

The Integrated Carbon Observation System (ICOS RI) – an environmental research infrastructure and its possible links to EGI

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The mission of ICOS RI is enabling research to understand greenhouse gas (GHG) budgets and their perturbations. ICOS RI provides long-term observations for understanding present state and predicting future behavior of the global carbon cycle and greenhouse gas emissions. ICOS RI is a distributed infrastructure with station networks designed to monitor greenhouse gas concentrations in the lower atmosphere as well as GHG exchange between terrestrial ecosystems or oceans and the atmosphere. By knowing the dynamics of GHG in the atmosphere and their natural fluxes, ICOS RI will provide independent data to improve and verify GHG emission inventories for international conventions like the Kyoto protocol. To achieve these goals, ICOS RI is building a sophisticated e-infrastructure for data transmission, processing, storage and publication. ICOS RI itself as well as ICOS-near modeling groups need large computing capacities to assimilate data and run Earth system models. Possible cooperations with EGI will be suggested.

Presenter: KUTSCH, Werner (ICOS)

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