SMART|Labs within GGSB_PLUS

Science, Medicine, Applied Research and Technology

Background and Objectives

Georgian-German Science Bridge (GGSB)

Foster cooperation between institutes of **Forschungszentrum Jülich** and a consortium of **Georgian universities**:

Agricultural University of Georgia (AUG), Georgian Technical University (GTU), Ilia State University (ISU), Kutaisi International University (KIU) and Tbilisi State University (TSU)

Connect scientists and students of both countries via common research projects and through education

One pillar (besides research and education): knowledge transfer via **SMART|Labs**:

- Well-equipped and maintained modern laboratories affiliated with one of the Georgian universities
- Small group of experts and students headed by an outstanding young Georgian scientist
- Dedicated to specific projects in different fields of fundamental and applied science

GGSB_PLUS: focus on “Health as a Global Challenge”

Structure

Science case Based on a topical **scientific** or **medical question/problem**	**Key technology** Strong technological component with possible **applications**	**Educational component** Provide Georgian students access to **leading research infrastructures**
Goals Returning young scientists to Georgia Developing Georgian science & technology Educating Georgian students	**Implementation** Comprising 3-5 scientists/engineers Headed by young Georgian scientist as PI Cooperation with partner at FZJ	**Realization** Proposed/supported by FZJ & Georg. Univ. Approved/financed by MESCS/SRNSFG Common applications for further funds

Examples

SMART|*EDM*_Lab

Science

Matter/antimatter asymmetry of universe

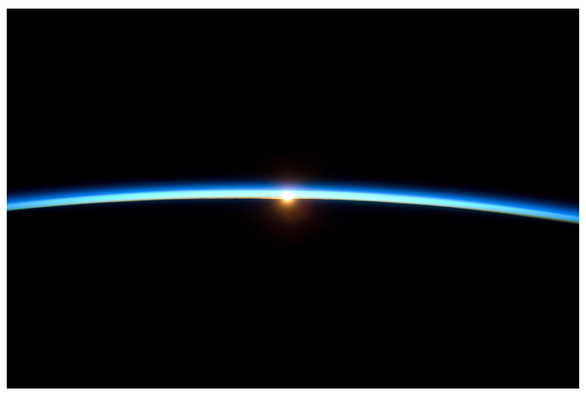
Why is there matter (at all) but no antimatter?

Project: Beam polarimetry
Technology: Detector/target design, electronics, readout
Application: e.g. PET detectors
PI: Dr. D. Mchedlishvili (TSU)
Partner: IKP-2
Start: January 2017
GGSB_PLUS Focus: Equipment development for medicine

SMART|*AtmoSim*_Lab

Science

Climate research



Earth‘s atmosphere from space

Project: Atmospheric simulations and measurements
Technology: Micro-/nano analytics
Application: e.g. forecast of air quality
PI: Dr. Giorgi Jibuti (TSU)
Partner: IEK-8
Start: September 2017
GGSB_PLUS Focus: Impact of air pollution on human health

Possible future SMART_Labs within GGSB_PLUS

SMART|*BioMedImage*_Lab → TSU

Partner: INM-4 and INM-5
University of Cologne
RWTH Aachen Univ.

SMART|*Tech*_Lab → AUG

Partner: ZEA-1, ZEA-2

SMART|*Data*_Lab → KIU

Partner: IBG-2, JSC

→ Goal:

Provide basis and support for the **Hadron Therapy Center (HTC)** in Georgia (at KIU and in Tbilisi)

Outlook

Extension to further research centres and universities in Germany and Georgia
Cooperation between **SMART|Lab**s leading to a **SMART|Hub** with focus on health
Option for regional project: Caucasian-German Science Bridge (**CGSB**)