

## **New Results from the MEG Experiment**

*Jeanine Adam (on behalf of the MEG Collaboration)*

*Institute of Particle Physics, ETH Zürich*

The goal of the MEG experiment, which is located at the Paul Scherrer Institute in Switzerland, is to search for the lepton flavor violating decay  $\mu \rightarrow e + \gamma$  with a sensitivity of  $10^{-13}$  in branching ratio. An observation of this decay would reveal new physics beyond the Standard Model of Particle Physics, a non-observation would put stringent tests on new theories beyond the Standard Model.

Photons and positrons from possible  $\mu \rightarrow e + \gamma$  decays are detected by different sub-detector systems. The world's largest liquid Xenon scintillation detector is used to determine energy, position and timing information of photons while an innovative positron spectrometer provides positron information.

The MEG Experiment started to take physics data in September 2008, followed by runs in 2009, 2010 and 2011.

During this talk, the MEG detector and its calibration methods will be presented, the analysis techniques will be explained and the results obtained from the 2009 and 2010 data will be shown.