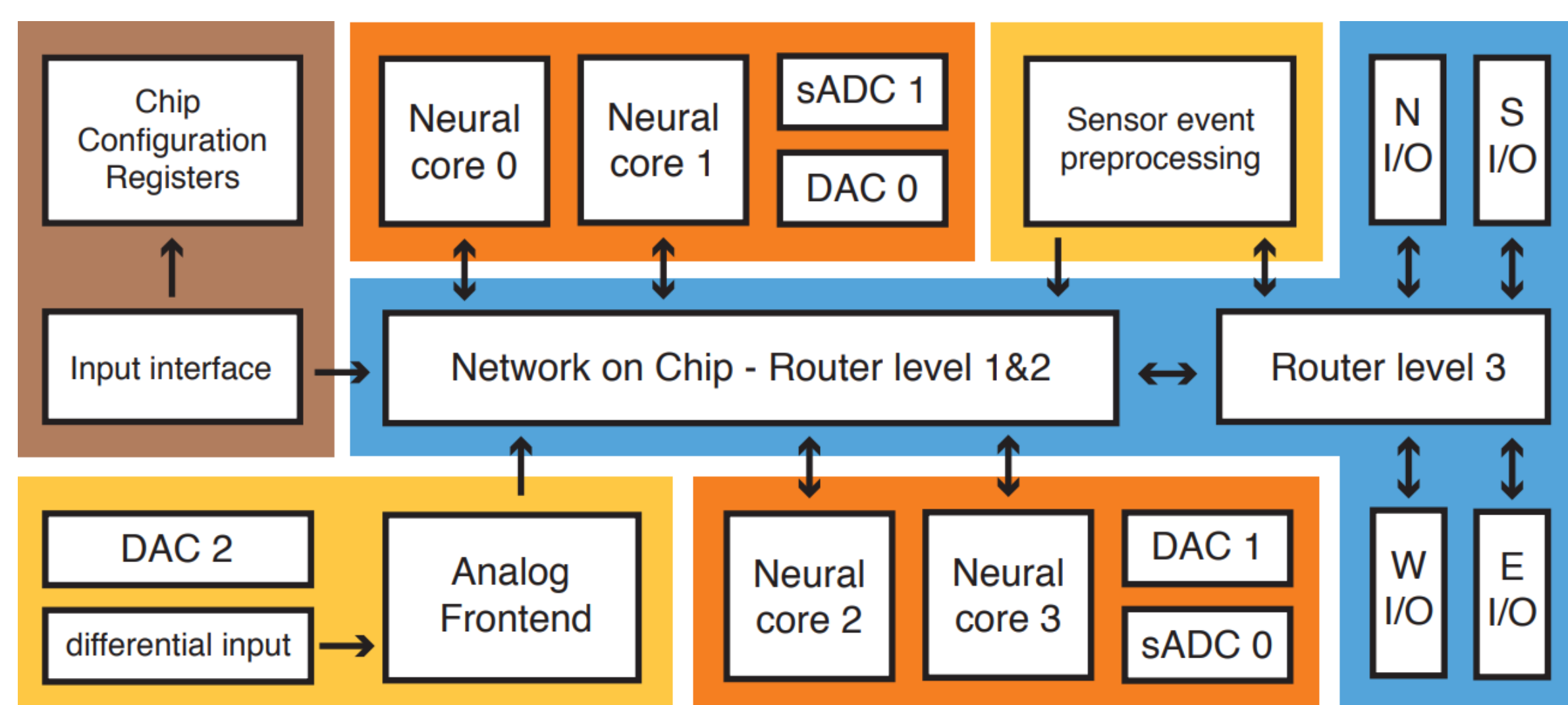
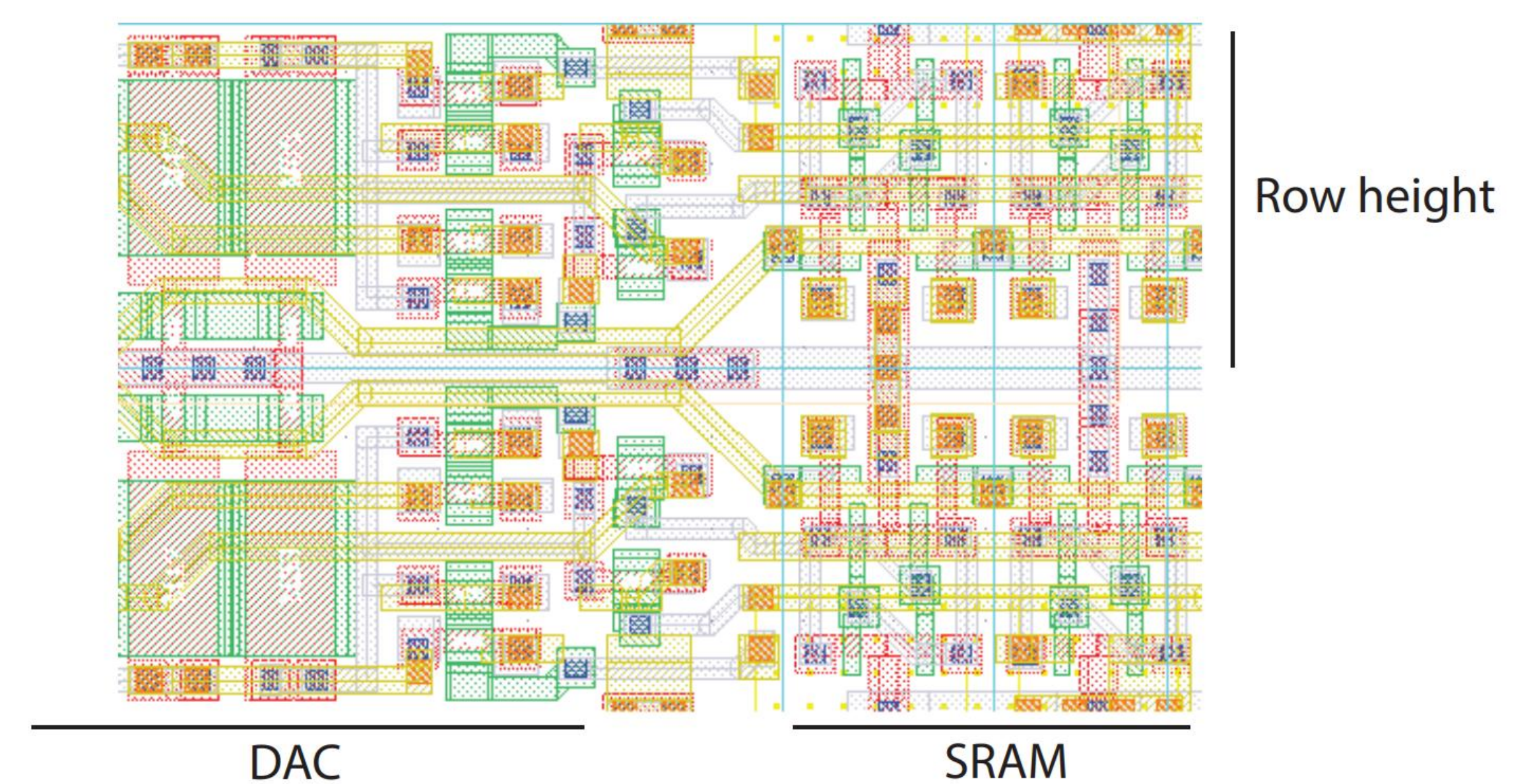


Open source standard cell design for ICs

Learn how to design the basic building blocks of digital design. These from the foundation of any processor and you are caring millions of them around in your smartphone. Create them for an open source PDK, Design and optimise either track based or grid based cells in, and demonstrate them with a simple Toy implementation:

IHP 130nm, Skywater 130nm, Globalfoundries 180nm.



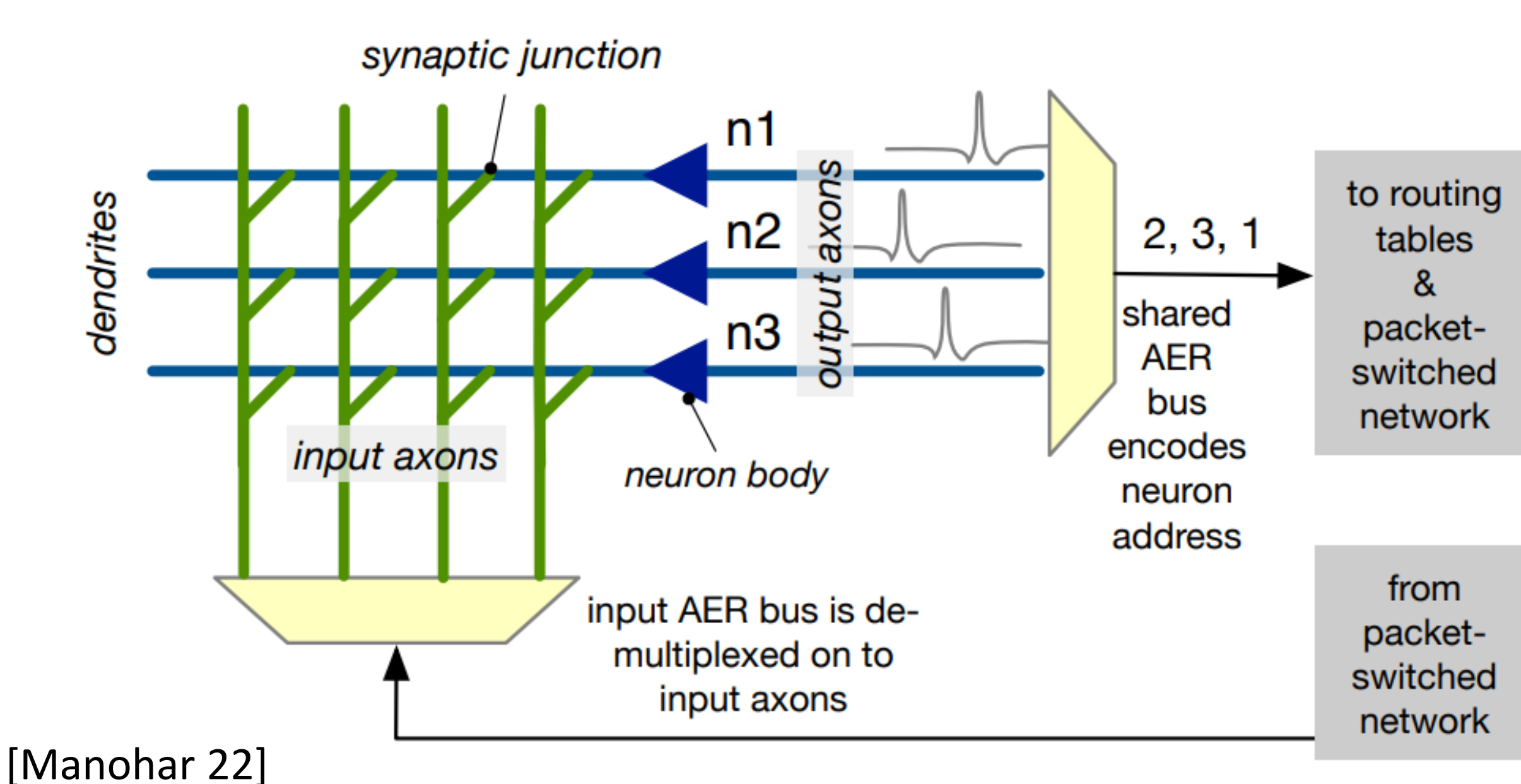
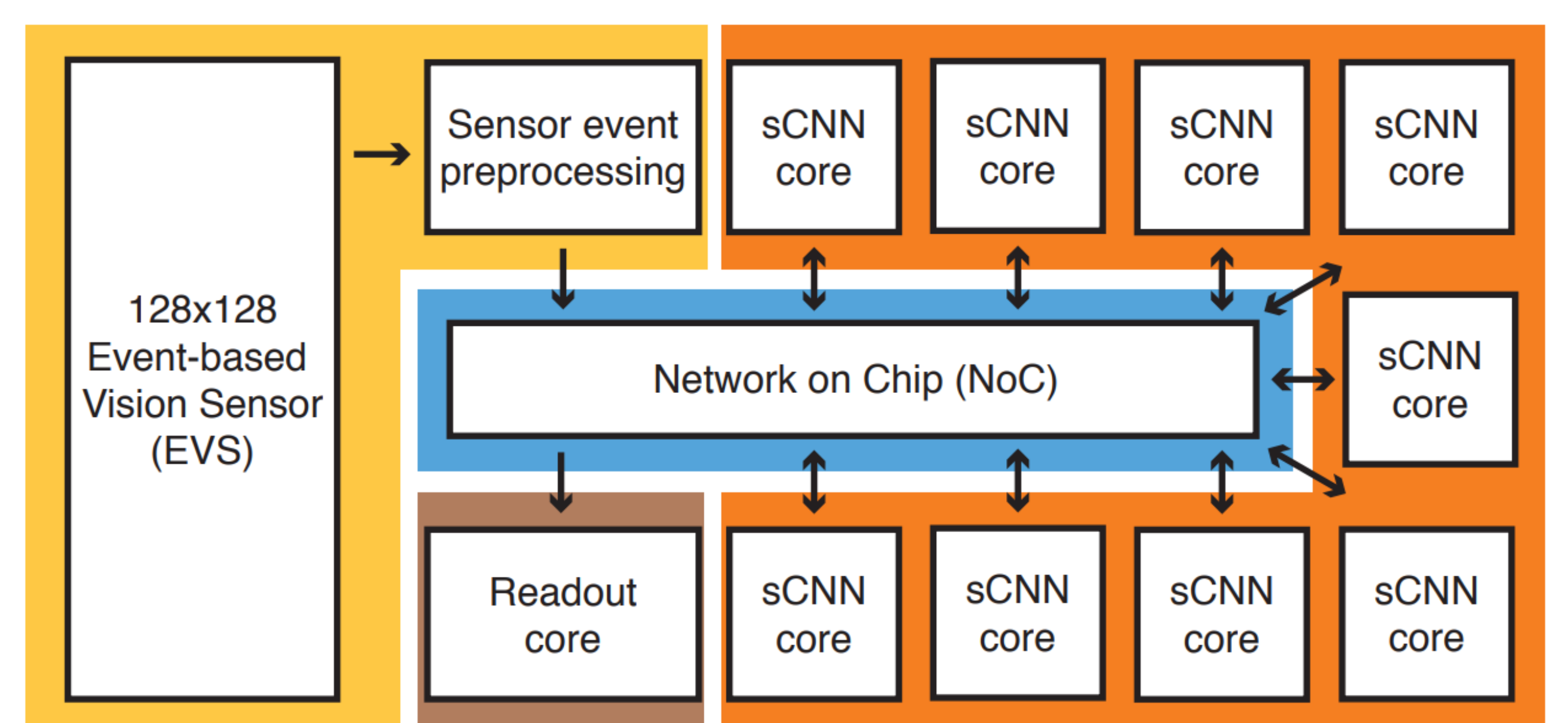
Hardware Interface Design

Integrated Circuits need to communicate, build and interface to one of the standard communication interfaces in connection for asynchronous and neuromorphic designs. Like SPI, I2C, UART or LVDS.

Asynchronous Integrated Circuits

Course prerequisite: 02211 or 02204

Build your own data-driven processor for one of many applications like AI, smart sensing or a coupled ISA accelerator. In some cases it might be possible to produce the result as a chip tape-out.



[Manohar 22]

Neuromorphic Integrated Circuits

Course prerequisite: 34656 (or 02205)

Build foundational building blocks for analog and mixed signal integrated bio-inspired processing. Neurons and synapses are building the foundation on how our biological brains process information. Transposing the key principals to Integrated circuits technology opens a new way thinking about computing architectures.