

Projects related to Microcontroller for IC Testing



Ole Richter– ojuri@dtu.dk

Embedded System Engineering - DTU Compute

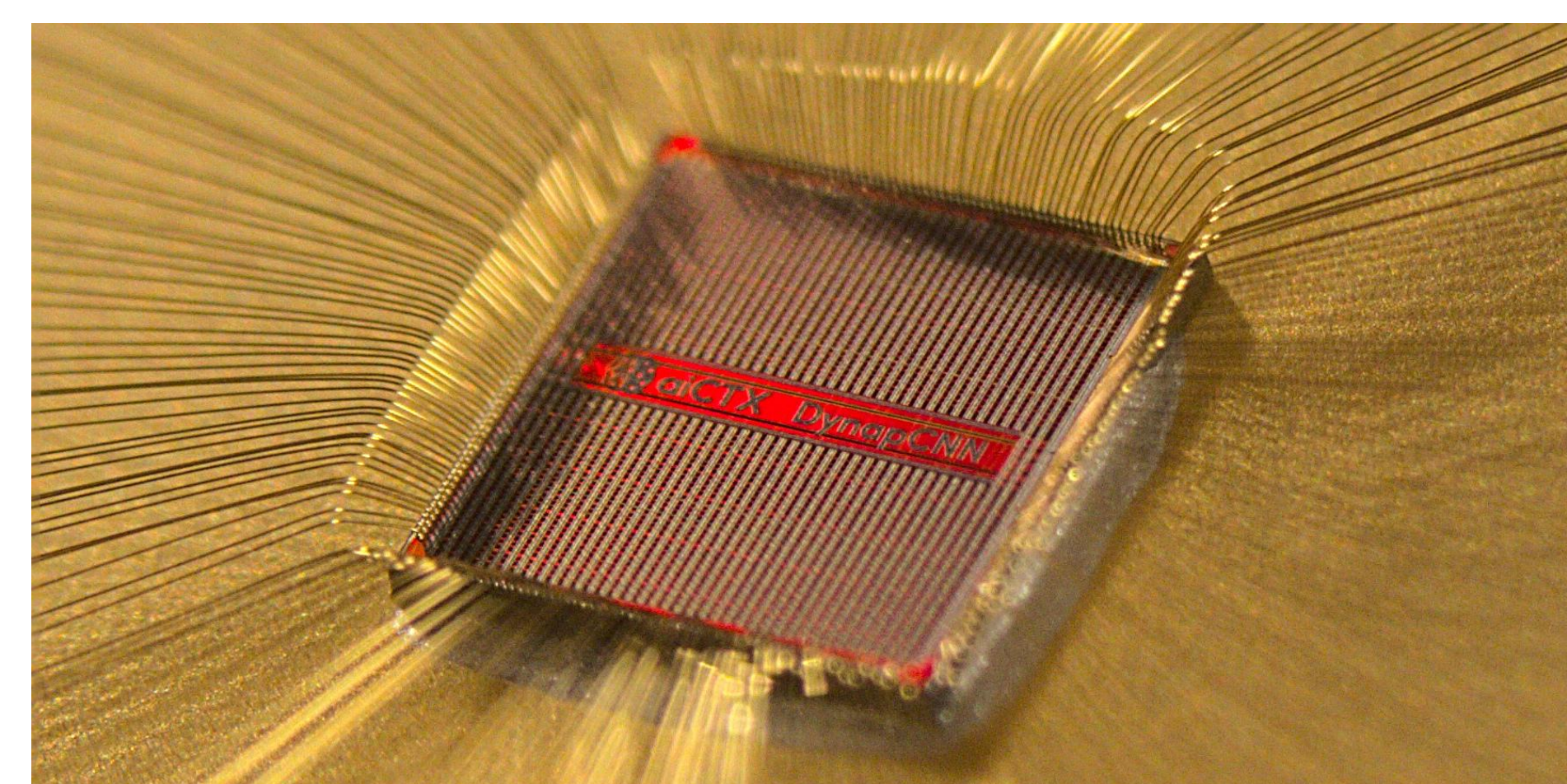
High-Speed test controller for neuronal network IC – FX3

PC Interface to custom SNN hardware

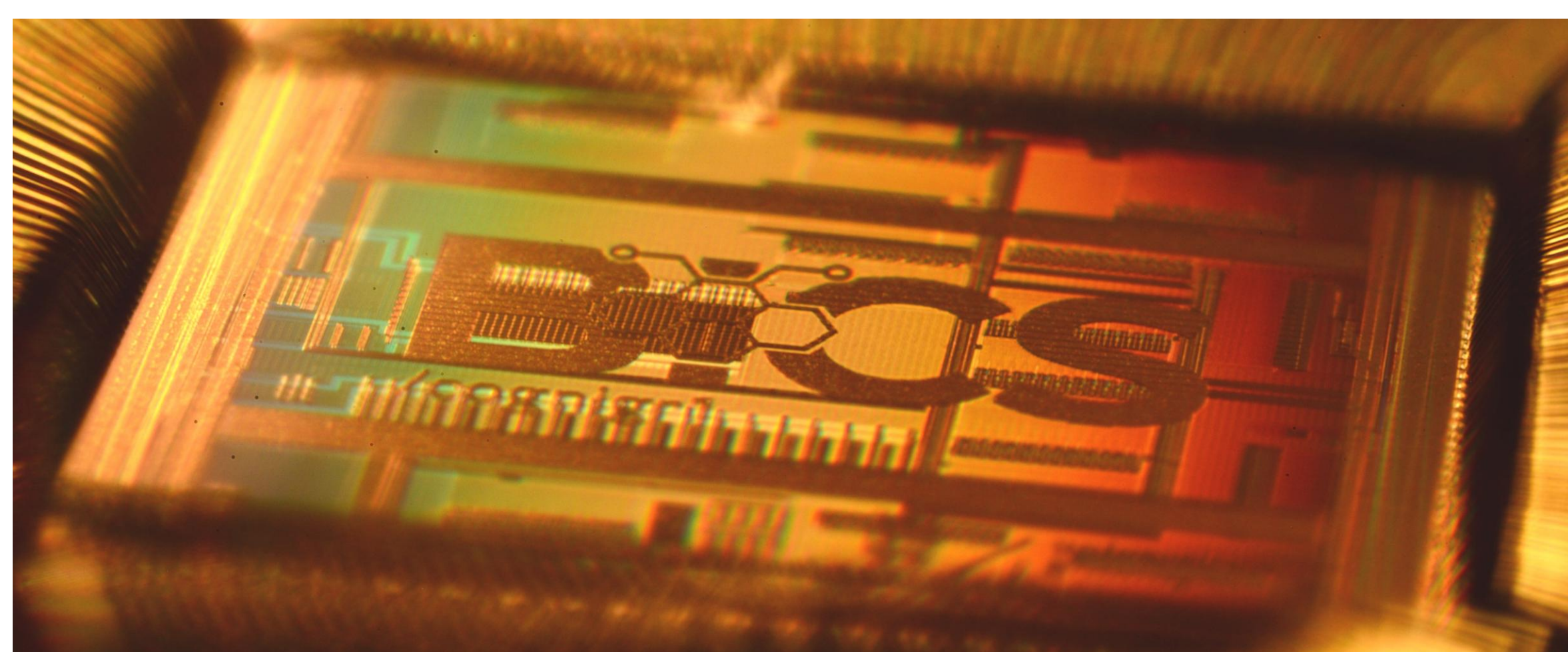
Parallel async Busses

Timed release and protocol

FX3 Microcontroller USB3



Spiking neuron network mapping extension – Arduino



Extension for event mapping for Hardware NN
Python test interface

Work with <https://async-ic.github.io/uC-chip-interface-arduino/>

Projects related to Electronic Design Automation



Ole Richter– ojuri@dtu.dk

Embedded System Engineering - DTU Compute

Network on Chip

Asynchronous low latency NoCs (digital-async)

Electronic Design Automation Software for Build-for-Test

Advanced projects only: Testing In asynchronous integrated circuits

Test vector generation

Projects related to Software Development for HW



Ole Richter– ojuri@dtu.dk

Embedded System Engineering - DTU Compute

Measurment Interfaces library development - pyVISA

Build a Library of easy control primitives

Python pyVISA for controlling measurement equipment

Zotero offline sync plugin for remarkable hardware

Post – JSON interface

Build upon opensource software

Synchronize PDFs to hardware device

Keep library relations

USB sync (local web interface)

Projects related to Spiking NN and Neuro AI HW



Ole Richter– ojuri@dtu.dk

Embedded System Engineering - DTU Compute

Hardware accelerators – Async IC and mixed-signal IC

Advanced Projects only:

Event-driven sensor design (analog/mixed-signal design) like vision or bio-signals,

Neuronal network hardware design (digital-async) for activation transport compression

Bio-inspired spiking neuronal network neuron designs (digital-async)

