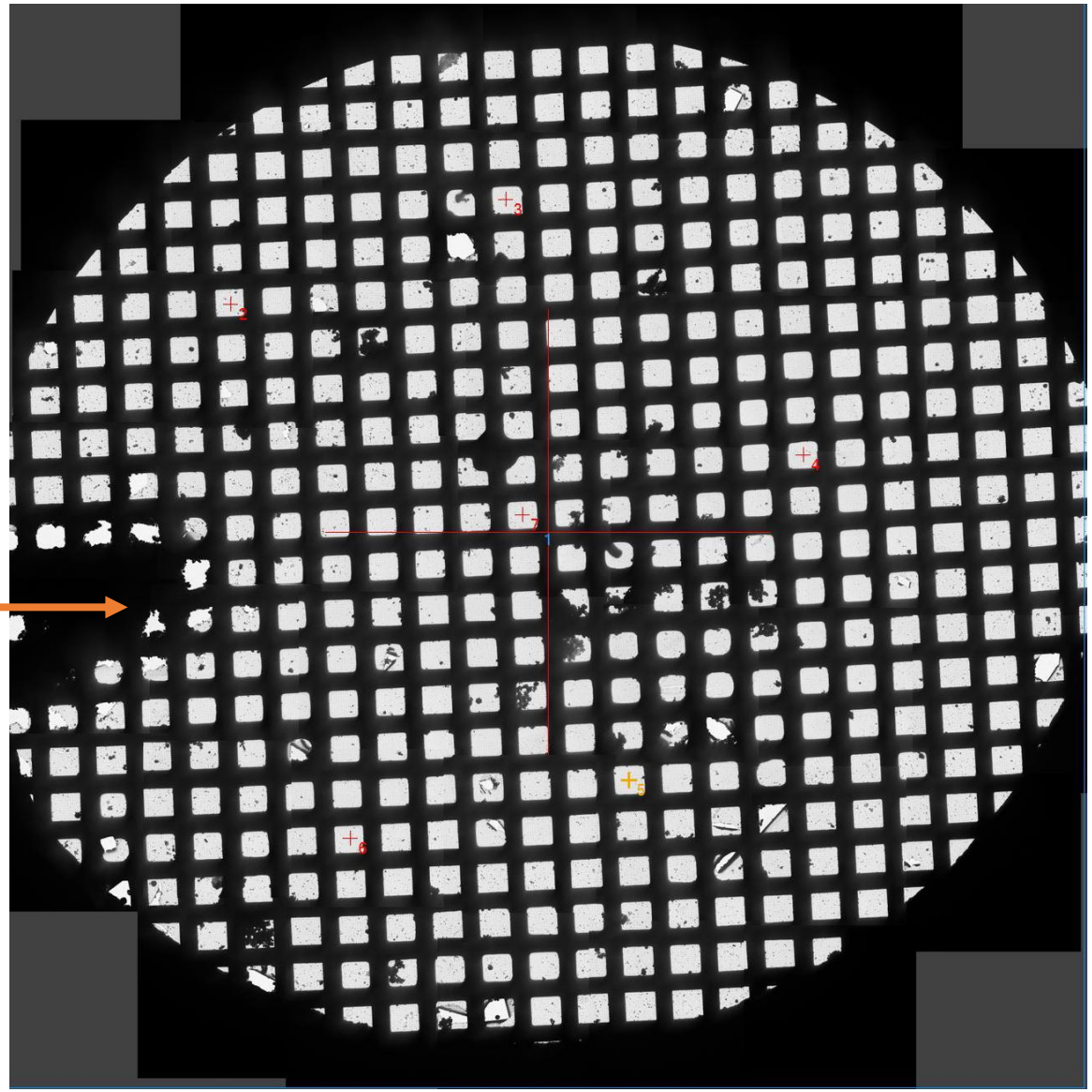
## New design of a 3-spoke blotting pad

The width and length of bridges can be tuned sufficiently that a stream of humid air is no longer required as an additional driving force

This was used for the movie showing first results with Quantifoil grids

# Grid #1 :

Low mag atlas of the frozen EM grid (Hydophobic grid, ferritin 3 μl, 2mg/ml ferritin, wheel blot)




Thickness measures at 5 positions (red +)

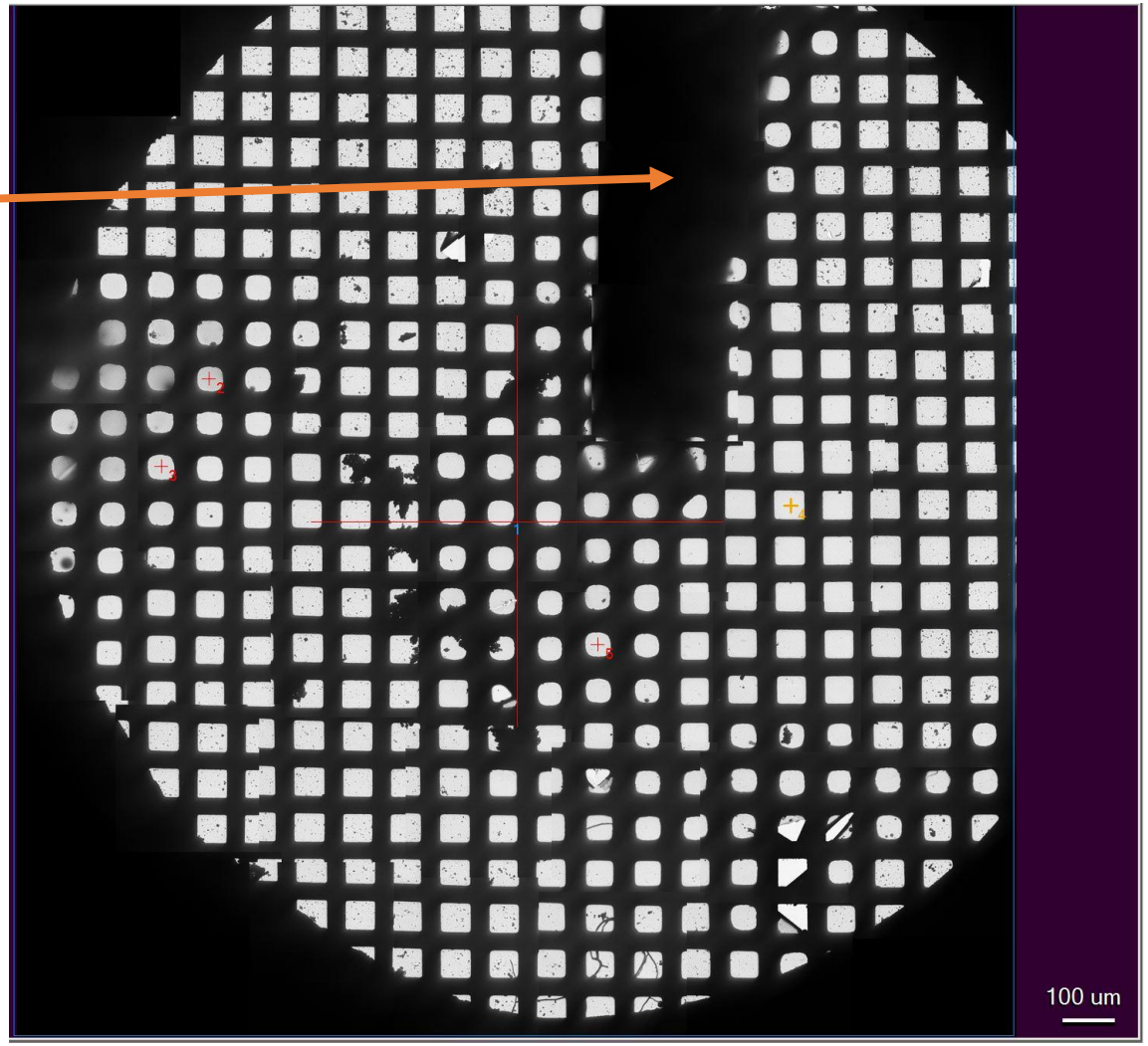
Ratio=e count with /e count wo Energy filter

| Ratio | Ice thickness |
|---|---|
| 0.9 | 34 nm |
| 0.91 | 30 nm |
| 0.9 | 34 nm |
| 0.9 | 34 nm |
| 0.9 | 34 nm |

(* Uniform thin ice at 5 random squares.)

# Grid #2 : Low mag atlas of the frozen EM grid (Hydophobic grid, ferritin 3 µl, 2mg/ml ferritin, wheel blot)

Tweezer signature

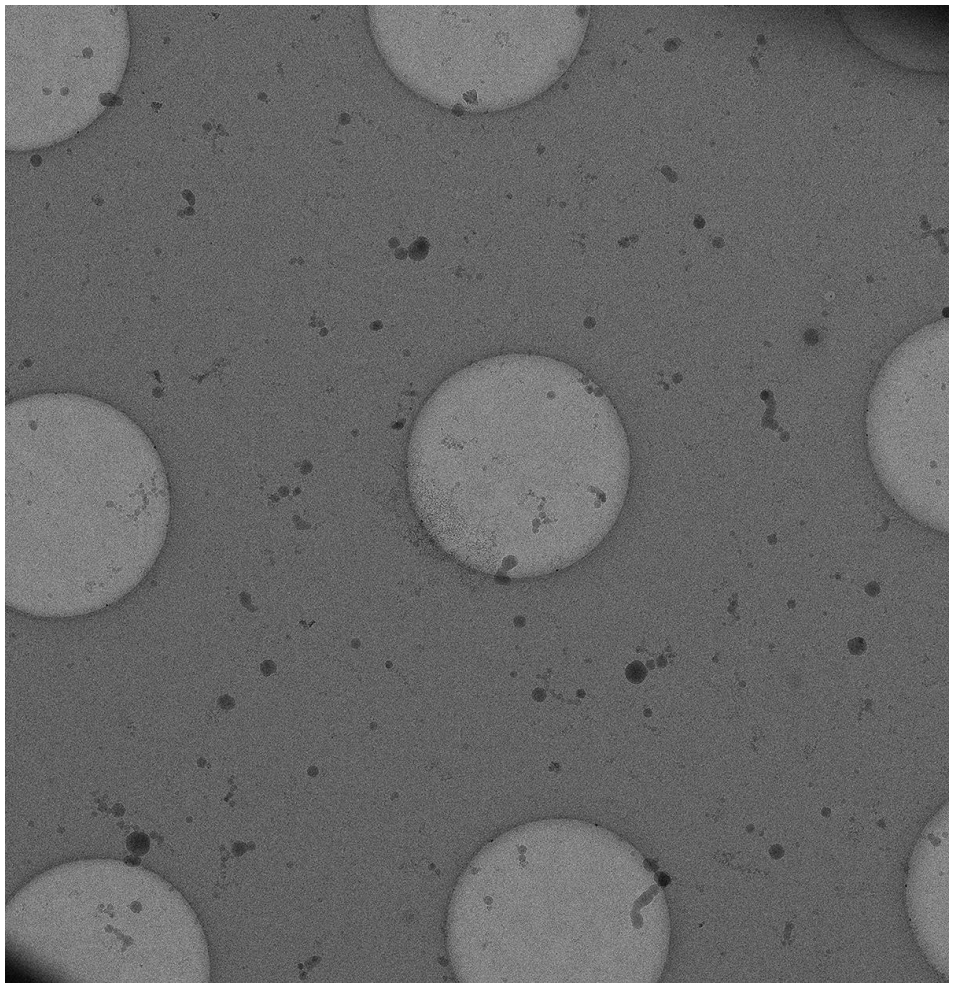



Thickness measures at 2 positions (+)

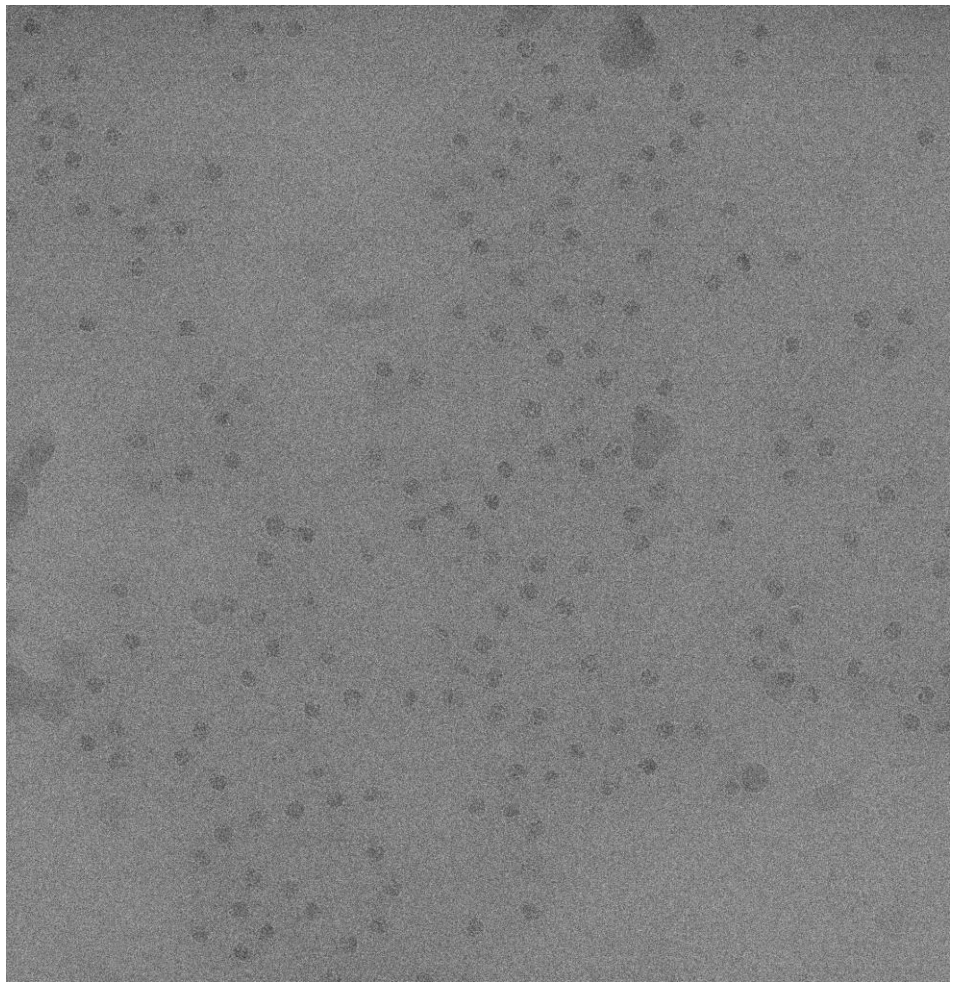
Ratio=e count with /e count wo Energy filter

| Ratio | Ice thickness |
|---|---|
| 0.83 | 60 nm |
| 0.82 | 65 nm |

Close Up view of holes



Ferritin particle



# First results obtained when using Streptavidin monolayer-crystal affinity grids

## Biotinylated apoferritin used as a test specimen

## Images recorded from an area with ice thickness ~48 nm

## In this case, however, thick ice was observed over most of the grid, possibly on the back side