

# WP3: Introduction

<b>Work Package Number</b>	3	<b>Start/End Month</b>	1 / 48				
<b>Work Package Title</b>	Towards the Hyper-Kamiokande detector						
<b>Lead Beneficiary</b>	QMUL						
<b>Participating organisation Short Name</b>	INFN	QMUL	RAL	NCBJ	UGE	CAEN	U-Tokyo

## Objectives:

- Test a Gd-doped water Cherenkov using the existing Super-Kamiokande detector
- Accurate optical calibration of a large tank Cherenkov detector.
- Design the Outer Detector for the Hyper-Kamiokande experiment.
- Design specific low-threshold, low-noise, large dynamics front-end electronics.
- Develop realistic simulation of the Hyper-Kamiokande detector.

- Several agreed changes so far:
  - QMUL->KCL
  - HK electronics chosen by HK still led by JENNIFER2 institutions (INFN, NCBJ) but different from the one in the initial report (Geneva).

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## **Description of Deliverables and Milestones:**

**Task 3.1:** decision of the feasibility of the UV system to measure Gd concentration in Super-Kamiokande (month 30).

**Task 3.2:** data taking and analysis of the light pulse calibration prototype after the first year of data taking (month 24).

**Task 3.3:** technical note on the proposed Outer Detector system (month 36)

**Task 3.4:** Milestone: test report on waveform digitizer(s) performance (month 30). Deliverable: Final report on front-end activities (month 48)

**Task 3.5:** simulation data analysis with the final photosensor configuration (month 48)

- Brief status
  - Task 3.1: agreed to run in SK. Ongoing work on the design.
  - Task 3.2: done. Already described in submitted report to the EU.
  - Task 3.3: a few technical notes are available and being reviewed by review committee.
  - Task 3.4: Technical notes available and ongoing reviews.
  - Task 3.5: ongoing work well advanced.

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- WP3 agenda:
  - HK OD System (FDL) [Task 3.3]
  - HK Simulation (Tom Dealtry) [Task 3.5]
  - HK Electronics status (Luigi Lavitola) [Task 3.4]

Caveat: the content of each talk is confidential.