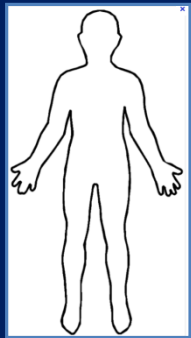
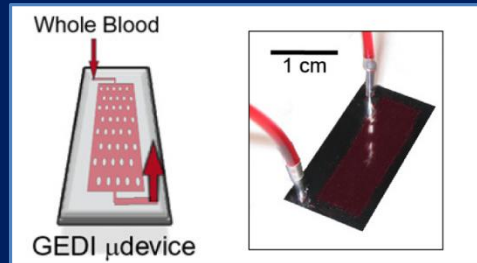


Opportunity: GEDI-Capture of Live CTCs

CRPC Patient

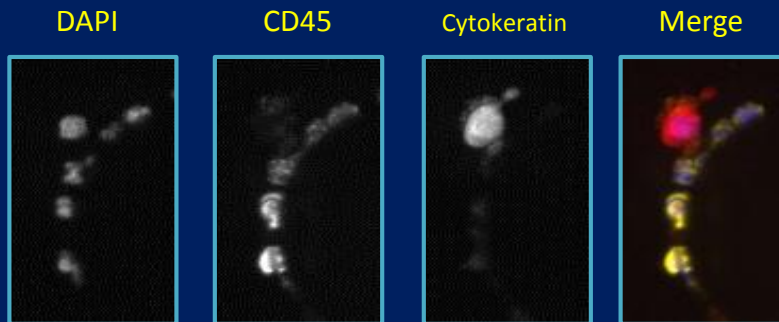


1 mL
whole
blood

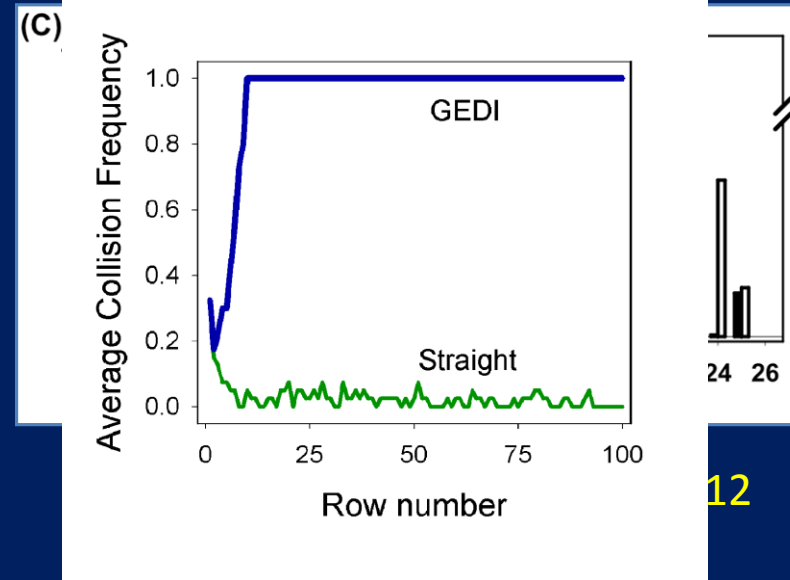
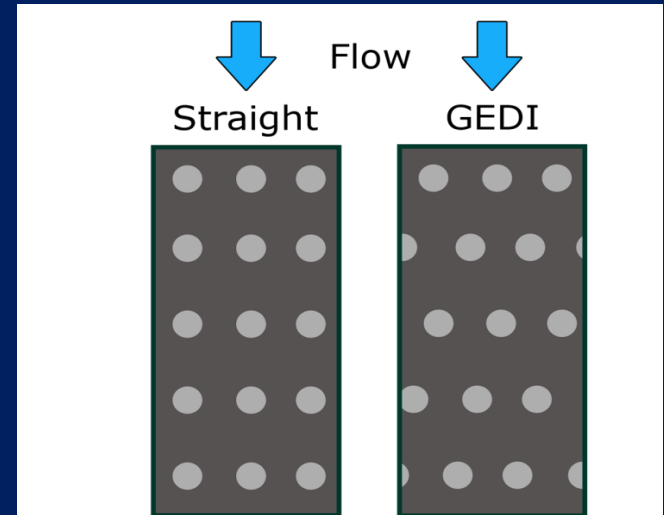


Prostate CTC capture
PSMA Antibody

CTC Identification

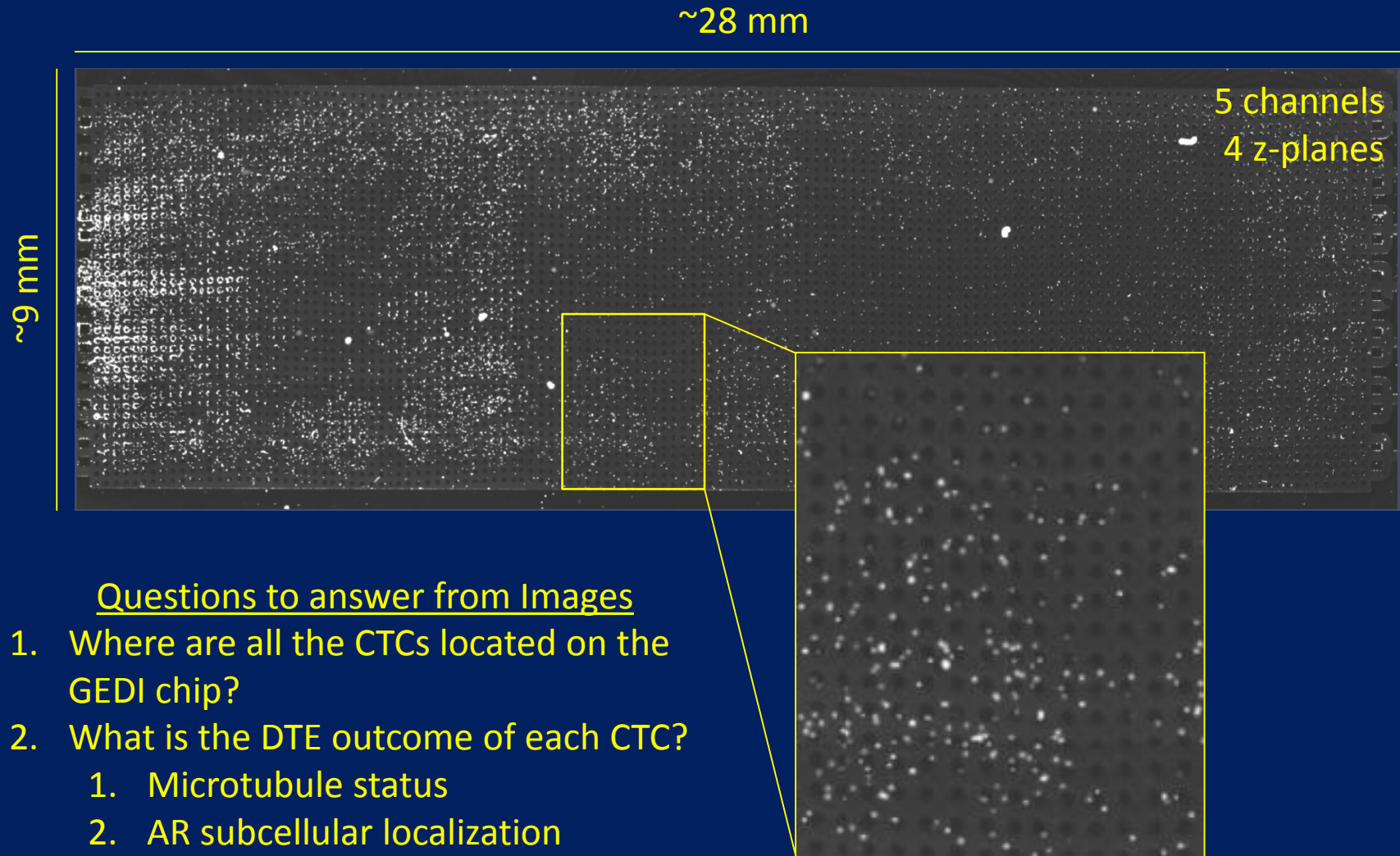


CTC = DAPI⁺, CD45⁻, CK⁺
Leukocyte = DAPI⁺, CD45⁺, CK⁻



Use of the PSMA-GEDI to interrogate mechanisms of taxane resistance in Prostate Cancer patients

GEDI under the microscope



TAXYENERGY Clinical Trial Scheme

Chemo-naïve mCRPC men (n=100)

R
A
N
D
O
M
I
Z
A
T
I
O
N

2:1

Docetaxel

4
cycles

Clinical
evaluation for
progression
(taxane switch)

Cabazitaxel

Cabazitaxel

Docetaxel

Clinical
evaluation for
progression

Screening

Cycle 1

Cycle 2

Cycle 3

Cycle 4

Cycle 5

Screening

1. CTC counts and physical characteristics

C1/D1

1. CTC counts
2. CTC DTE – DTX (ex-vivo DTE)
3. CTC DTE – CBZ (ex-vivo DTE)
4. AR variants distribution
5. CTC RNA-Seq
6. CTC DNA-Seq

C1/D8

1. CTC counts (in-vivo DTE)

C5/D1

1. CTC counts
2. CTC DTE – DTX (ex-vivo DTE)
3. CTC DTE – CBZ (ex-vivo DTE)
4. AR variants distribution

C5/D8

1. CTC counts (in-vivo DTE)

Relapse

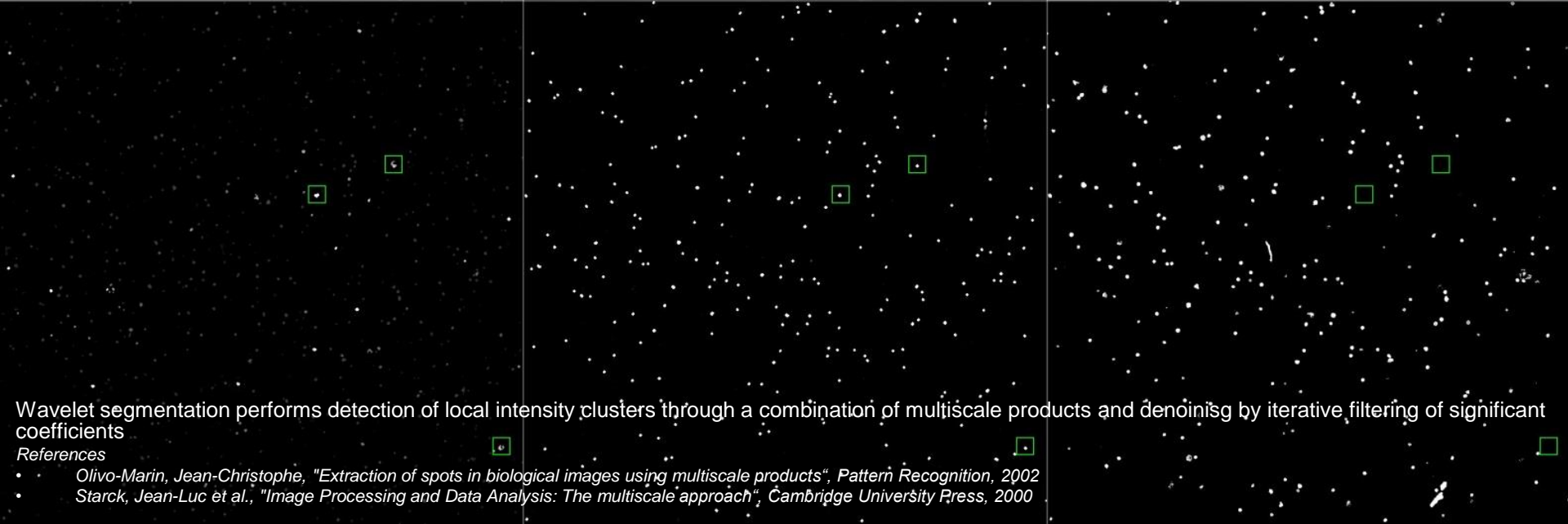
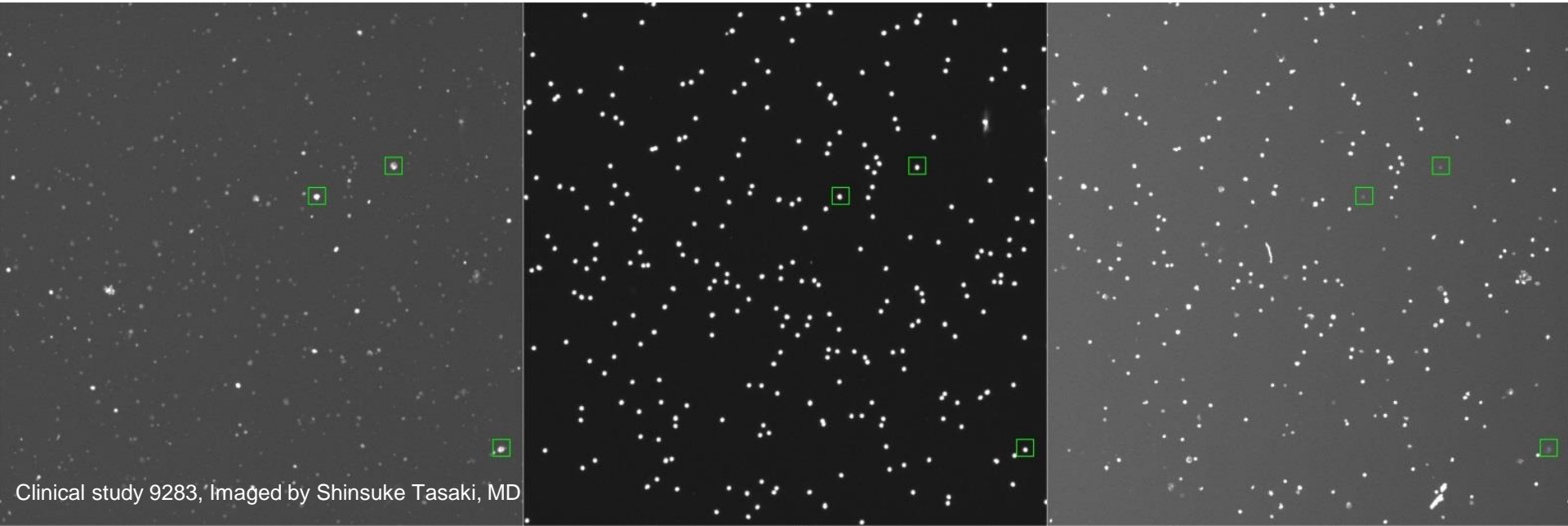
1. CTC counts
2. AR variants distribution
3. CTC RNA-Seq
4. CTC DNA-Seq

1 of 50 Positions from a 10x Coverslip Dataset

PSMA

DAPI

CD45



Wavelet segmentation performs detection of local intensity clusters through a combination of multiscale products and denoising by iterative filtering of significant coefficients

References

- Olivo-Marin, Jean-Christophe, "Extraction of spots in biological images using multiscale products", *Pattern Recognition*, 2002
- Starck, Jean-Luc et al., "Image Processing and Data Analysis: The multiscale approach", Cambridge University Press, 2000