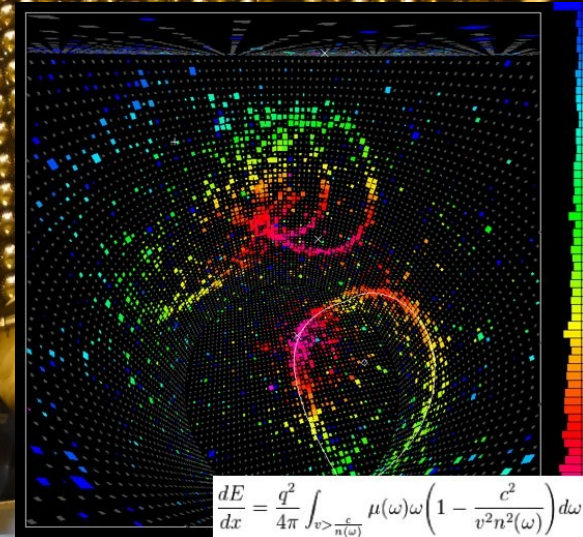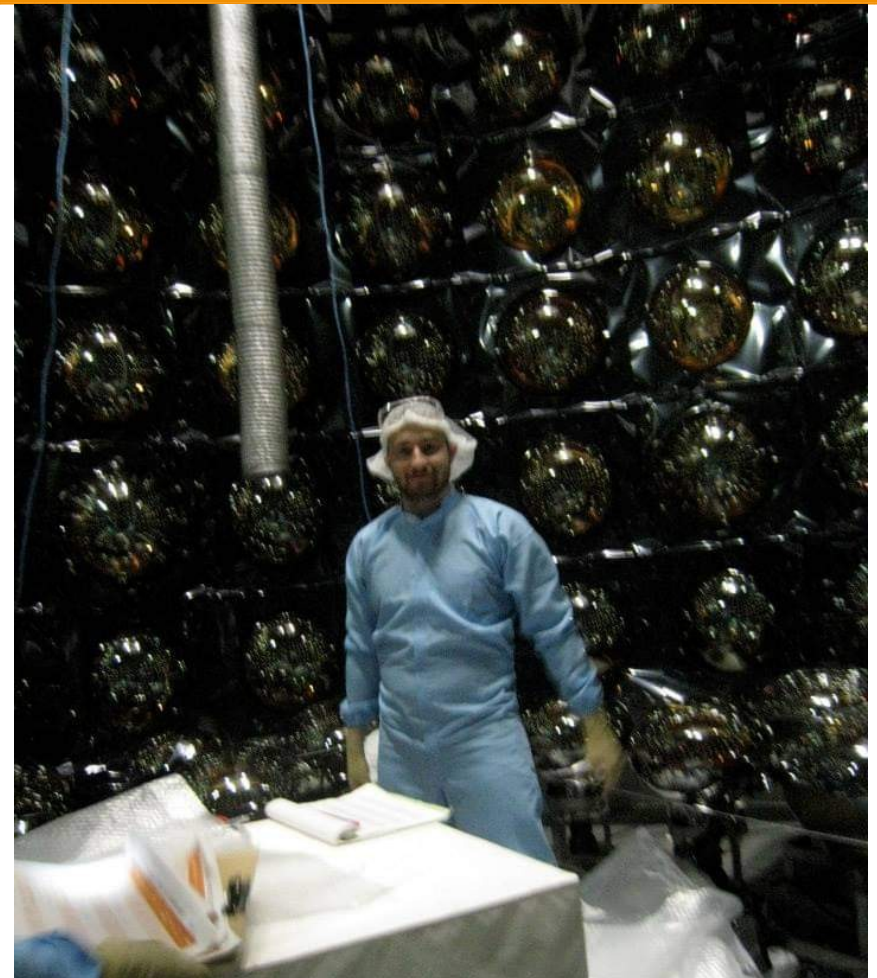# Local Workshop on HyperK Physics I



VACA

$$\frac{dE}{dx} = \frac{q^2}{4\pi}\int_{v > \frac{c}{n(\omega)}} \mu(\omega)\omega\left(1 - \frac{c^2}{v^2 n^2(\omega)}\right)d\omega$$

Getting ready for building the detector and analyze data





Eventually, we will learn a bit more about nature

# Participation

DIPC
- Elena
- Francesc
- Pablo

IFAE
- Annalisa
- Loris
- Pilar
- Thorsten (remotely)

IFIC
- Bryan (remotely)

UAM
- Luis
- Nataly (remotely)

U. Oviedo
- María Luisa
- Sara
- Sergio

U. Santiago Comp.
- Diego
- José Ángel (last minute remotely)
- Josh

U. Sevilla
- Guillermo (remotely)

# Schedule

| June 13 (Tuesday) | | |
|---|---|---|
| **When** | **What** | **Who** |
| 12:00 – 12:15 | Introduction | Pablo (DIPC) |
| 12:15 – 13:00 | The Hyper-Kamiokande Project | Luis (UAM) |
| 13:00 – 13:30 | ND280 Upgrade | Thorsten (IFAE) |
| 13:30 – 15:00 | **LUNCH BREAK** | |
| 15:00 – 15:40 | WCTE and IWCD | Pablo (DIPC) |
| 15:40 – 16:00 | Far detector | Luis (UAM) |
| 16:00 – 16:20 | Geomagnetic compensation | Sara / Maira Luisa (UniOvi) |
| 16:20 – 16:35 | **BREAK** | |
| 16:35 – 17:00 | Radioactive sources | Josh (USC) |
| 17:00 – 18:00 | **OPEN DISCUSSION: construction** | |

# Schedule

| June 14 (Wednesday) | | |
|---|---|---|
| ***When*** | ***What*** | ***Who*** |
| 9:00 – 9:25 | Low-energy physics summary | Nataly (UAM) |
| 9:25 – 9:40 | Neutrino mass ordering with supernovae | Elena (DIPC) |
| 9:40 – 10:05 | High-energy physics summary | Pilar (IFAE) |
| 10:05 – 10:40 | PyNu analysis framework | Pablo (DIPC) |
| 10:40 – 10:55 | **BREAK** | |
| 10:55 – 11:35 | Machine learning in particle physics | Bryan (IFIC) |
| 11:35 – 11:55 | Machine learning examples in Hyper-Kamiokande | Sergio (UniOvi) |
| 11:55 – 12:15 | High-energy event reconstruction: FitQuN | Loris (IAFE) |
| 12:15 – 12:35 | High-energy event reconstruction at IWCD: Machine Learning | Annalisa (IFAE) |
| 12:35 – 12:50 | Machine learning reconstruction in WCTE | Josh (USC) |
| 12:50 – 13:45 | **OPEN DISCUSSION: physics** | |
| 14:00 – 16:00 | **LUNCH BREAK** | |

Thank you all very much for coming / attending

Let's share, discuss and learn.