# The new sample preparation line for radiocarbon measurements at the INFN Bari laboratory

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on behalf of the INFN CHNet Lilliput experiment

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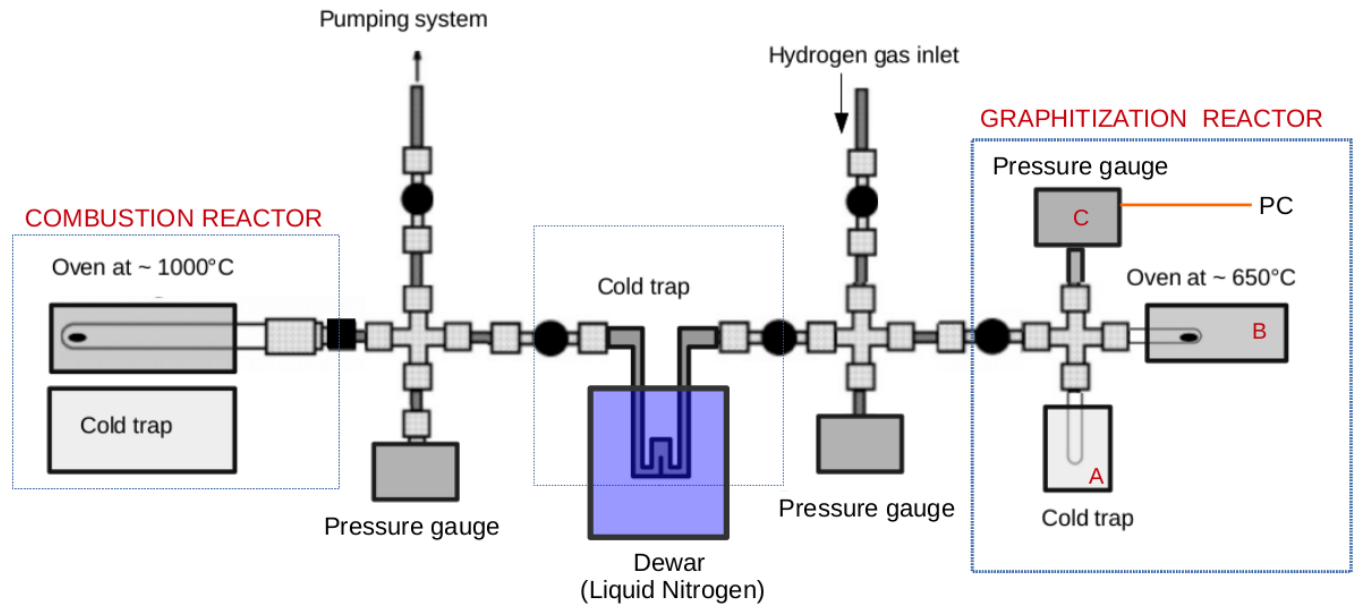
Many versatile applications in the life/earth science are based on the measurement of the radiocarbon. These applications are often limited by the minimum amount of carbon that can be measured in the sample: minimum size radiocarbon samples can be affected by contamination introduced during the sample preparation. Comprehensive systematic investigations to reduce the sample size limit down to a few micro-grams carbon are currently in progress in the INFN CHNet_Lilliput experiment. For such goal, a new original graphite preparation facility is being installed at the INFN laboratory of Bari (Italy). The $CO_2$ from the combusted sample is cryogenically purified using a simple vacuum line set-up. The produced graphite targets will be measured using the Accelerator Mass Spectrometry (AMS) at the INFN-LABEC laboratory of Florence (Italy) where since 2004, sample measurements for radiocarbon dating are performed.




**Schematic layout of the combustion and the graphitisation line.**