Aussie Chip Collective Getting Started Guide

This guide will make use of resources generated by others, full credit to them for generating these resources.

1) **Getting the tools up and going**
   - ➢ Harald Pretl from Johannes Kepler University has put together a docker container with most of the open-source tools pre-installed eliminating the need for you to install them and deal with all the library dependencies 😊. This docker container can be found here:
     - ❖ https://github.com/iic-jku/IIC-OSIC-TOOLS
     - ❖ The instructions on how to install the docker container can be found in the readme.
   - ➢ The guide to install the docker container and other required software on most operating systems can be found here:
     - ❖ https://docs.docker.com/engine/install/linux-postinstall/

   Once you have the container up and running, it's time to start designing!

2) **How to use the open-source tools**
   ## Example Designs
   - ➢ The Aussie Chip Collective GitHub contains a few excellent examples:
     - ❖ Digital design flow using open road (credit to Samuel Tensingh):
       - ▪ https://github.com/AussieChipCollective/Designs/tree/main/gf180_openroad_spi
     - ❖ Analog (credit to Julian Keledjian):
       - ▪ gm/id characterisation:
         - o https://github.com/AussieChipCollective/Analog-Design-Toolkit
       - ▪ 1GHz OTA example:
         - o https://github.com/JulianKeledjian/SKY130A_1GHz_OTA/tree/ad16b42547c619b571f888ca8866e6ddf6314657

   ## Course
   - ➢ Harald has an excellent open-source analog design course available here:
     - ❖ https://iic-jku.github.io/analog-circuit-design/analog_circuit_design.html

   ## Playlists & Videos
   - ➢ Marcin Maślanka has some great playlists on his YouTube channel.
     - ❖ Below is an example of a simple analogue flow for the IHP SG13G2 PDK:
       - ▪ https://www.youtube.com/watch?v=3h651cNu78w&list=PLtzXUac_Lg4jstfqzxlK9bqxuxauoRiMO
     - ❖ Below is an example of a simple analogue flow for the SKY130 PDK:
       - ▪ https://www.youtube.com/watch?v=Gv3alqswtkk&list=PLtzXUac_Lg4htlryCzLIrDcrKopoCz_dT
   - ➢ Psychogenic Technologies also has some useful instructional videos on how to use the open-source analog tools for a more complicated design:
     - ❖ https://www.youtube.com/watch?v=Eu_crbcBdNM&ab_channel=PsychogenicTechnologies

   ## Other Resources:
   - ➢ Tiny tapeout also has some useful resources:
     - ❖ https://tinytapeout.com/

   If you have any questions, feel free to ask them on Discord.