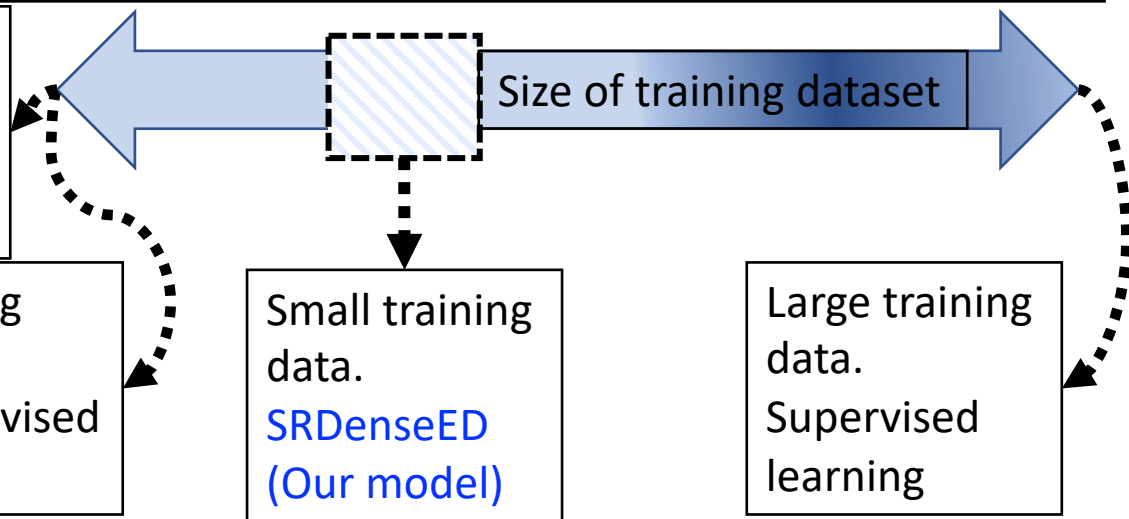


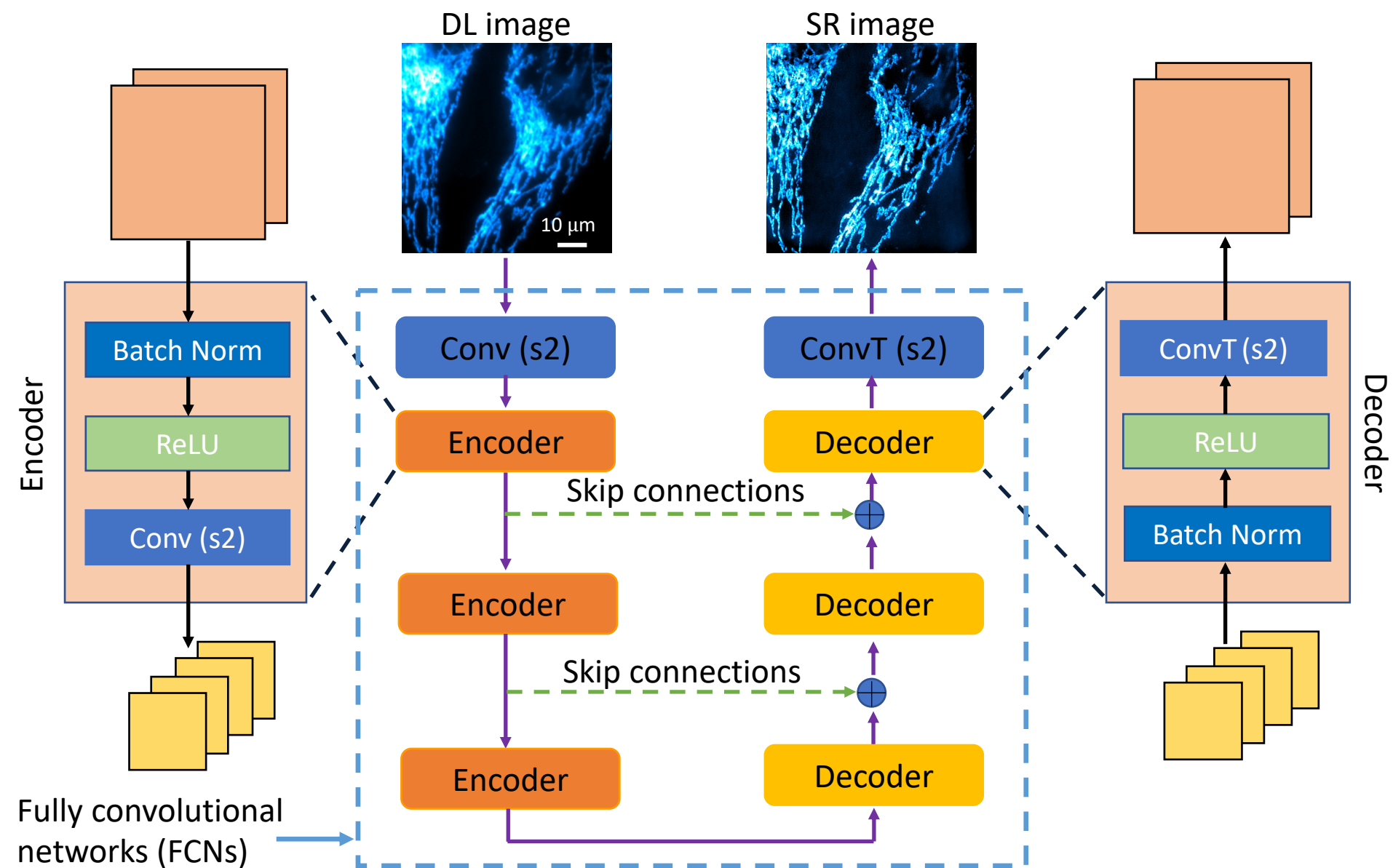
Conventional methods
(low accuracy &
computationally
expensive)

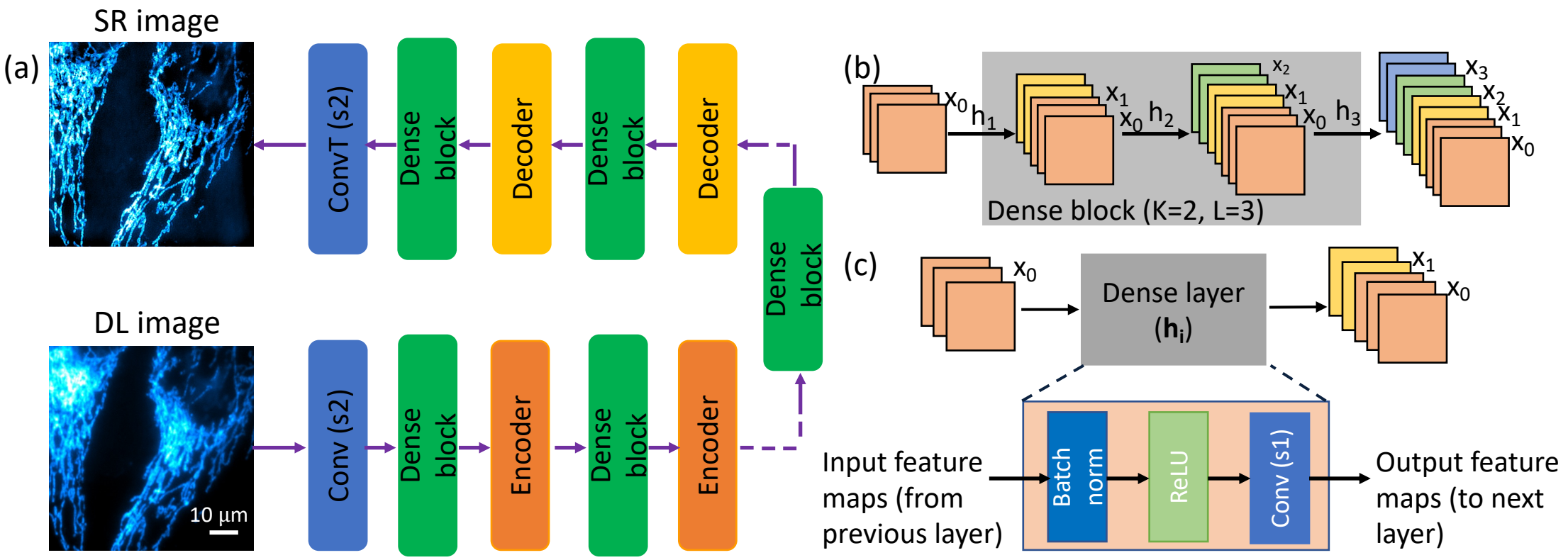
No training
data.
Self-supervised
learning

Small training
data.
SRDenseED
(Our model)

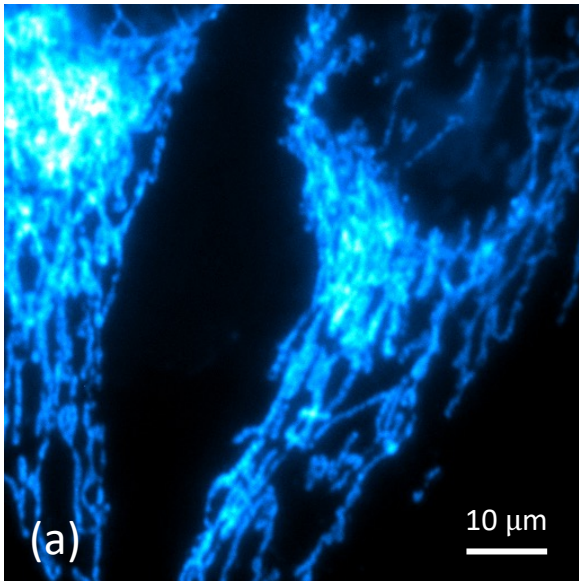
Large training
data.
Supervised
learning



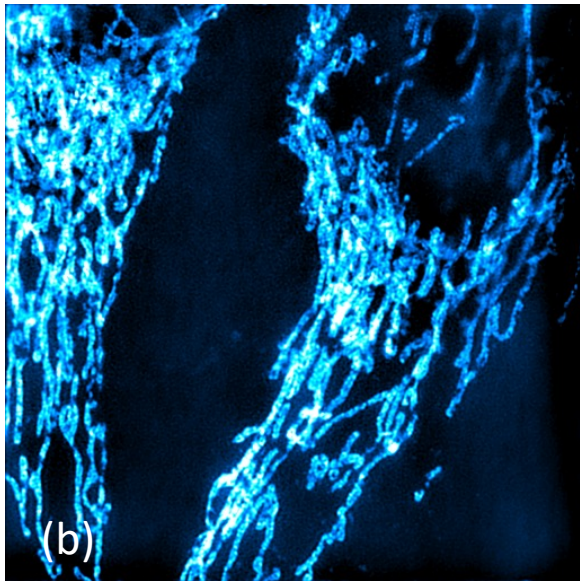


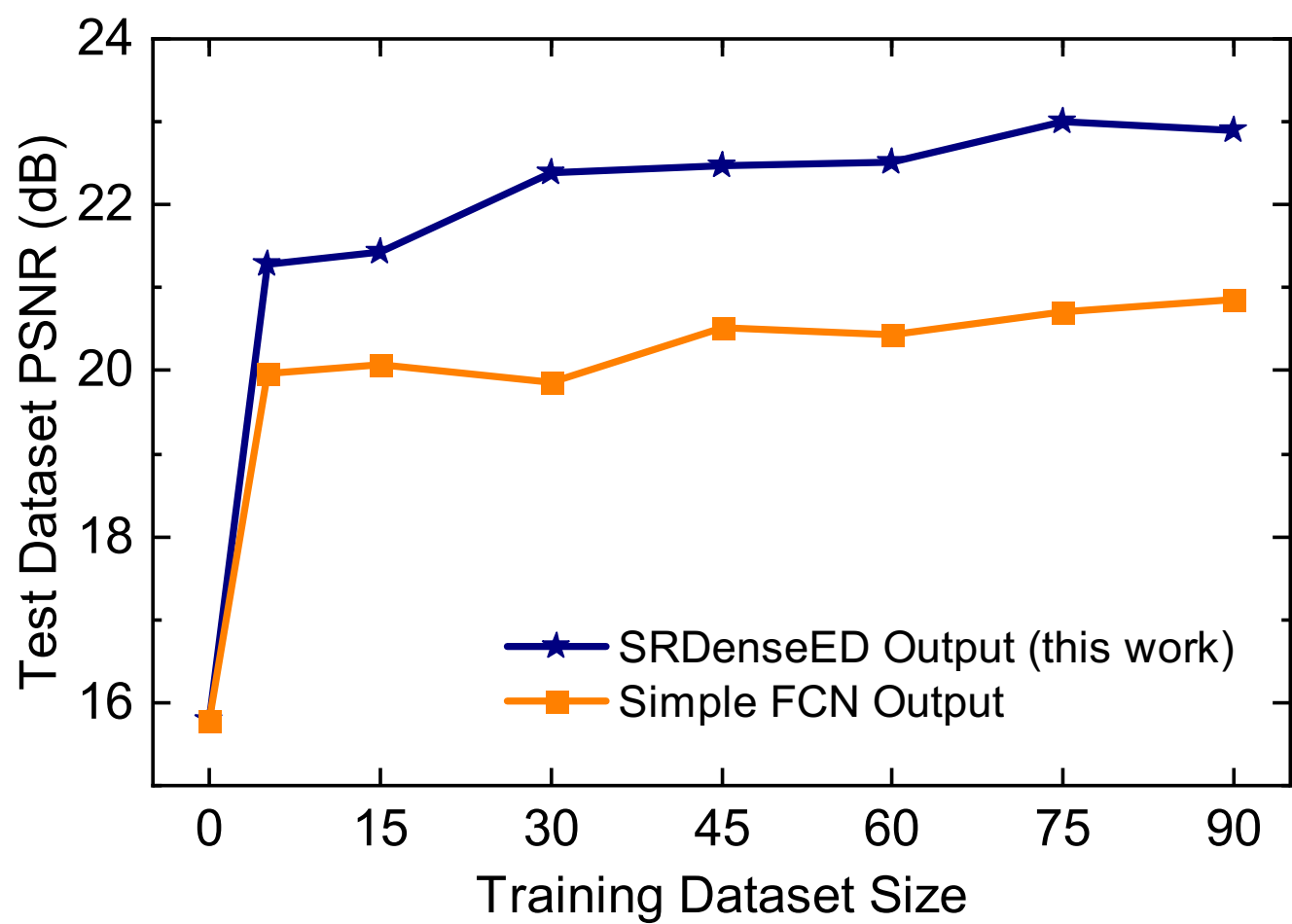


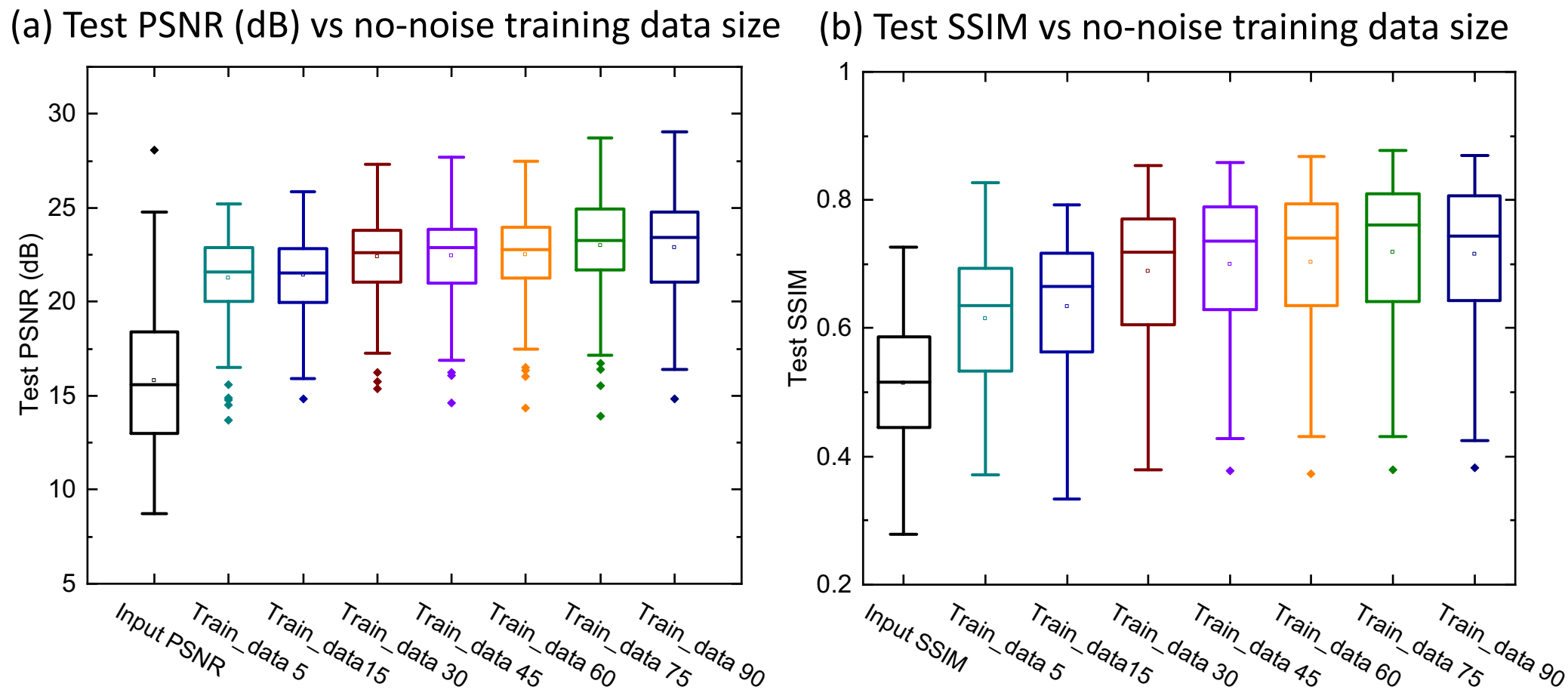
Input DL image



Target SR image





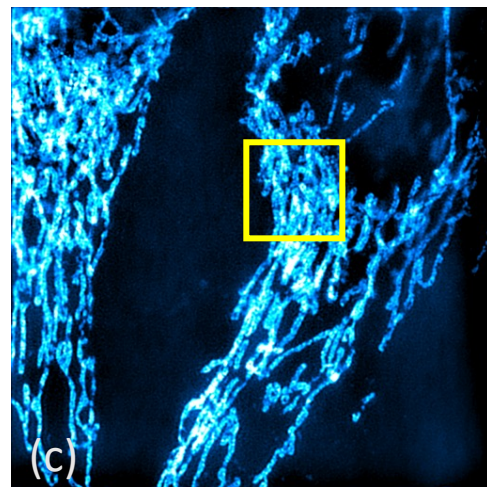
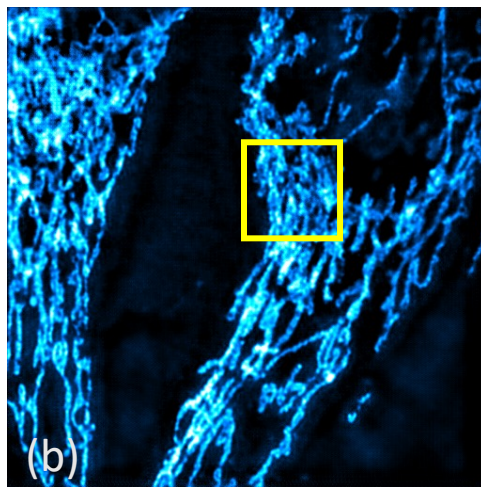
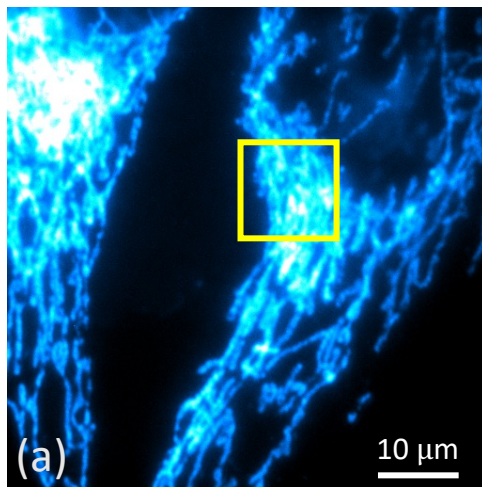


Input DL image

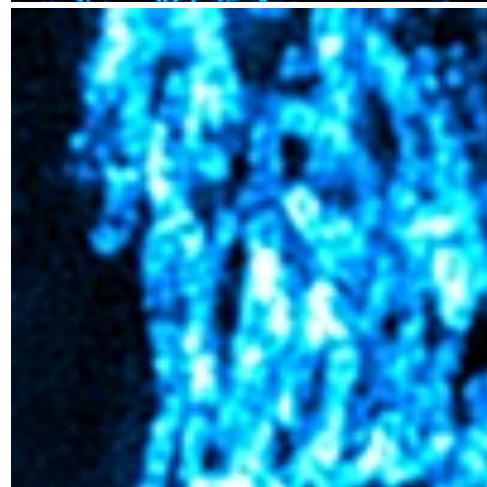
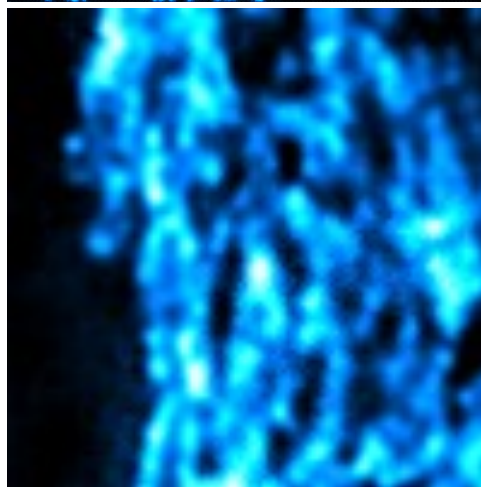
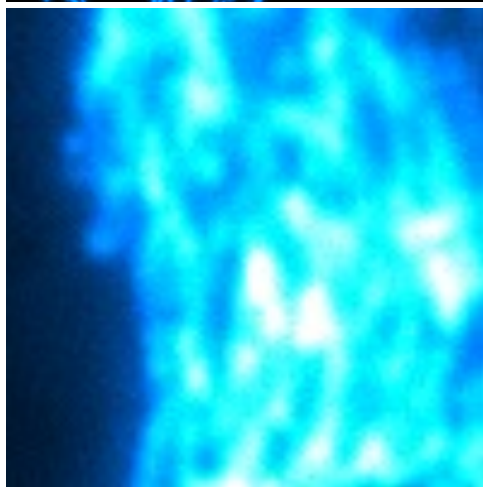
SRDenseED image

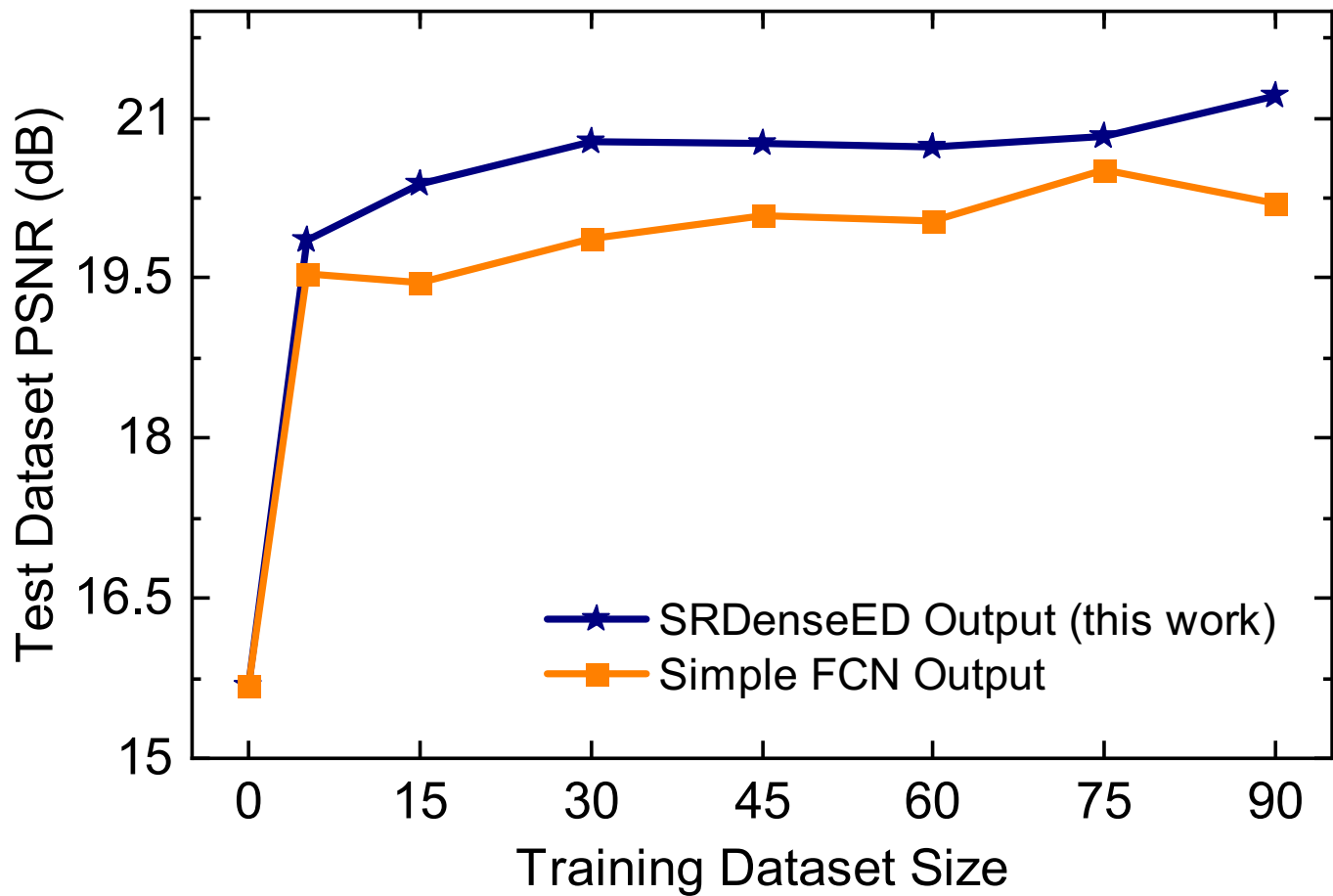
Target SR image

Full-image FOV

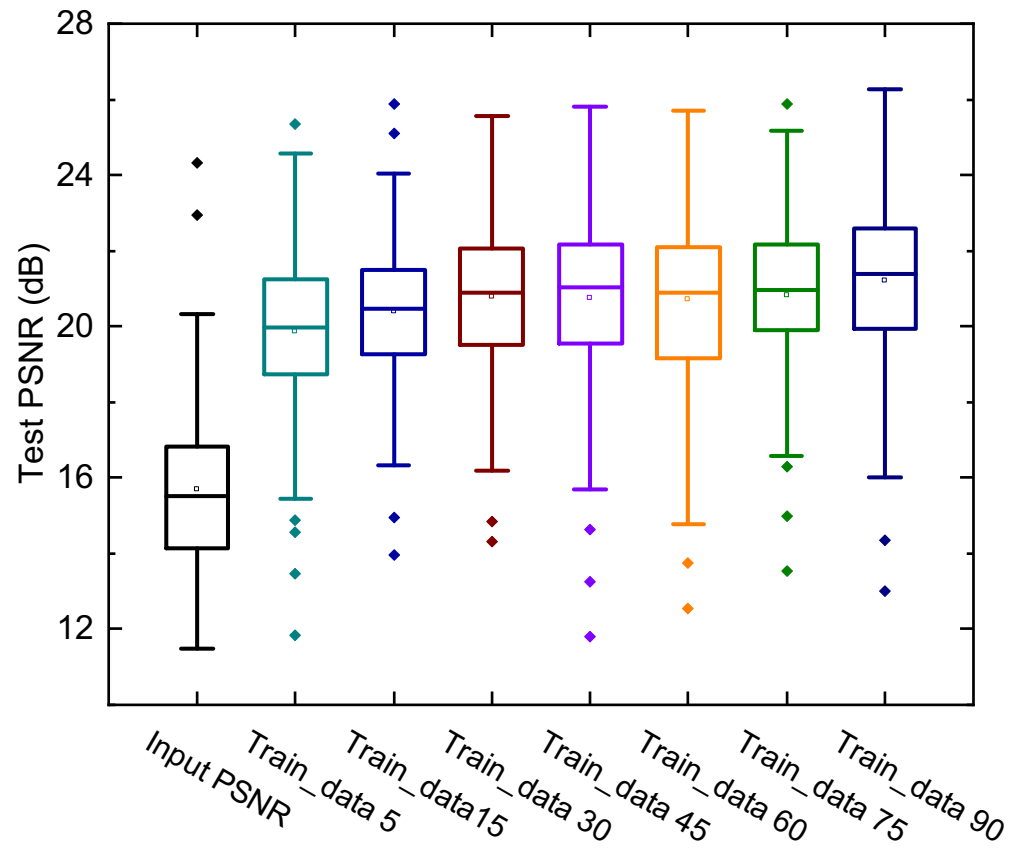


Selected ROI

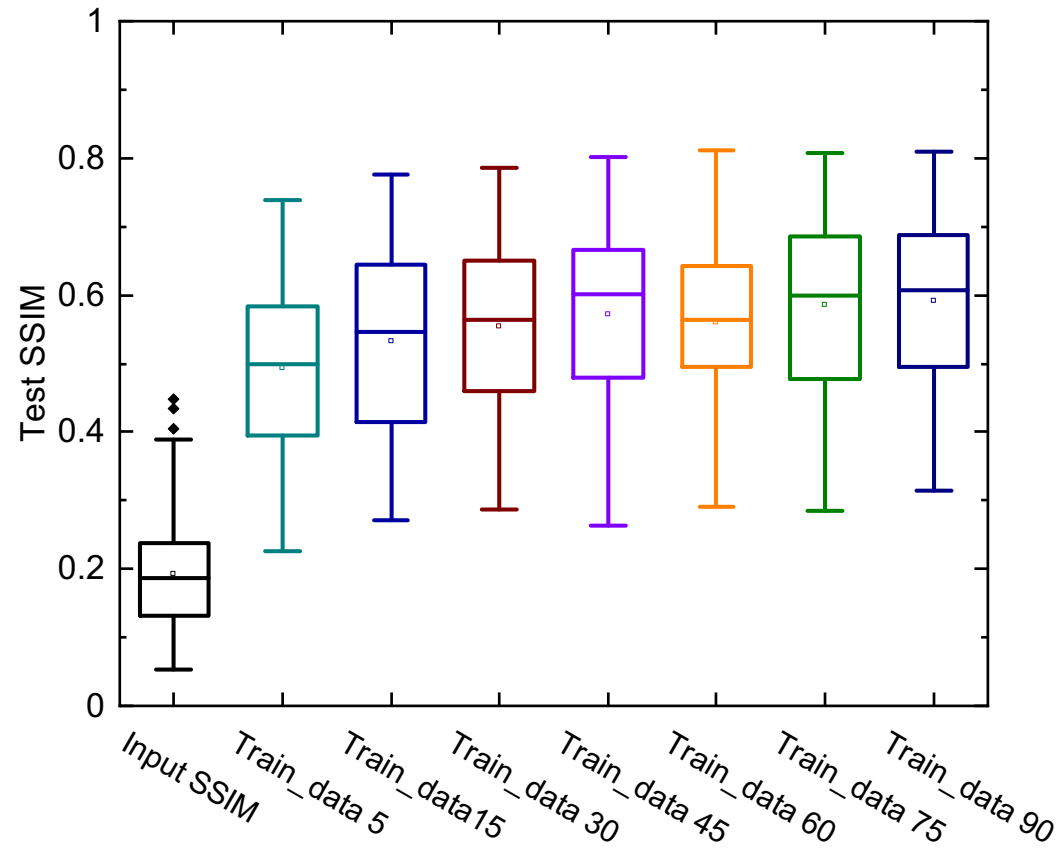




(a) Test PSNR (dB) vs Noisy training data size



(b) Test SSIM vs Noisy training data size

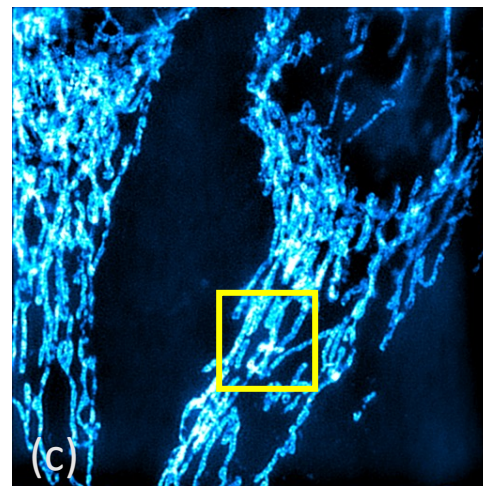
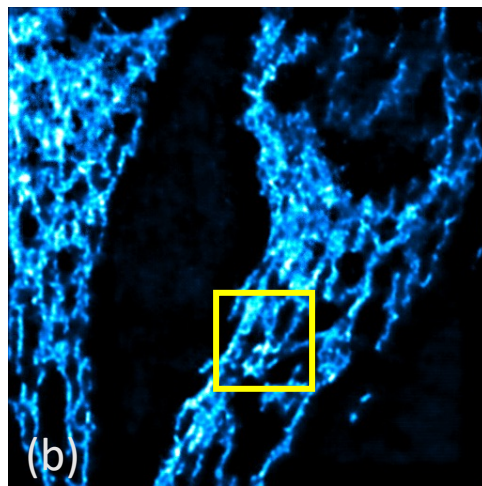
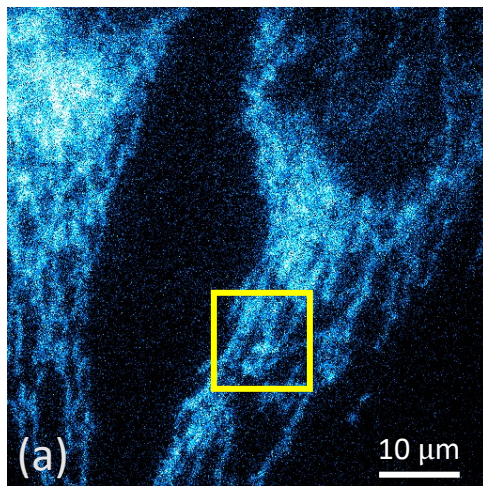


Noisy DL image

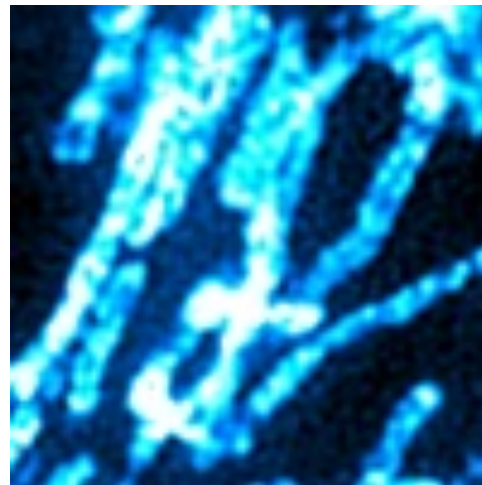
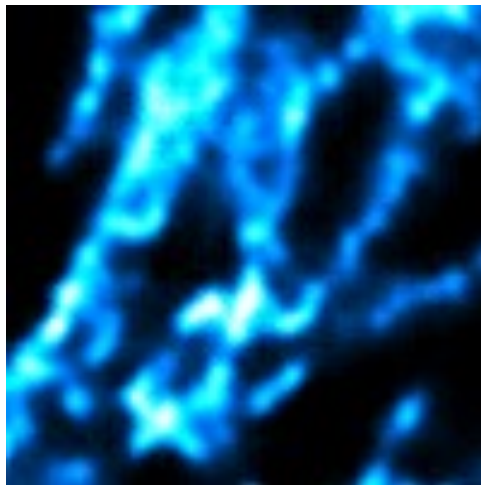
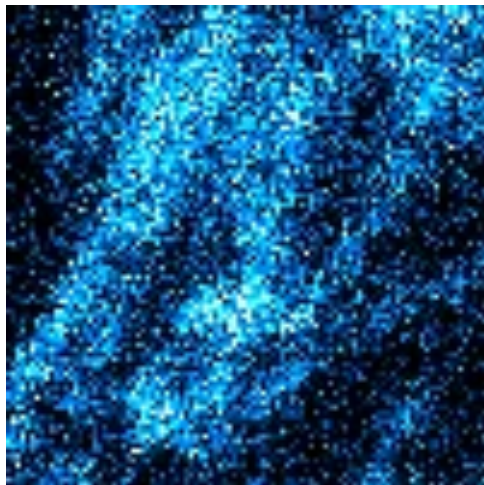
SRDenseED image

Target SR image

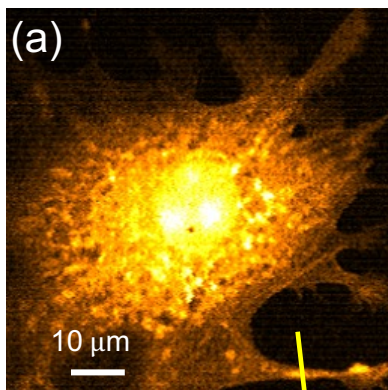
Full-image FOV



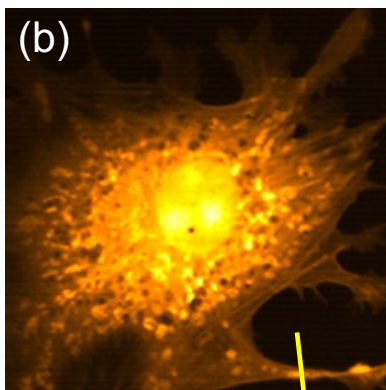
Selected ROI



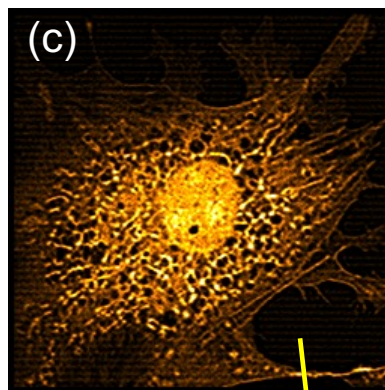
Noisy DL image



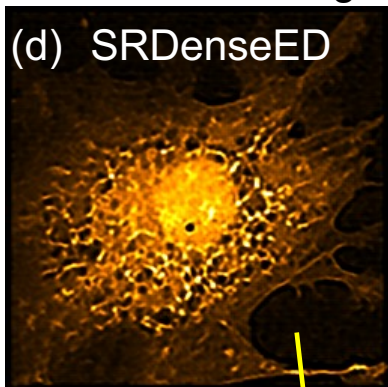
Noise-free DL image



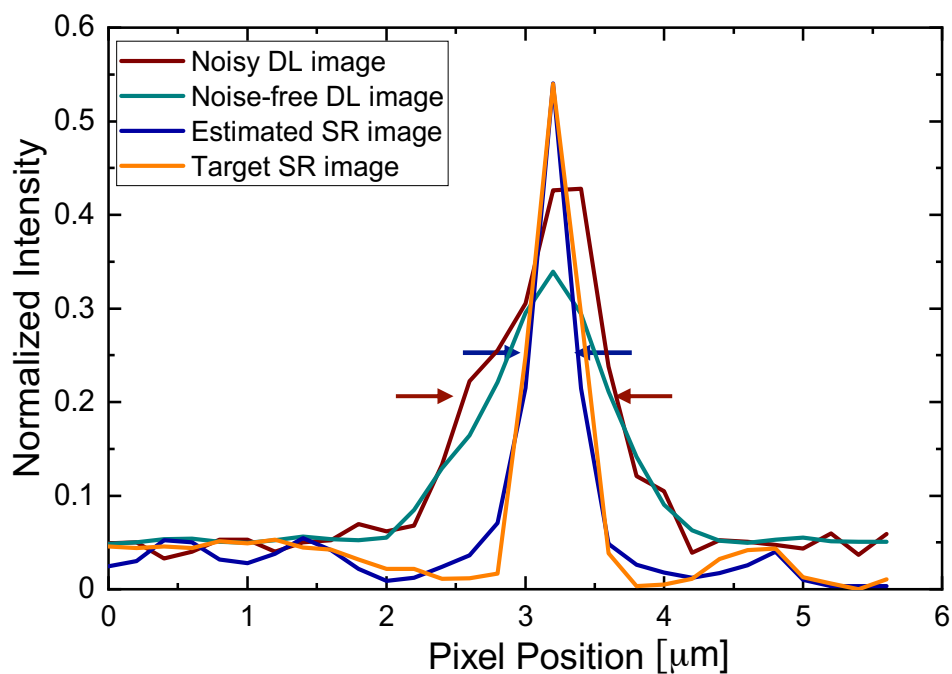
Target SR image



Estimated SR image



(e) Line plot for resolution improvement

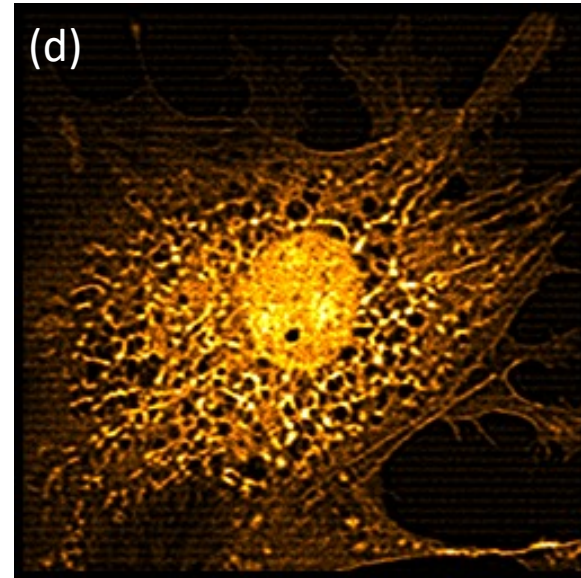
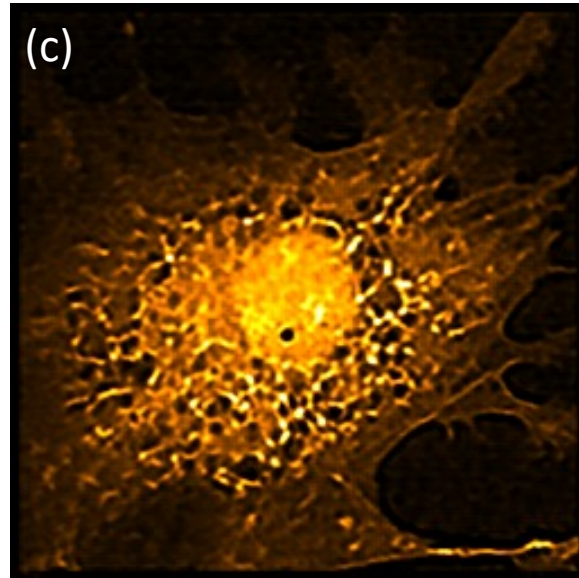
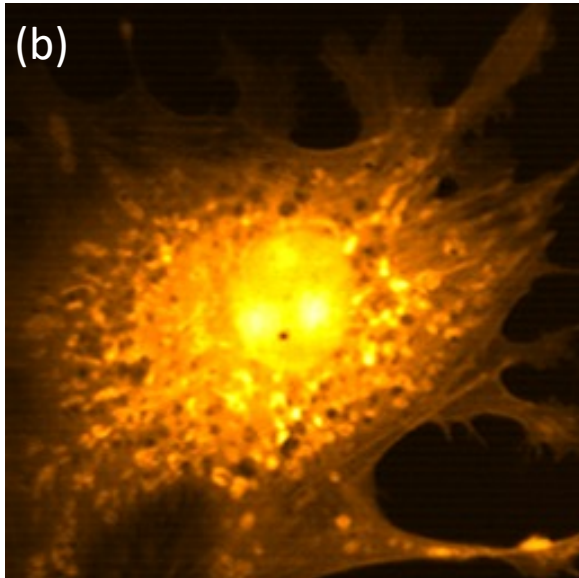
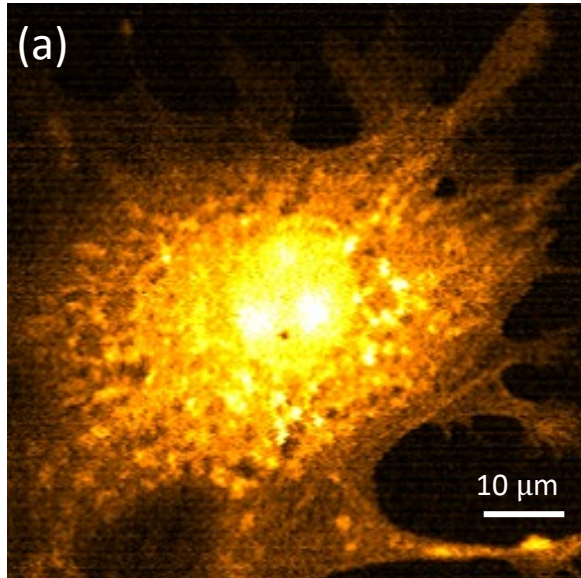


Input DL image

Averaged image

Estimated SRDenseED image

Target SR image



Input DL image

Estimated SR (DenseED FCNs)

Target SR image

