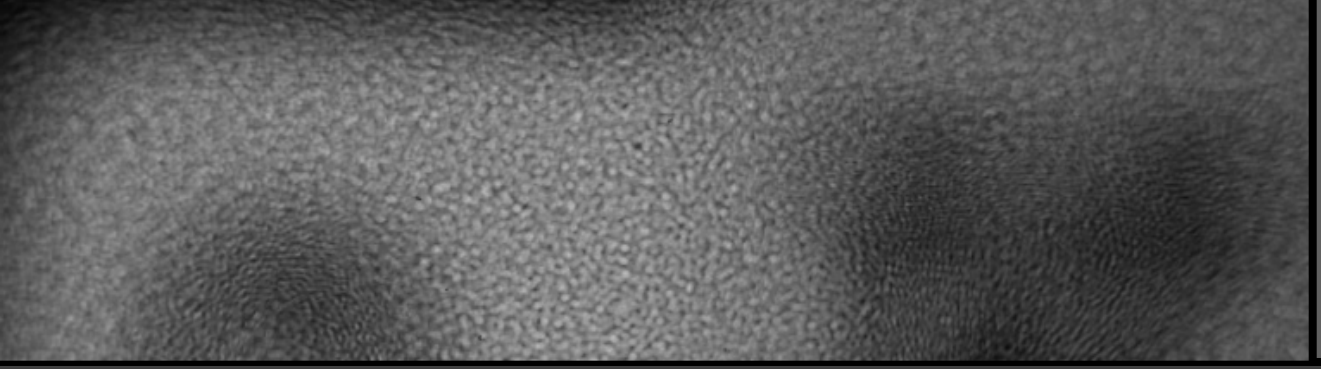


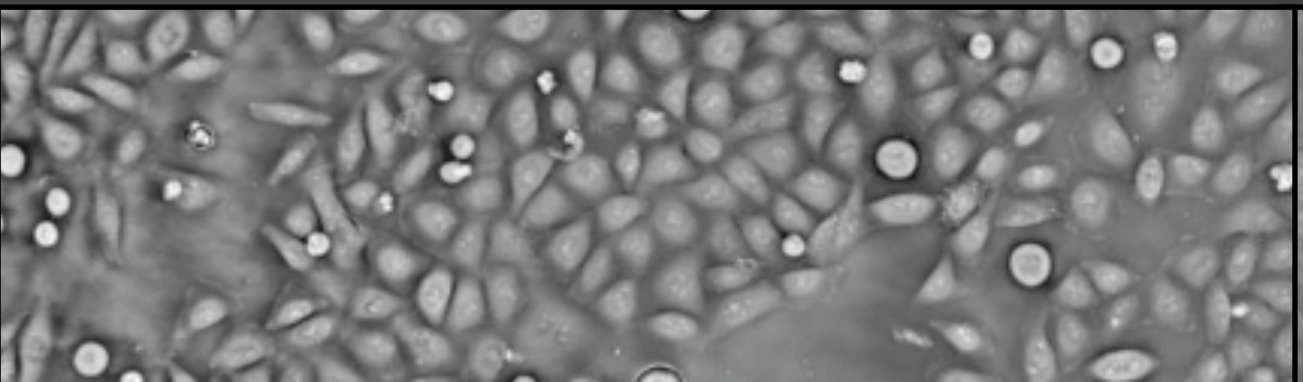
```
#pragma omp parallel for
for (int yTile = 0; yTile < in.height(); yTile += 32)
  __m128i a, b, c, sum, avg;
  __m128i blurH[(256/8)*(32+2)]; // allocate tile blu
  for (int xTile = 0; xTile < in.width(); xTile += 25
    __m128i *blurHPtr = blurH;
    for (int y = -1; y < 32+1; y++) {
```

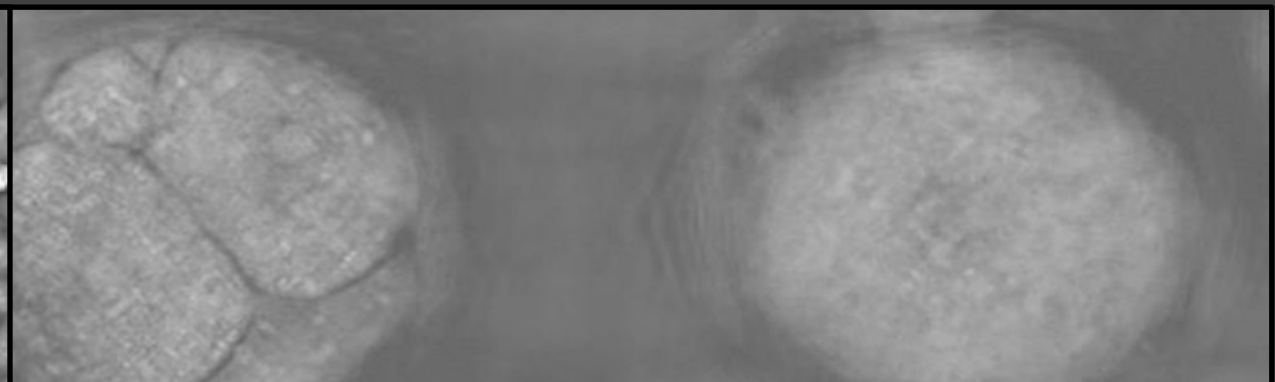
Computational Imaging

2017 EU-US Frontiers of Engineering Symposium

Anders Bjorholm Dahl

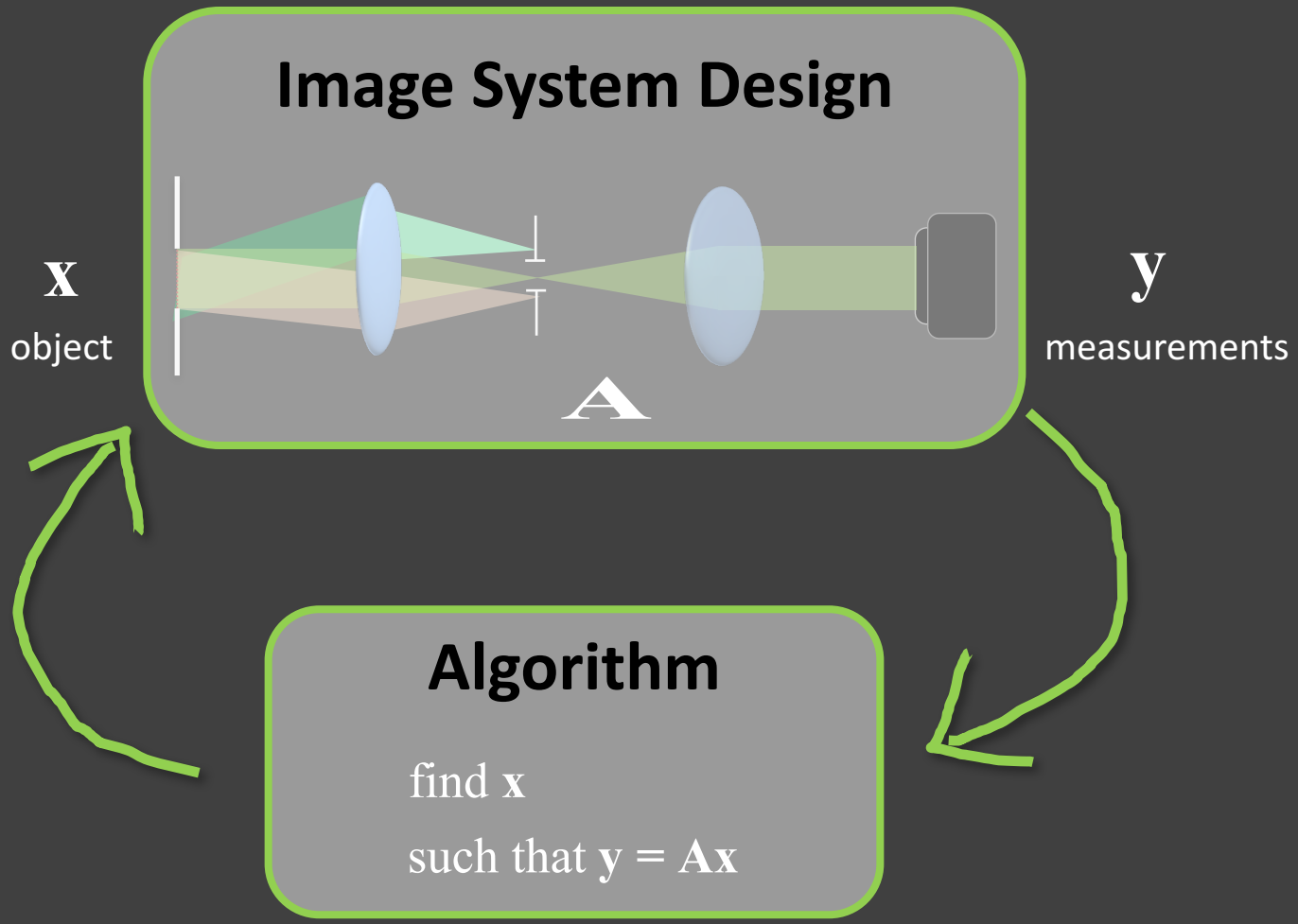
Laura Waller



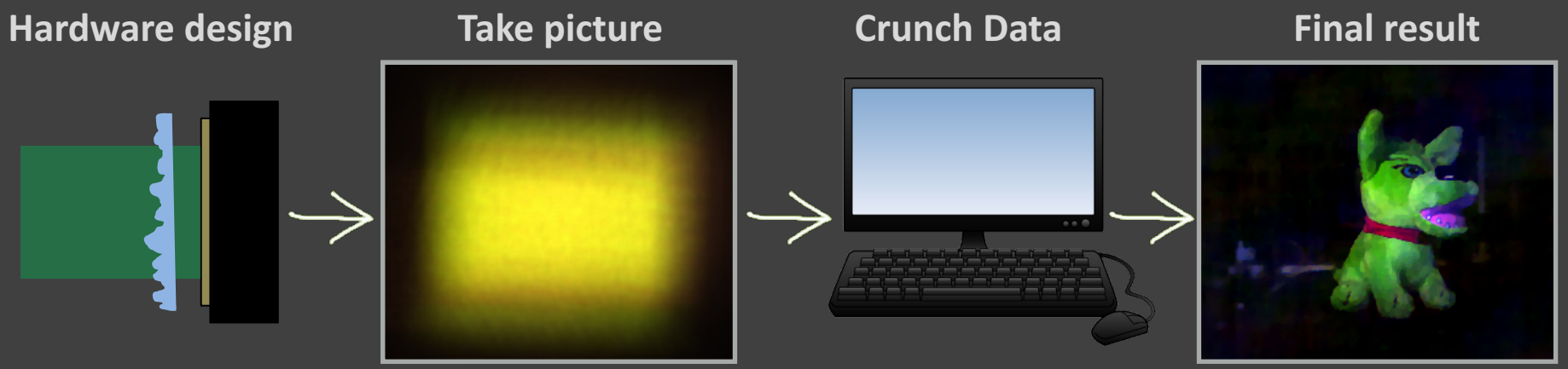


Computational Imaging

joint design of hardware and software



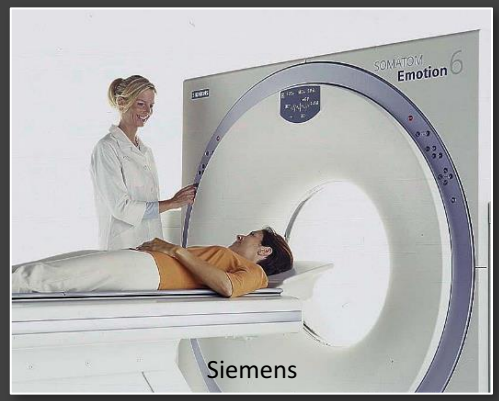
Computational imaging pipeline



Example: tomography

‘tomo’ – slice

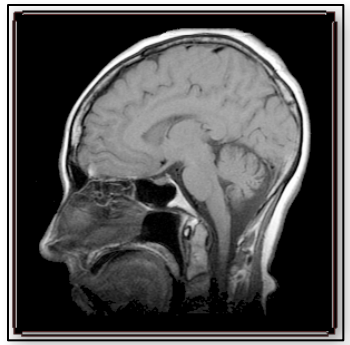
‘graphy’ – to write

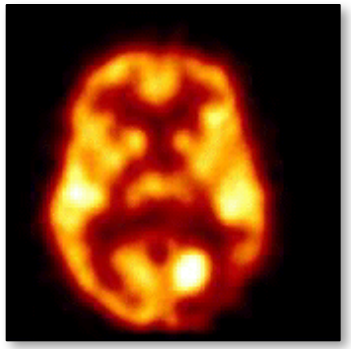


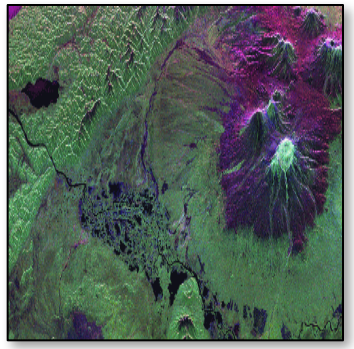
Want to see ‘inside’ 3D objects, but it may not be desirable/ethical to slice them into pieces

Examples:


CAT


MRI


PET


SAR

Speakers

- *Computer Vision and 3D Reconstruction*
  George Vogiatzis, Aston University

- *Light Propagation in Complex Media: From Imaging to Compressive Imaging and Machine Learning*
  Sylvain Gigan, Laboratoire Kastler Brossel

- *Computational MRI*
  Michael Lustig, University of California, Berkeley