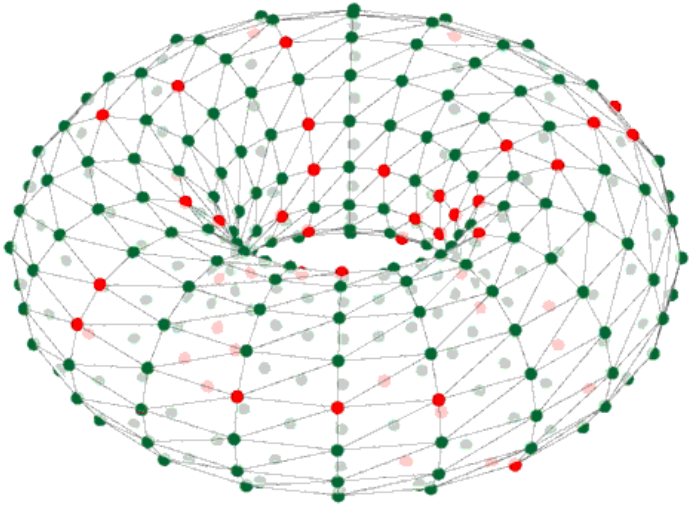
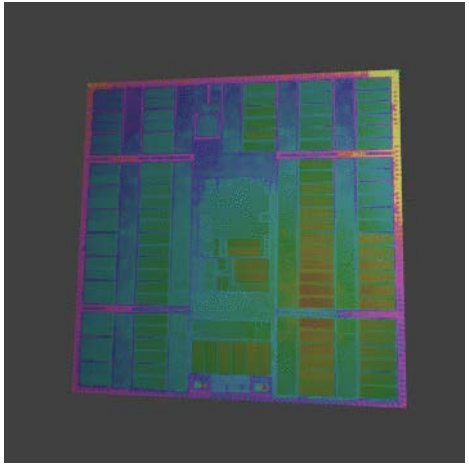
SpiNNaker Tutorial Overview



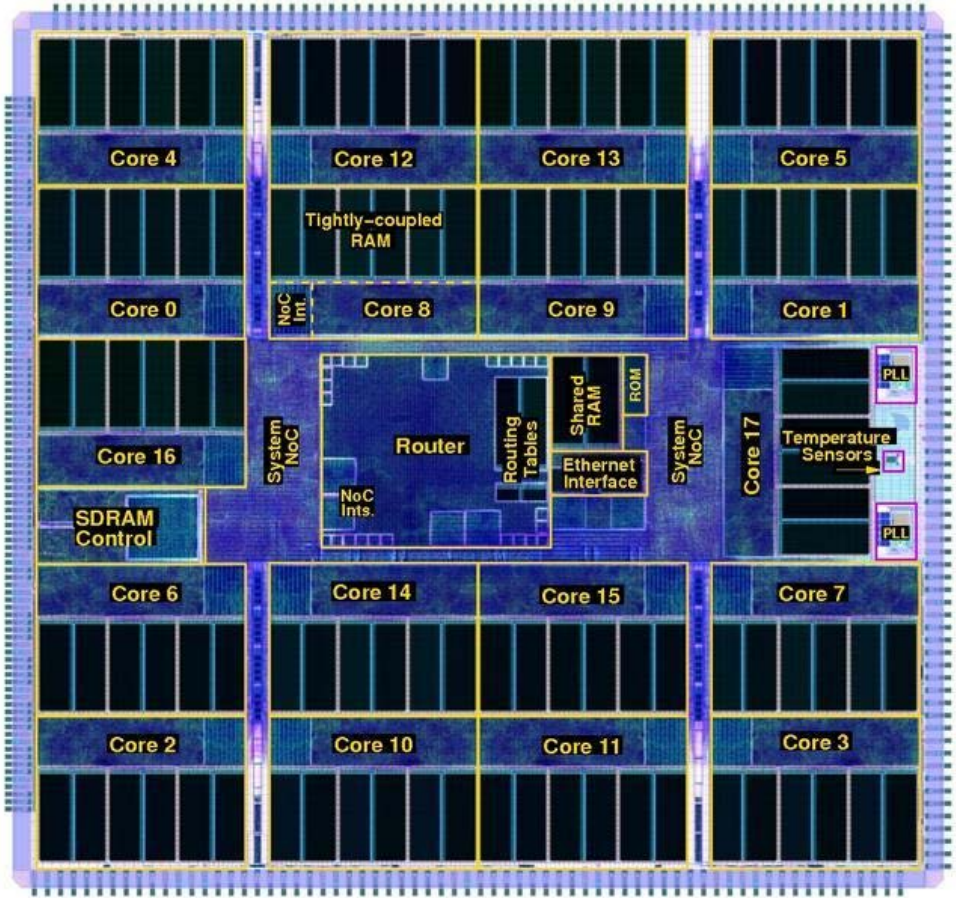
Andrew Rowley

NICE 2019

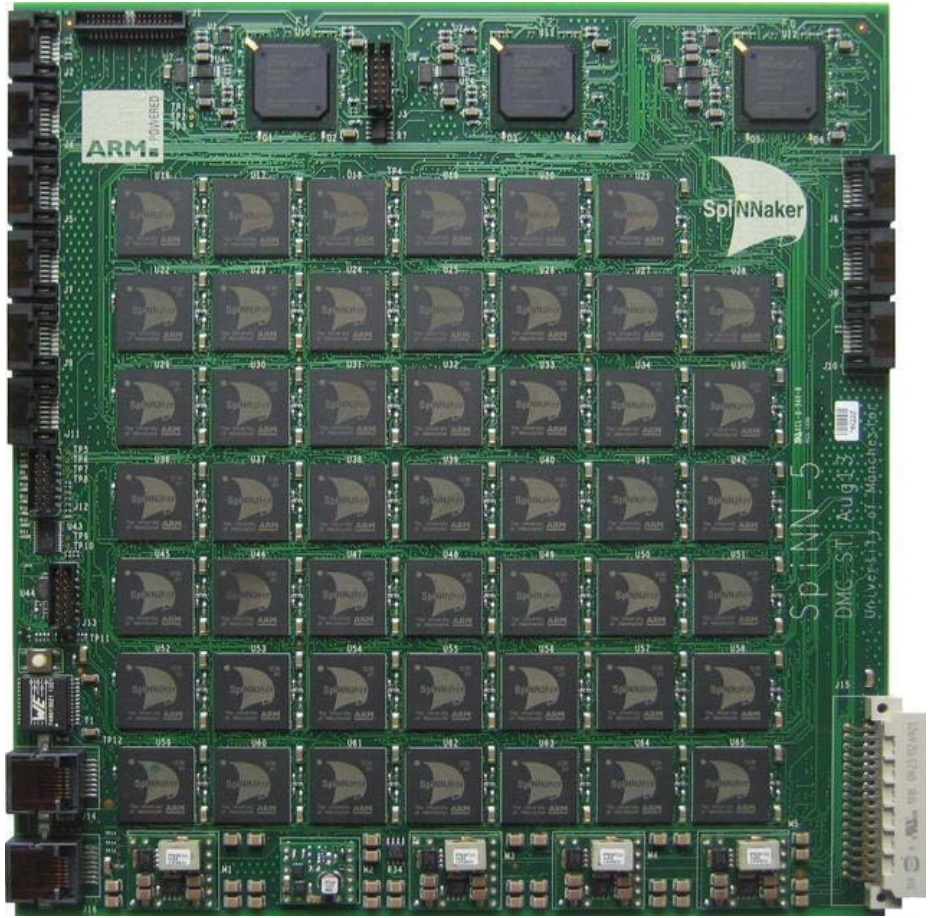
SpiNNaker Chip



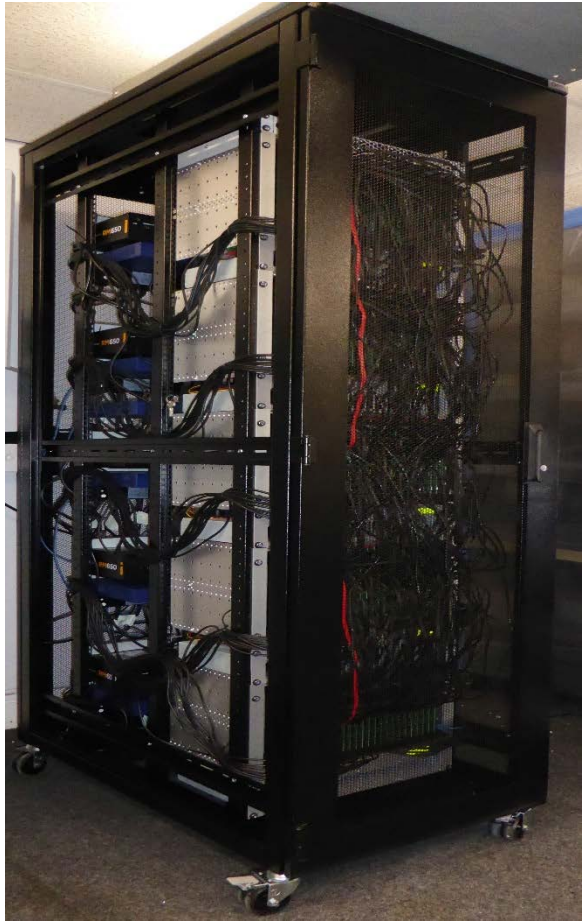
Multi-chip packaging by UNISEM Europe



SpiNNaker Boards

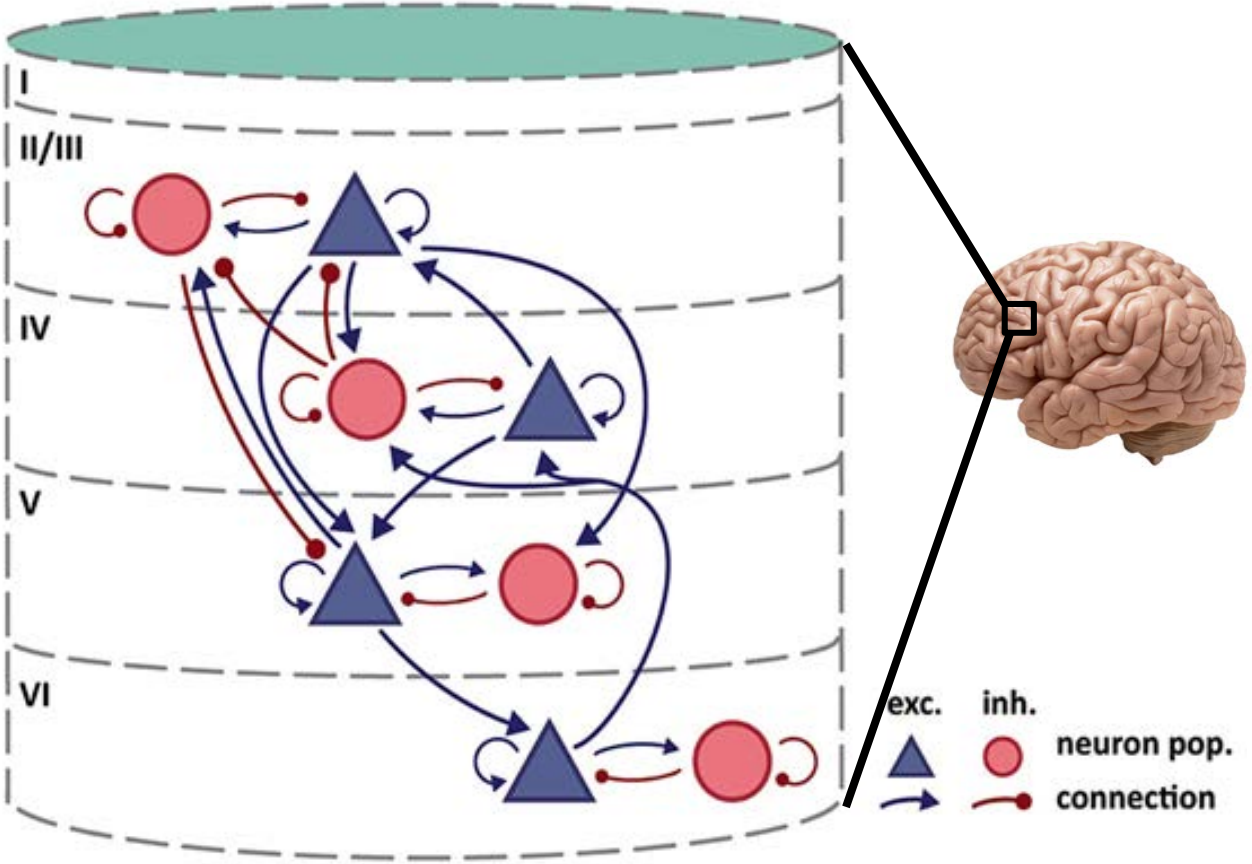


SpiNNaker Machines

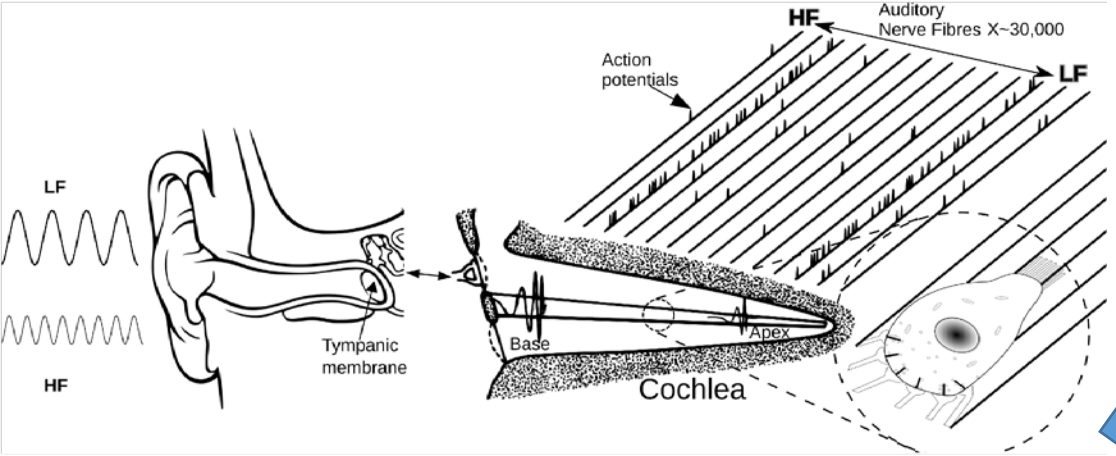


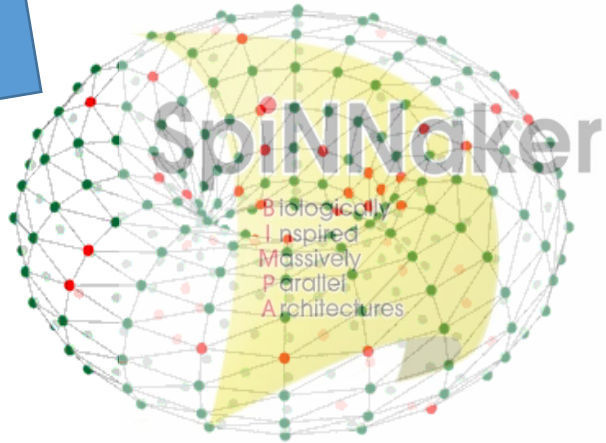
SpiNNaker 1 Million!

Computational Neuroscience

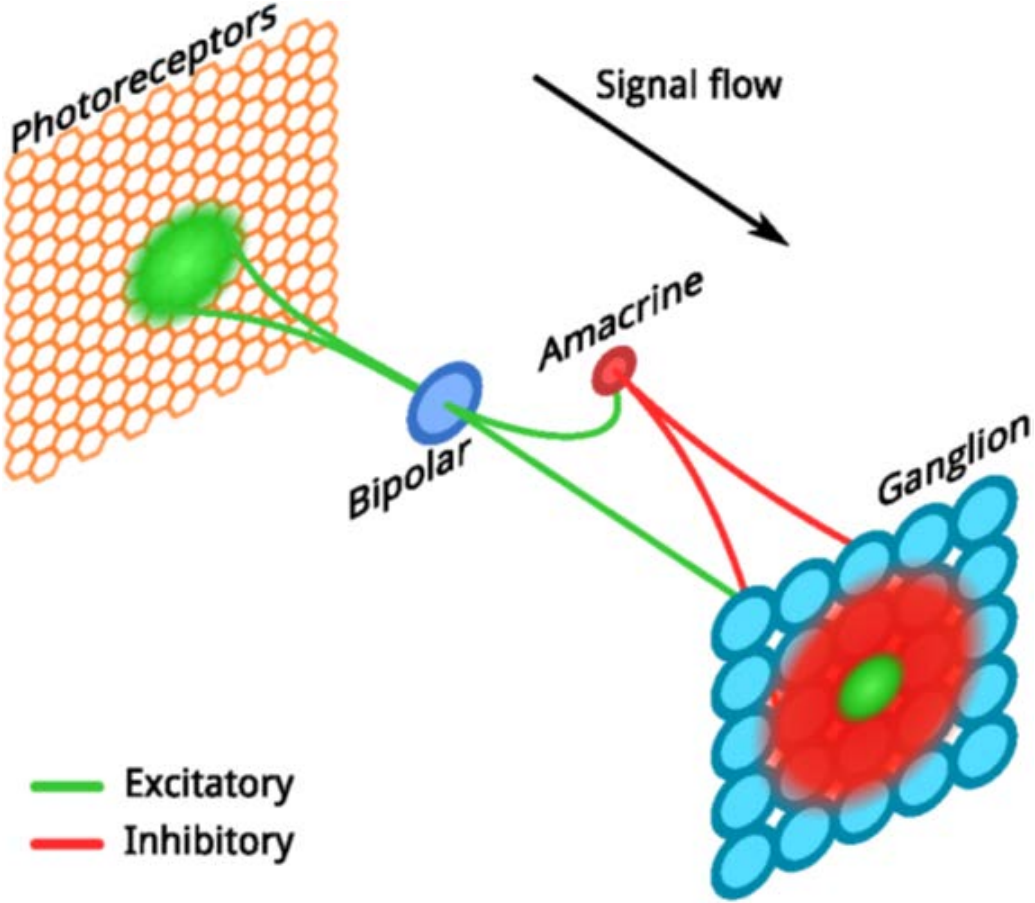


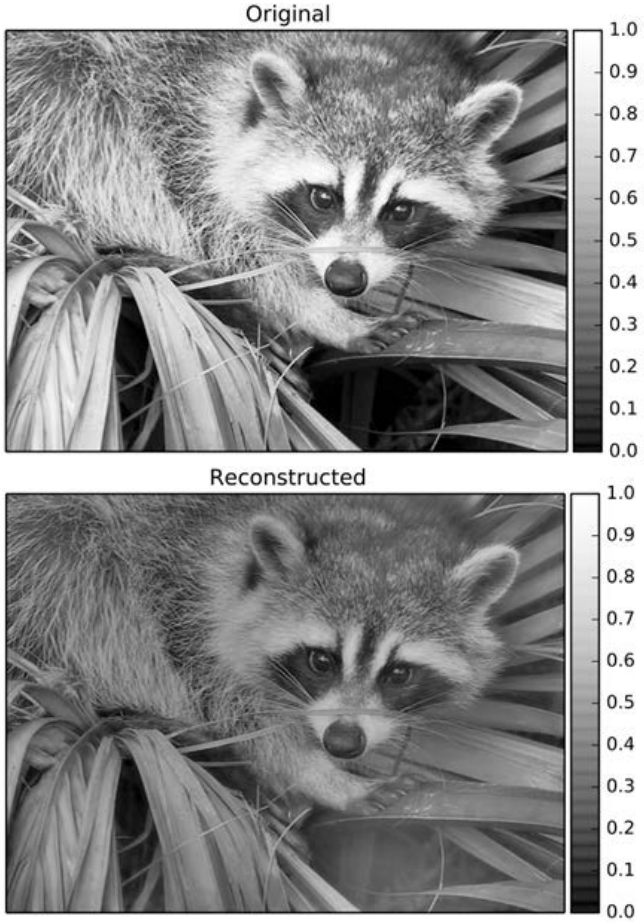
Computational Neuroscience



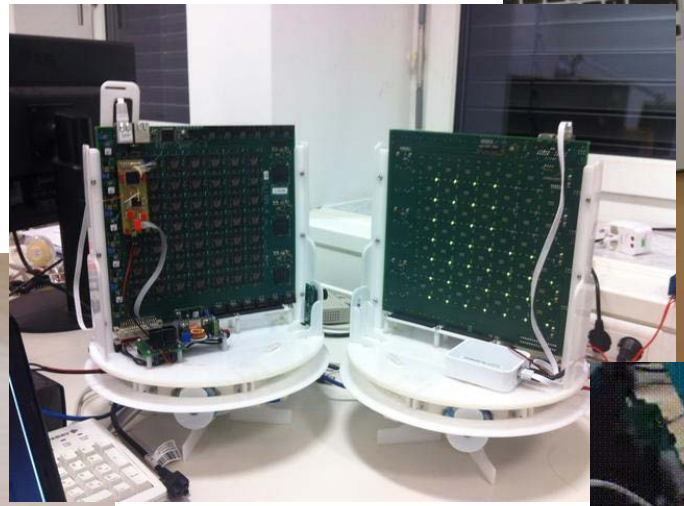


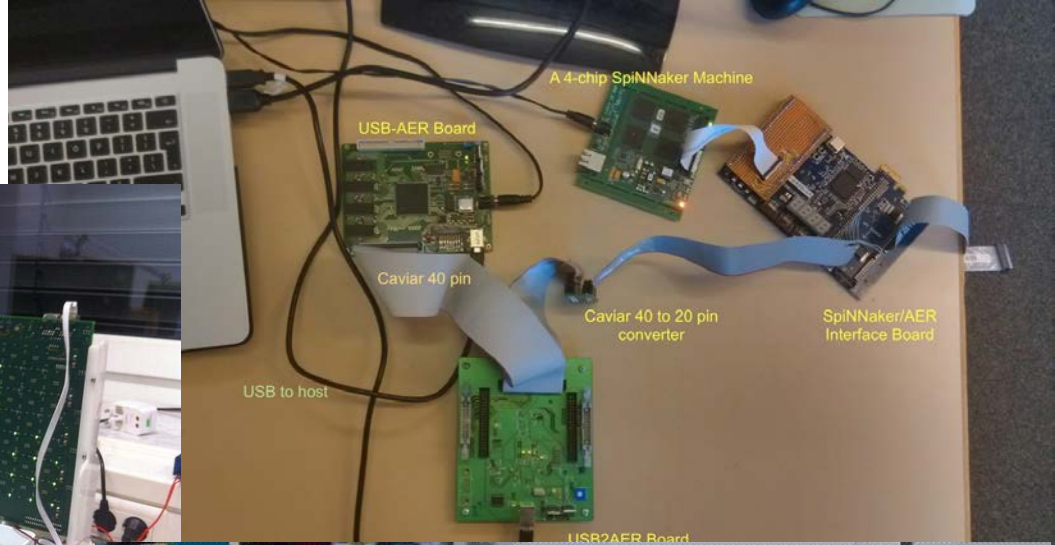
Computational Neuroscience

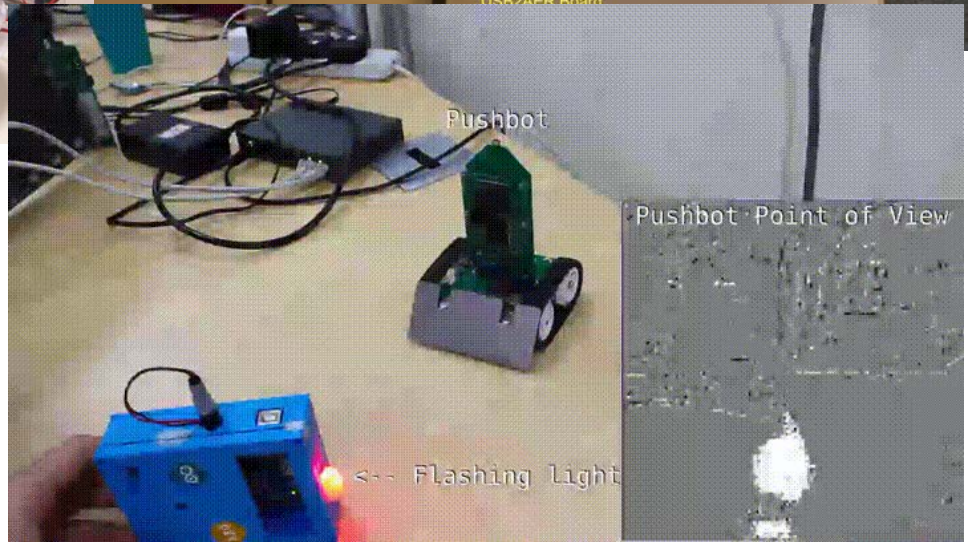




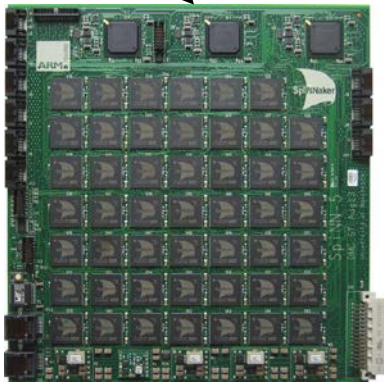
Robotics




A 4-chip SpiNNaker Machine
USB-AER Board
Caviar 40 pin
Caviar 40 to 20 pin converter
SpiNNaker/AER Interface Board
USB to host

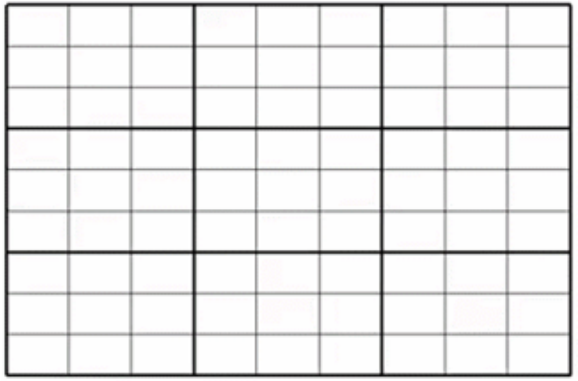

Pushbot
Pushbot Point of View
<-- Flashing light

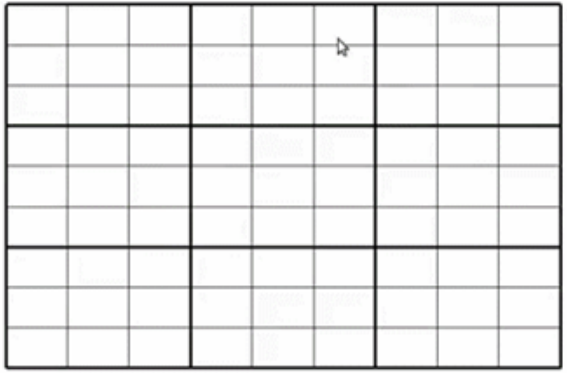
Robotics



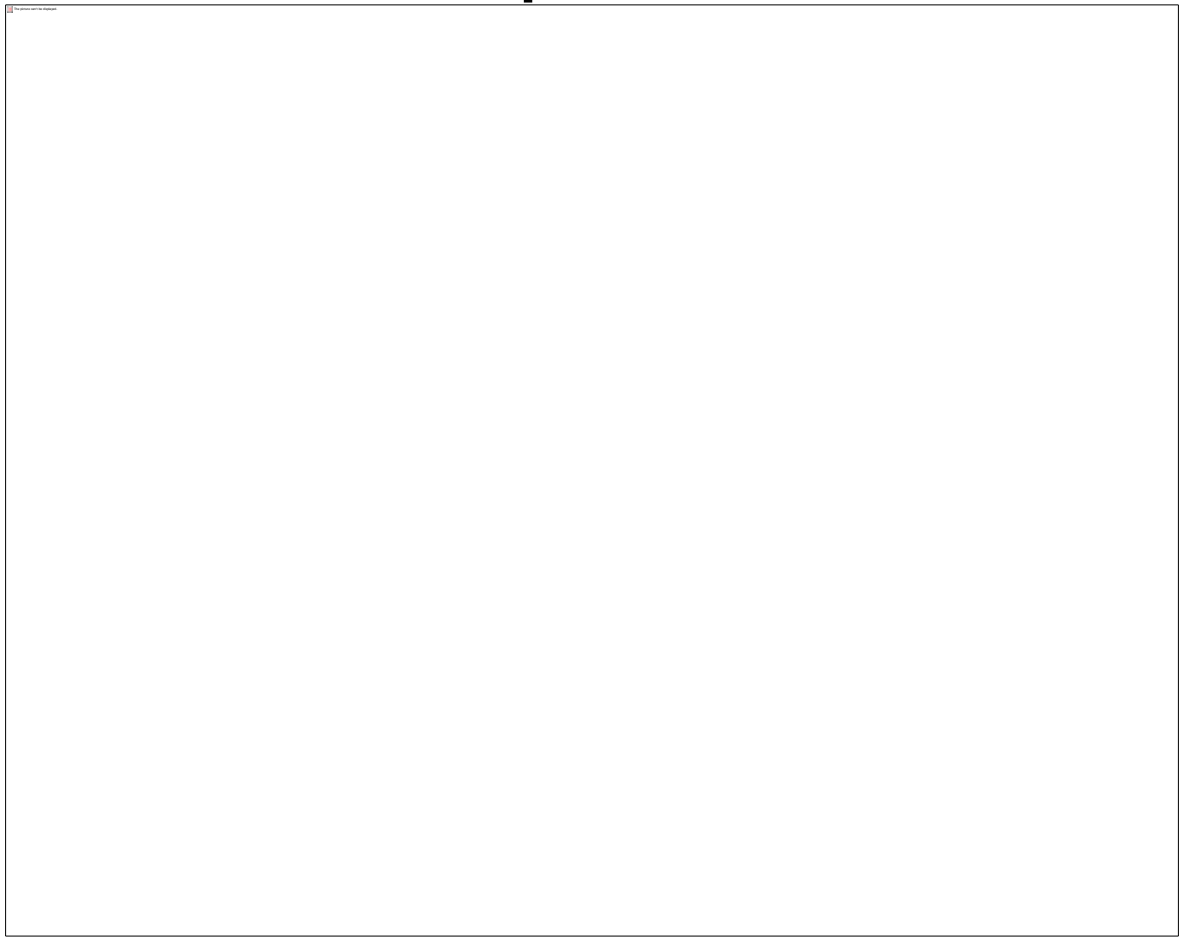
Future Computation

5	3	8	7	4	1	6	9	2
4	6	9	2	3	8	1	7	5
7	2	1	6	5	9	8	4	3
8	1	6	5	2	7	4	3	9
3	9	2	1	8	4	5	6	7
4	7	5	9	6	3	2	1	8
9	8	7	4	1	2	3	5	6
6	4	3	8	9	5	7	2	1
2	5	1	3	7	6	9	8	4

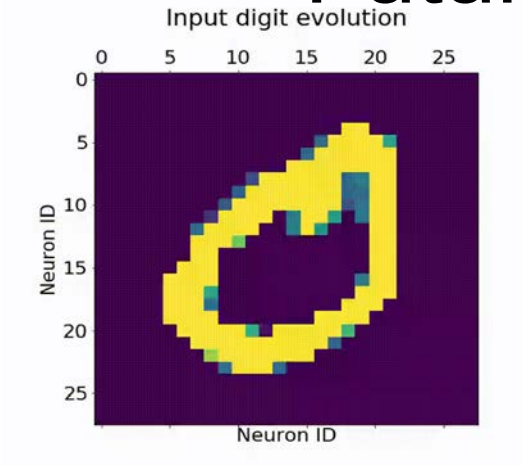


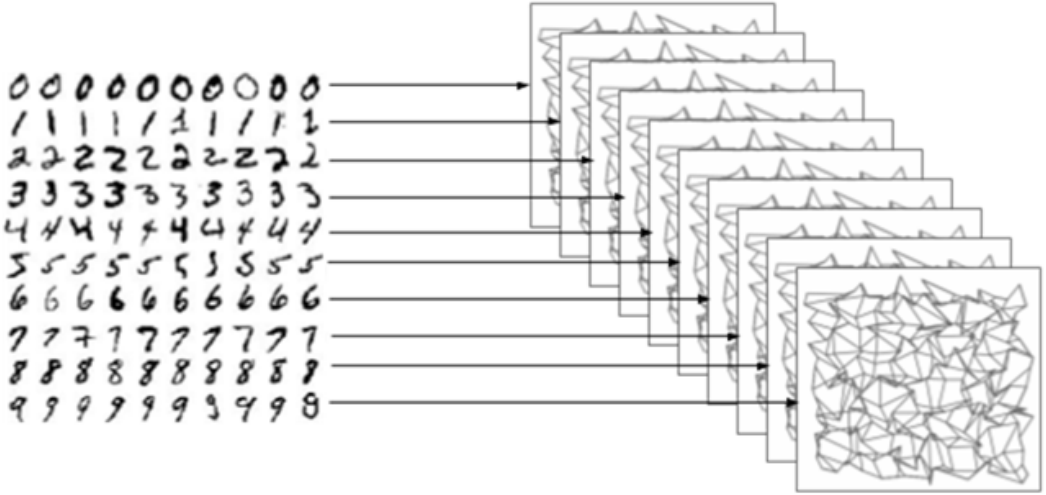


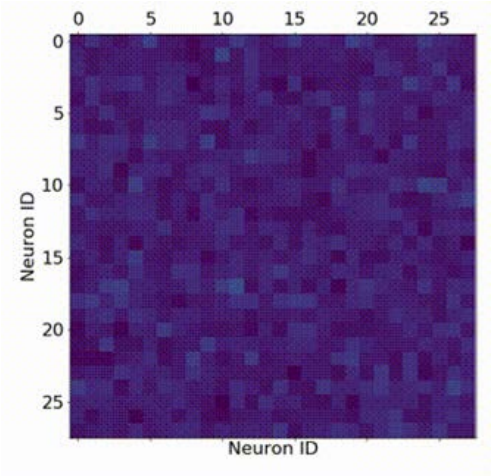
Future Computation

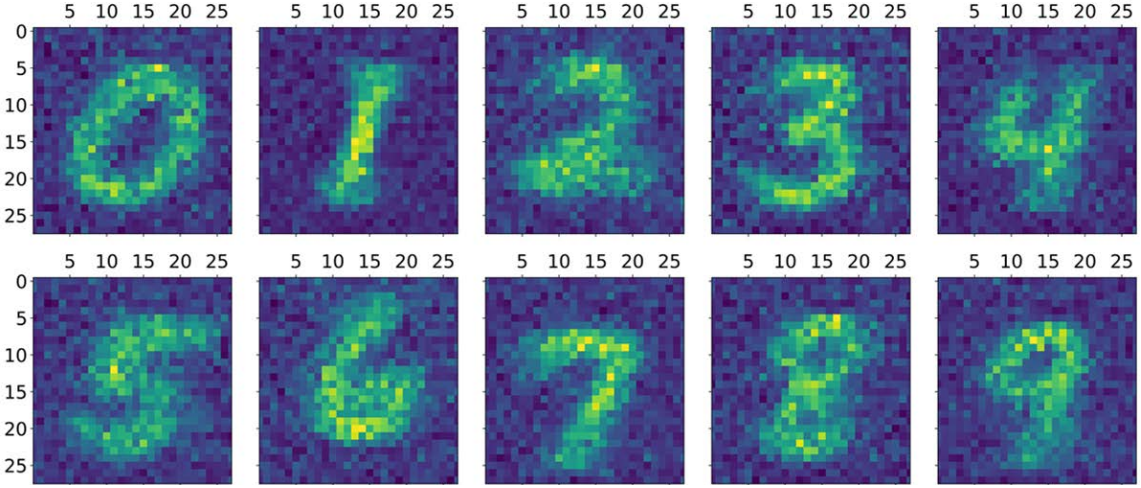


Future Computation



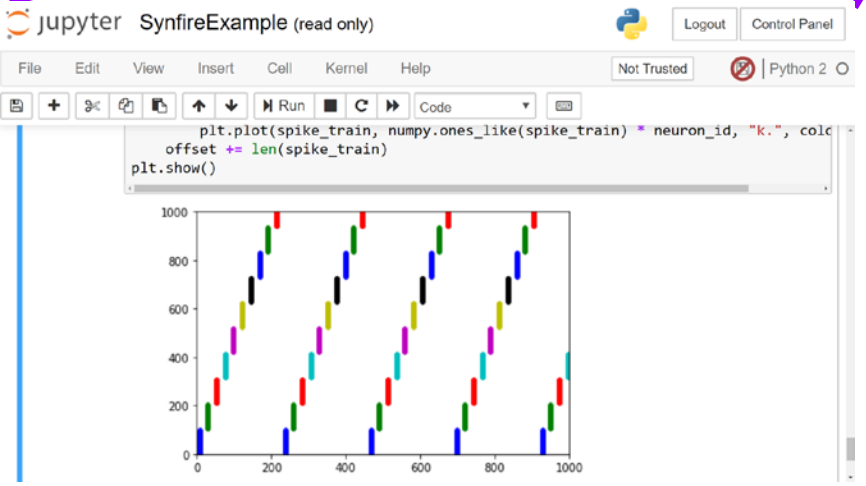


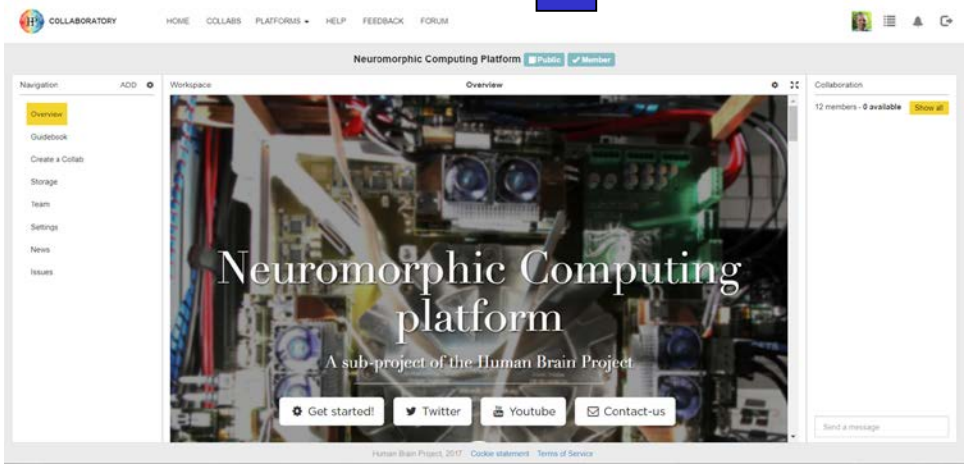




Access to SpiNNaker

Remote SpiNNaker Batch Processing





SpiNNaker Tutorial

- Access to SpiNNaker via Jupyter Notebook
- PyNN on SpiNNaker
  - How to use PyNN
  - Using PyNN on SpiNNaker
- Experiment with PyNN on SpiNNaker!