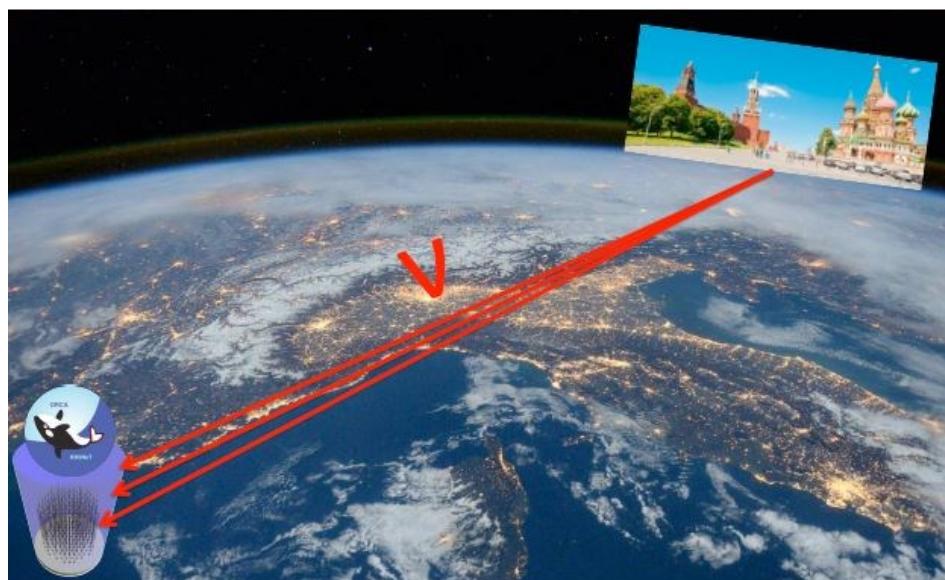


# A Neutrino Detector in the Mediterranean Sea as Target for a Neutrino Beam.

**Tuesday, 13 February 2018, DESY Auditorium, 16:45 h**

**Jürgen Brunner (*CPPM Marseille*)**



The KM3NeT collaboration is currently constructing the ORCA (Oscillation Research with Cosmics in the Abyss) detector in the sea of Toulon. A first line of detectors has been installed and provides high quality data. The physics goal of ORCA is the determination of the neutrino mass hierarchy with atmospheric neutrinos. The ORCA project and first results will be presented. Then the potential of operating ORCA in a neutrino beam with a baseline of 2600 km will be discussed. This distance is at least two times longer than that of other existing or planned long-baseline projects, but thanks to the multi-Megaton instrumented mass of the ORCA detector, it would be the first high-statistics long-baseline neutrino experiment. This opens the possibility to measure leptonic CP-violation with unprecedented statistical significance.

- **Coffee, tea and cookies will be served at 16:30h**
- **After the colloquium there is a chance for private discussions with the speaker over wine and pretzels**