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**SCIENCE BRIDGE –
CONNECTING PEOPLE AND KNOWLEDGE**

A Model for Scientific and Technological Cooperation



საგერმანო-საქართველო მეცნიერებათა ბიჯი

Georgian-German

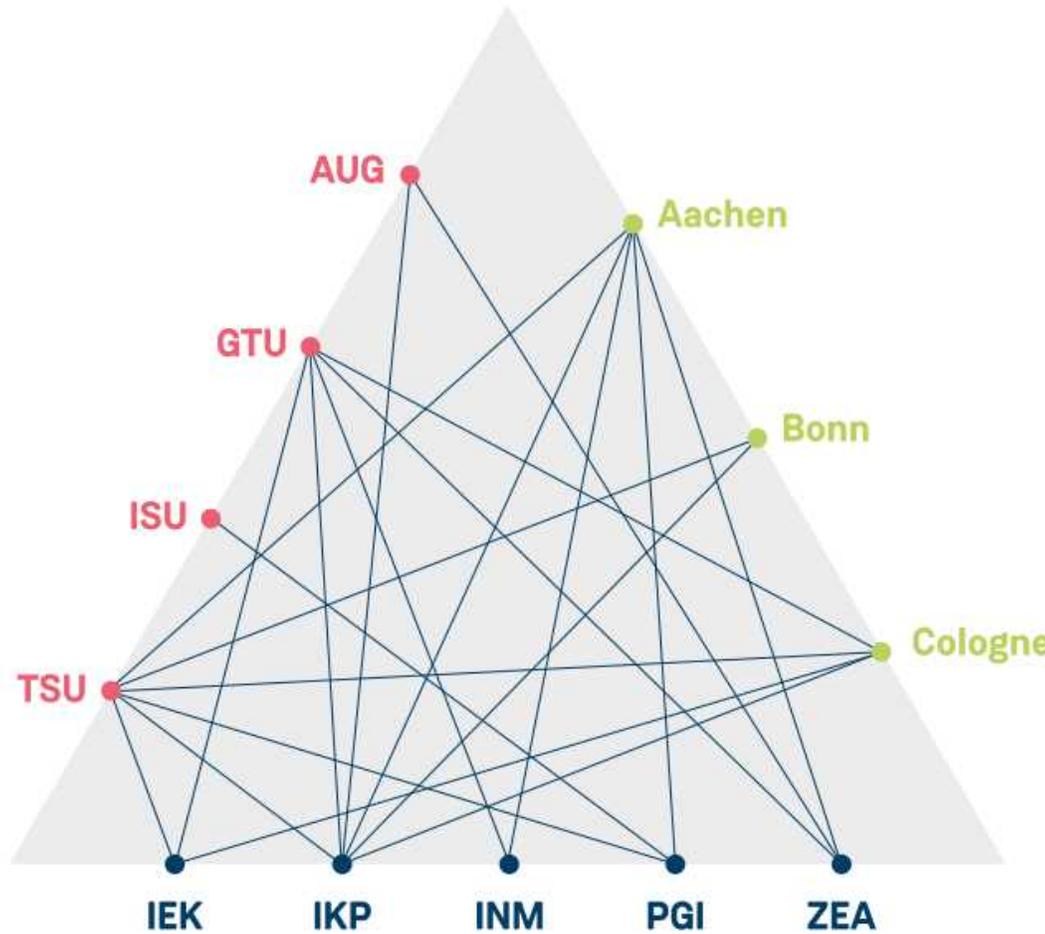
ScienceBRIDGE

CONNECTING PEOPLE AND KNOWLEDGE

Cooperation network

Georgian
Universities

German
Universities



Institutes of Forschungszentrum Jülich

Three Pillars

The image features three classical columns with fluted shafts and decorative capitals, set against a bright blue sky with a sunburst effect. The columns are arranged in a row, and the text is overlaid on them.

**Joint
Research**

**Educational
Training**

**Knowledge
Transfer**

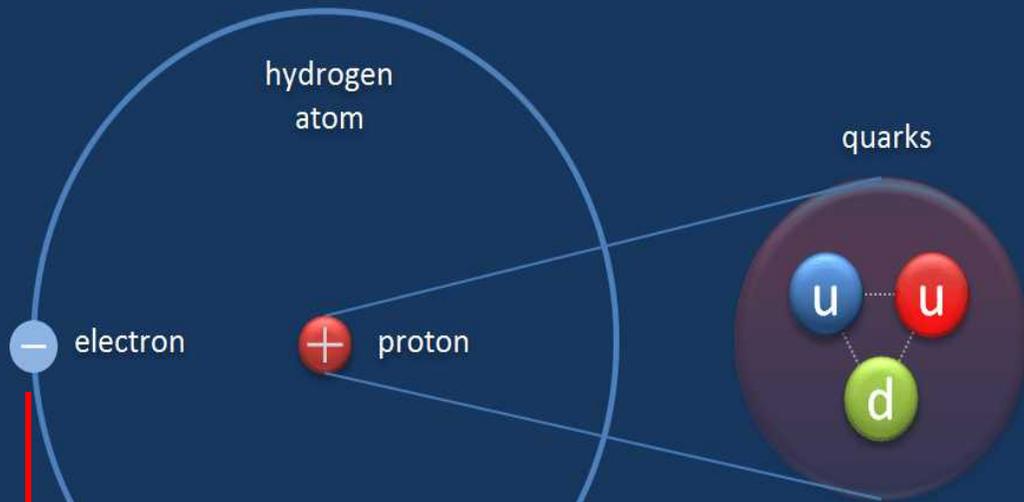
Joint Research (1)

Why
isn't there
nothing?

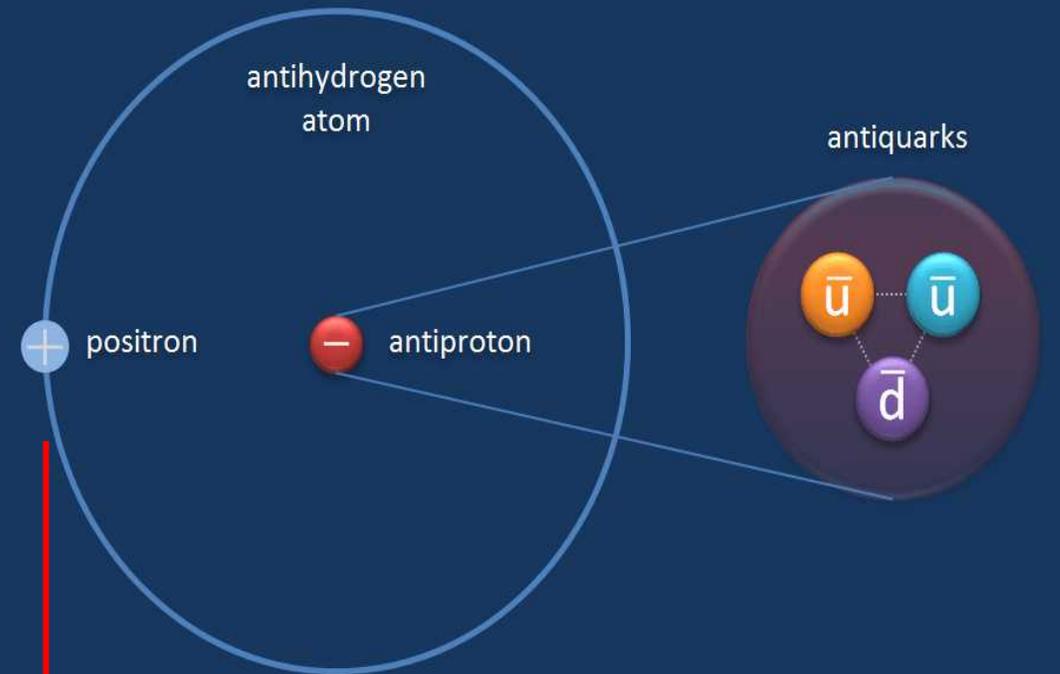
Researchers
hope to solve one of the
greatest mysteries

Puzzle of the missing antimatter

Matter



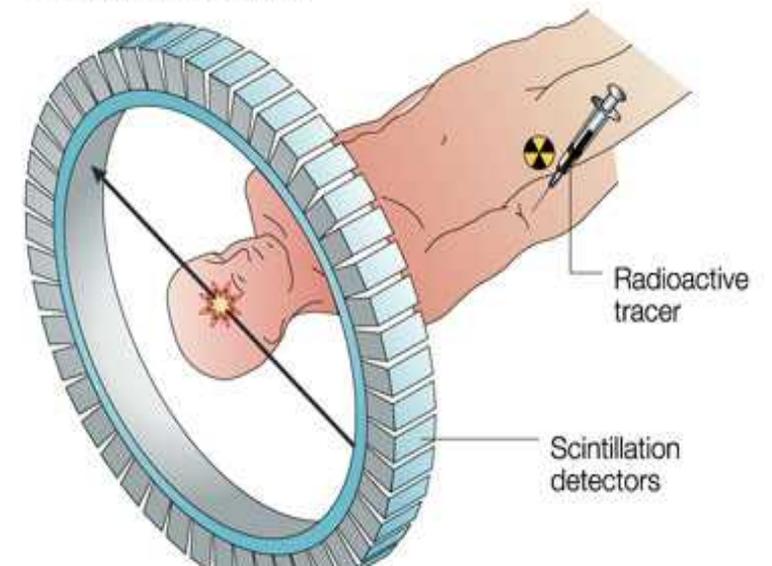
Antimatter



- meets +

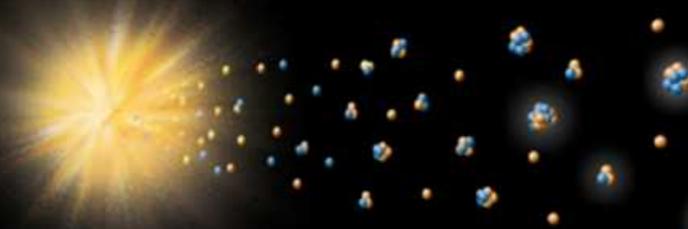
annihilation
into a flash
of light

application: PET

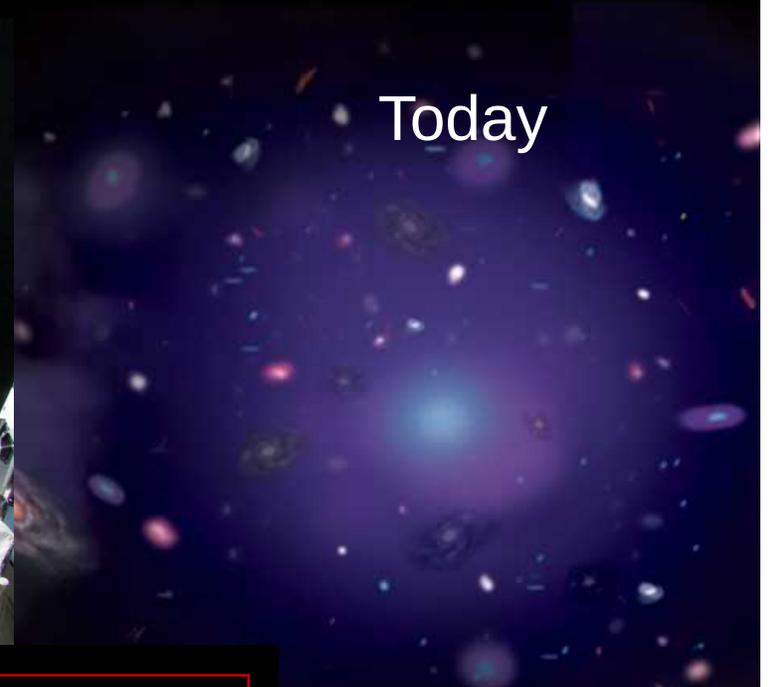


Evolution of the Universe

Big Bang



Today



same amount of matter and antimatter

Shortly after BB:

10,000,000,001

10,000,000,000

a tiny imbalance!

10,000,000,000

1

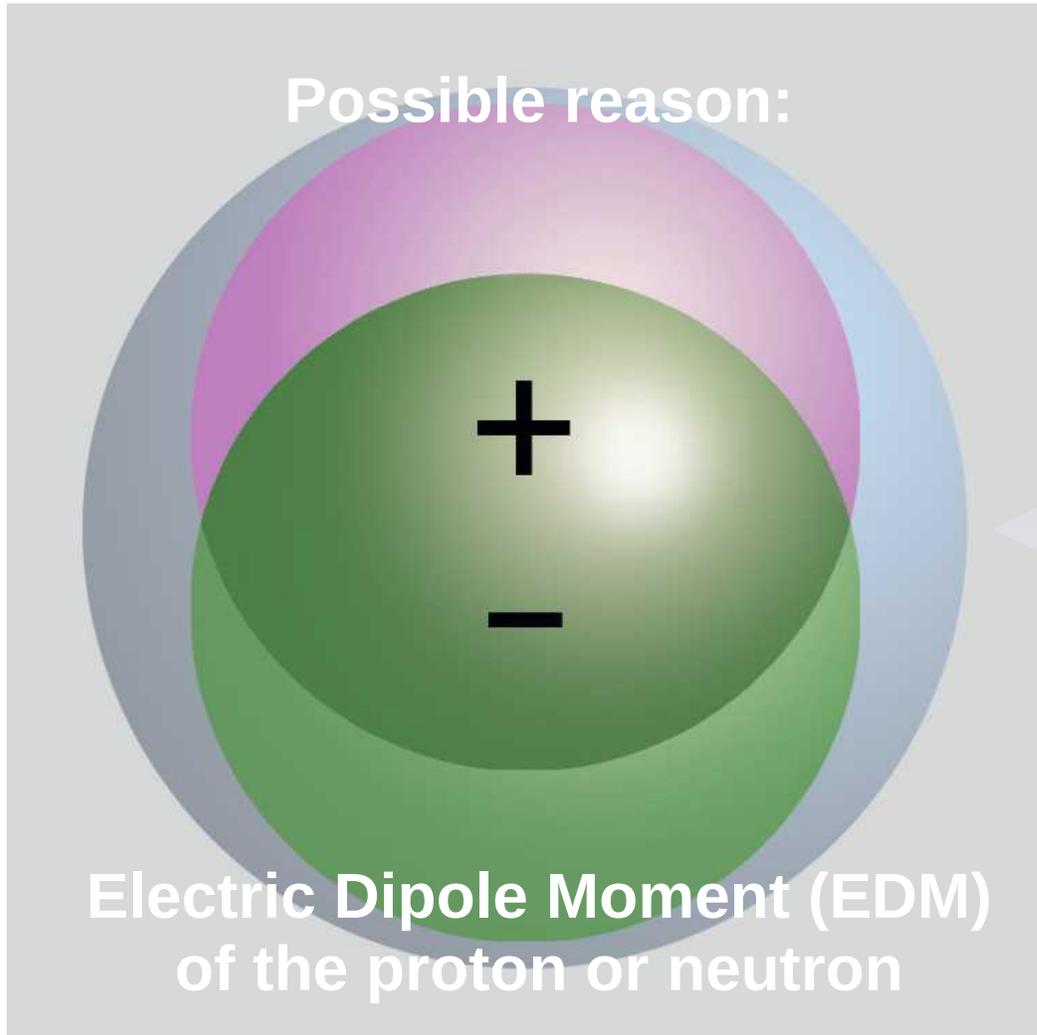
only matter „no“ antimatter

MATTER

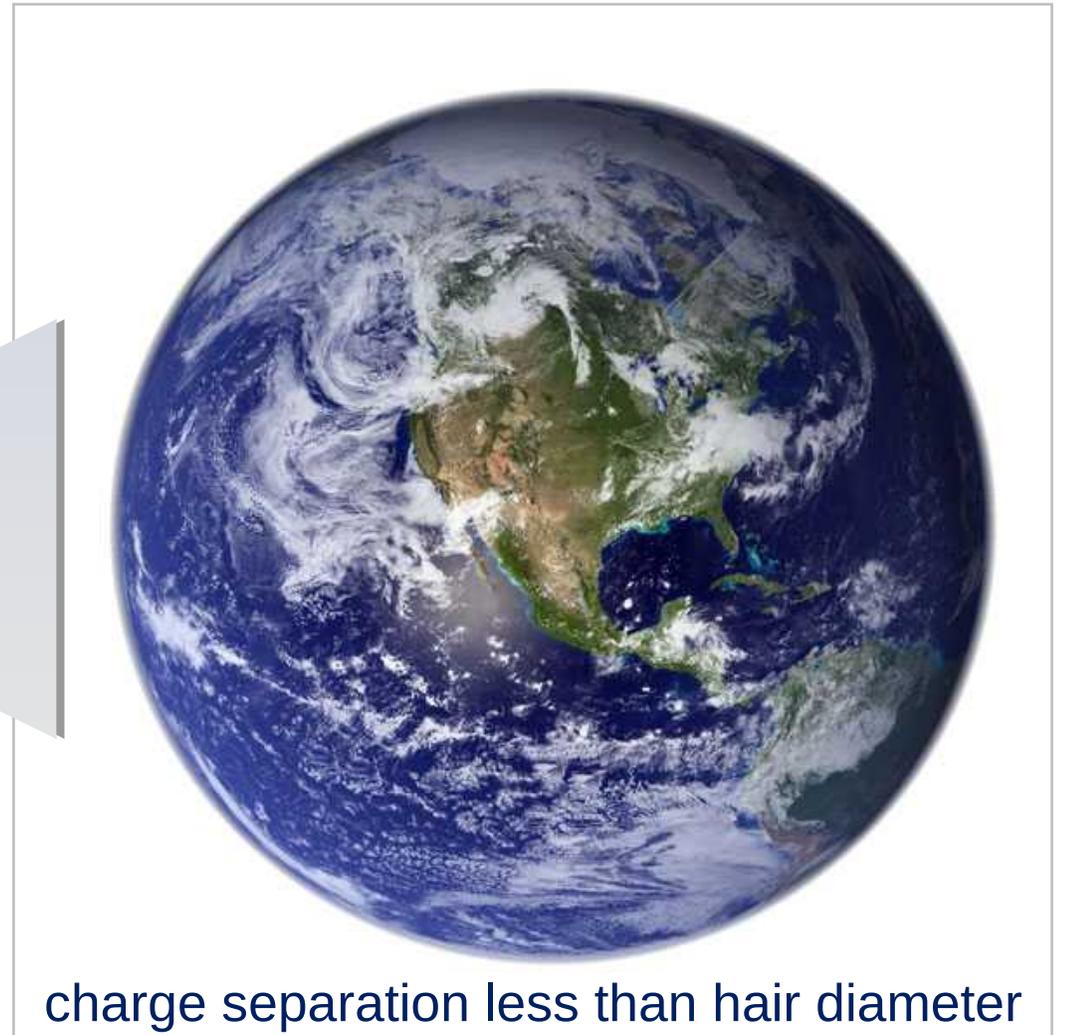
ANTI-MATTER

MATTER

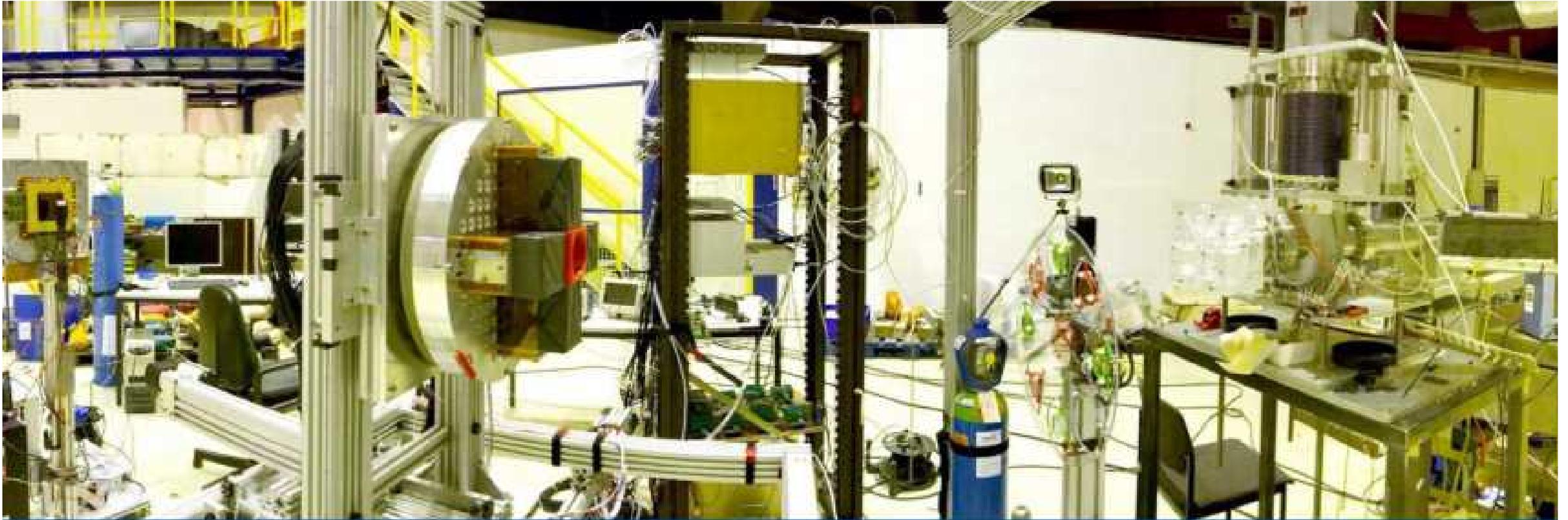
ANTI-MATTER



$\times 10^{22}$



□ **Joint research: EDM search for charged particles („JEDI“)**



**Georgian contribution:
ultimate precision detector for EDM observable**

SMART|EDM_Lab

Joint Research (II)



PROF. ASTRID KIENDLER-SCHARR
Direktorin am Institut für Energie- und Klimaforschung (IEK-8)

Joint Research (III)



Head Coils

BrainPET

Medical Imaging: Combined MRI/PET Scanner

Educational Training (I)



Student Workshop, Georgian Technical University (Tbilisi), July 2014

Educational Training (II)



QUALI-Start-Up Lectures, Jülich, September 2017

Educational Training: Cotutelle PhD (U Cologne - TSU)

Vereinbarung
über die gemeinsame Betreuung eines Promotionsverfahrens
ხელშეკრულება
სადოქტორო დისერტაციის ერთობლივი ხელმძღვანელობის შესახებ

Ivane Javakhishvili Tbilisi State University
1, Ilia Tshavtchavadze Alle. 0179, Tiflis, Georgien
ივანე ჯავახიშვილის სახელობის თბილისის სახელმწიფო უნივერსიტეტსა
ილია ჭავჭავაძის გამ. 1, 0179 თბილისი, საქართველო

und/და

Universität zu Köln
Albertus-Magnus-Platz, 50923 Köln, Deutschland
კიოლნის უნივერსიტეტის
ალბერტუს-მაგნუსის მოედანი, 50923 კიოლნი, გერმანია

შორის

vertreten durch den Rektor/Präsidenten¹
წარმოდგენილი რექტორით/პრეზიდენტით¹

Zara Bagdasarian, 2016

Knowledge Transfer (I)

SMART|Labs extend GGSB by the option of Georgian scientists to return home (knowledge transfer):

SMART|Labs

Science, Medicine, Applied Research and Technology

- Well-equipped and maintained **modern laboratories**
- Affiliated to a **Georgian university** connected w/ **FZJ institute**
- Dedicated to **common project** in fundamental/applied sciences
- Small group of experts (3-5) headed by **outstanding young Georgian scientist**

Opening SMART|EDM_Lab, Tbilisi State University, August 2016

Knowledge Transfer (I)



Scientific leader: Dr. David Mchedlishvili

Knowledge Transfer (II)



Opening SMART|AtmoSim_Lab, Tbilisi State University, September 2017

Knowledge Transfer (II)



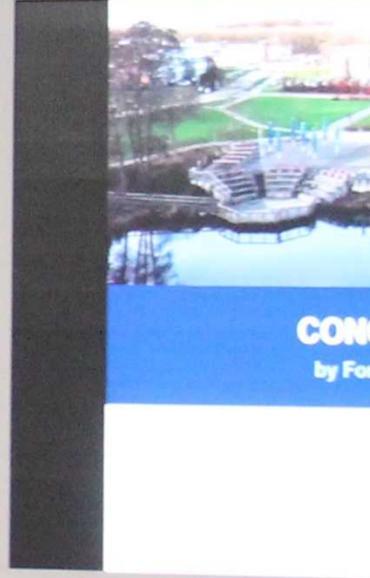
SAPHIR chamber (FZJ); Equipment at AtmoSim-Lab (TSU)

თსუ 100
1918-2018

Honors



TSU
1918-2018



TSU 100
1918-2018

IVANE JAVAKHISHVILI
TBILISI STATE UNIVERSITY



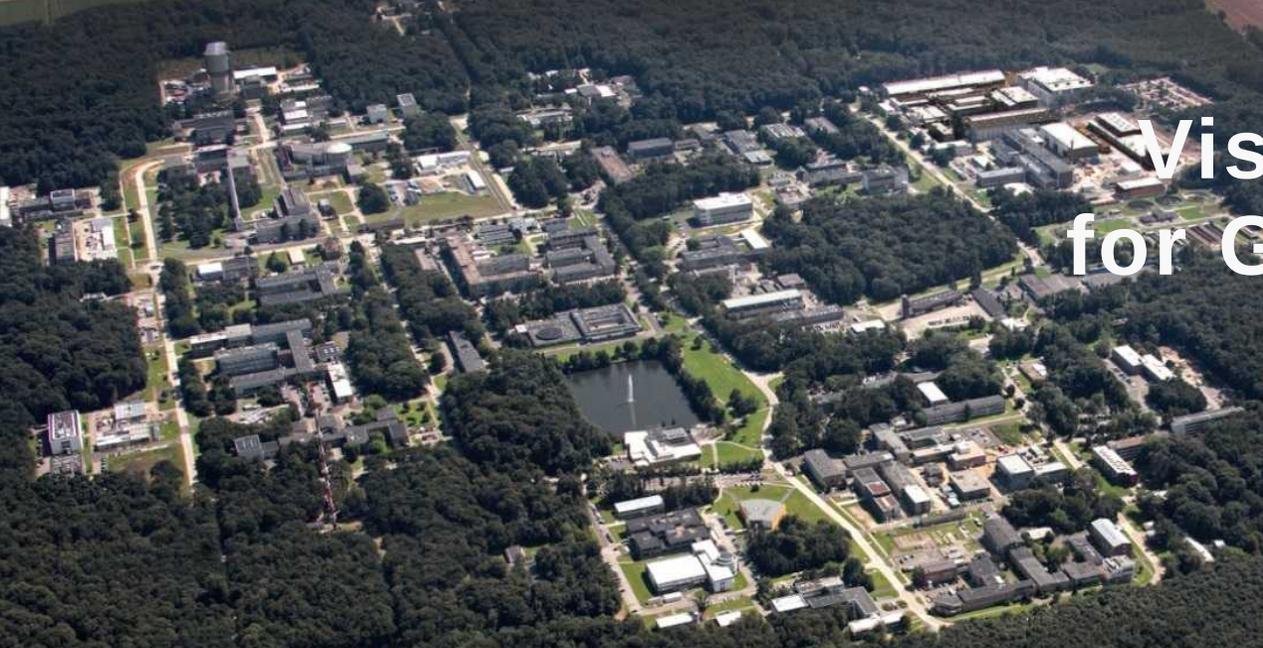
Visits

Visit Georgian Delegation, June 2018

Meetings



Meeting w/ Georgian Prime Minister, August 2018



Vision for GGSB



**YOUR STEM
FUTURE
BEGINS**

IN TBILISI, GEORGIA



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