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# DARWIN: towards the ultimate dark matter detector

*Friday, 7 July 2017 12:00 (15 minutes)*

DARWIN (DARk matter WImp search with liquid xenoN) will be an experiment
for the direct detection of dark matter using a multi-ton liquid xenon time projection chamber. The first goal of Darwin will be to look for Weakly Interacting Massive Particles (WIMPs) pushing the sensitivity until the background of natural sources of neutrinos will be the dominant background. DARWIN's excellent sensitivity will allow to search for solar axions, galactic axion-like particles and the neutrinoless double-beta decay of $^{136}Xe$. It will also measure the low-energy solar neutrino flux with <1% precision, observe coherent neutrino-nucleus interactions, and be an excellent observatory for galactic supernovae. I will present DARWIN's detector concept, discuss its physics reach, main sources of background and current activities.

## Experimental Collaboration

DARWIN

**Primary author:** Prof. ARNEODO, Francesco (New York University Abu Dhabi)

**Presenter:** Prof. ARNEODO, Francesco (New York University Abu Dhabi)

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