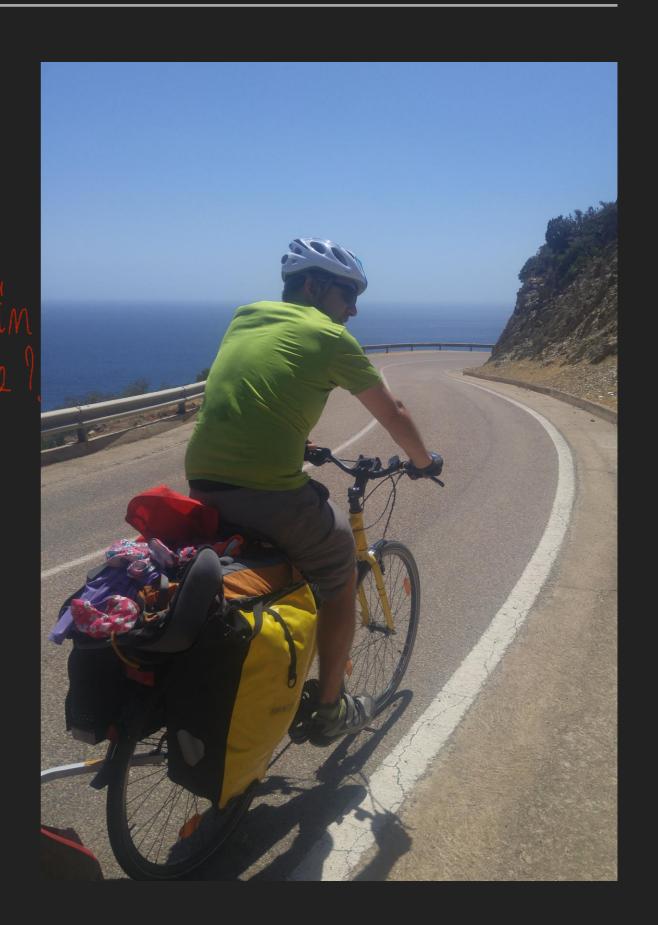
WORKSHOP ON PHOTODETECTORS FOR ASTRO-PARTICLE PHYSICS

WELCOME

THE GENESIS OF THIS WORKSHOP: DAYDREAMING BY BIKE

Sensing the Photonic Into Impinto of Wenting and X-portide (SPhill) STix -Workshop



COMPELLING SUITE OF EXPERIMENTS SENSING LIGHT

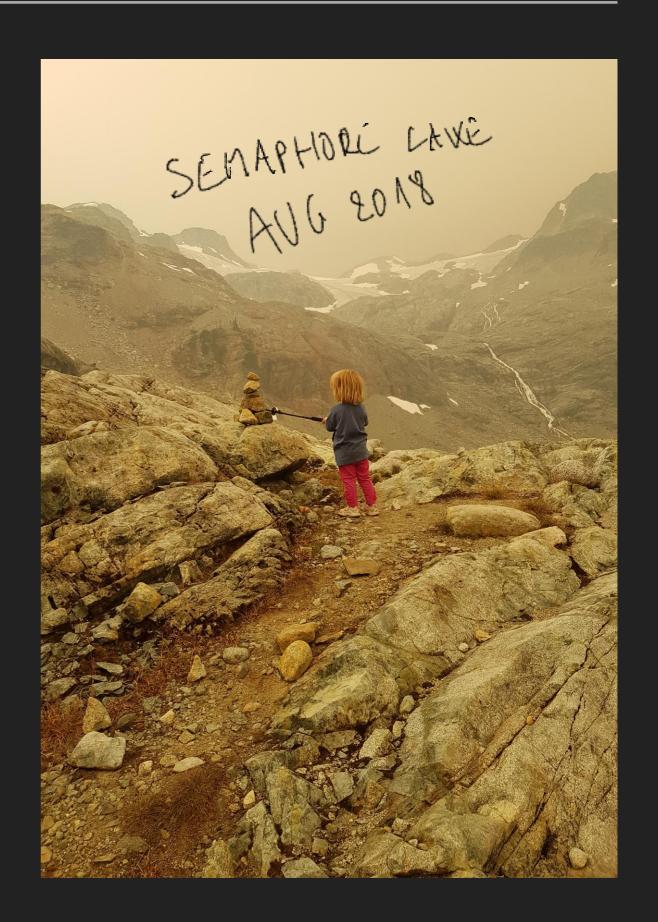
- Water Cerenkov: SuperK, HyperK, NuPRISM, Ocean Network, IceCUBE
 - Neutrino oscillation, supernova, astronomy
- Liquid scintillators: SNO+ (JUNO, KAMLAND,...)
 - Neutrino oscillation, 0nu double beta decay
- Liquid Argon: DEAP-3600, DarkSide-20k, SBC
 - Dark matter search
- Liquid Xenon: nEXO, (LZ, XENONnT)
 - Onu double beta decay, dark matter search

EXCITING TECHNOLOGY DEVELOPMENT

- Photo-multiplier tube, the workhorse
 - Cons: fragile, bulky, expensive, sensitive to magnetic field, gain fluctuations, and not cool?
 - The future: Digital hybrid photo-detector -> cheaper, easier to scale
- Silicon photo-multiplier, the fashionable
 - Cons: dark noise, pulse shape/capacitance
 - The future: digital -> low power, imaging, timing
- Optics (photon transport), the lost child
 - Reflector, light concentrator, wavelength shifter,...

BEYOND ASTROPARTICLE PHYSICS

- PHYSICS elop detectors solely for basic research nowadays?
- In a changing world, shouldn't we more than ever translate technology for healthier humans and a healthier planet?



SORRY FOR THE LAST MINUTE ORGANIZATION OF THIS WORKSHOP

LETS GET STARTED