

**MEMORANDUM OF UNDERSTANDING**  
**BETWEEN**  
**Forschungszentrum Jülich GmbH, Jülich, Germany (JÜLICH)**  
**AND**  
**Georgian Partner Institutions (GEORGIA):**

**Ivane Javakhishvili Tbilisi State University (TSU),**  
**Georgian Technical University (GTU)**

on the extension and expansion of mutual scientific cooperation

**Preamble**

The successful scientific cooperation between the Institute for Nuclear Research (IKP) of Forschungszentrum Jülich and High Energy Physics Institute of Tbilisi State University (HEPITU), Georgia, dates back to a first cooperation agreement on "Joint Research Activities" between HEPITU and Jülich, signed on September 17, 1998. Corresponding addenda to this contract have been signed ever since. Based on the long-term and fruitful cooperation and given the new opportunities and upcoming large scale projects in Germany, Jülich and Georgian partner institutions (TSU, GTU) intend to extend and expand this cooperation as detailed below.

**I. Subject matter of the negotiations**

**Article 1:**

JÜLICH and GEORGIA agree to continue their scientific cooperation in existing hadron physics projects, including the following items:

- (i) Performing joint experiments at Cooler Synchrotron ring (COSY);
- (ii) Research and development for FAIR - Facility for Antiproton and Ion Research (High Energy Storage Ring (HESR), Anti-Proton Annihilation at Darmstadt (PANDA), and Polarized Antiproton Experiment (PAX));
- (iii) Theoretical developments for COSY and FAIR measurements.

On the part of JÜLICH, this cooperation will be implemented by JCHP (Jülich Center for Hadron Physics)

**Article 2:**

JÜLICH and GEORGIA agree to expand their scientific cooperation into the following new areas:

- (i) Central Technology Division (ZAT) – GTU:  
Design and engineering for upcoming common projects;
- (ii) Institute of Chemistry and Dynamics of the Geosphere (ICG) – TSU:  
Numerical simulation of atmospheric chemistry
- (iii) Institute of Solid State Research (IFF) – TSU:  
Condensed matter physics and materials sciences

Details will be specified in the corresponding Annexes (see below).

### Article 3:

JÜLICH and GEORGIA intend to further expand their cooperation towards:

- (i) Institute of Advanced Simulation (IAS) – GTU/TSU:  
Information technology (IT) and advanced computing
- (ii) German Research School for Simulation Science (GRS) – GTU/TSU:  
Education of future scientific and engineering personnel
- (iii) Institute of Energy Research (IEF) – GTU:  
Experiments in the field of material science

### Article 4:

All details such as mutual commitments, deliverables, timelines, and resources will be specified in Annexes to this Memorandum of Understanding (MoU) to be signed independently by each partner.

Annex 1: IKP (COSY, Theory)

Annex 2: JCHP (HESR, PANDA, PAX, Theory)

Annex 3: IEF (Energy Research, Microstructure and Properties of Materials)

Annex 4: ICG (Chemistry and Dynamics of the Geosphere)

Annex 5: IFF (Superconducting and Magnetic Materials)

Annex 6: Other

## II. Legally binding provisions

1. With the exception of the following provisions, no legal obligation for either of the parties can be derived from this MoU. In particular, there is no obligation to conclude the contracts specified under I.
2. Either party shall bear its own internal and external costs incurred in connection with the negotiations and other relevant measures. Either party shall be entitled to terminate the negotiations at any time without giving reasons, provided that a declaration in writing to this effect is presented to the other party.
3. In case of failure to materialize the projects specified under I., the parties shall not bring forward any claim against one another, irrespective of the legal basis. This shall apply, in particular, to claims for damages or the reimbursement of costs due to failure to conclude the contract. The parties, moreover, shall not be liable for information not being provided at all, or not in good time, or being provided in a faulty manner.
4. Either party shall treat the negotiations and the contents of this MoU confidentially, unless the other party has given its prior written consent to a publication.
5. Either party shall use all and any information obtained from the other party within the framework of the discussions and negotiations exclusively for the purposes for which it has obtained such information, shall not disclose it to third parties and shall protect it like its own trade secrets. This obligation shall not apply to information that is generally known, information that has been provably derived independently by the party receiving such information, or information lawfully obtained from third parties

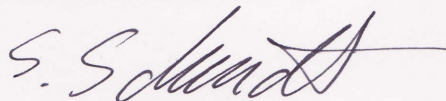
without infringing any obligation of confidentiality. This obligation shall not be applicable either in case a party is compelled to disclose the information obtained on the grounds of legal provisions. This obligation shall be valid for a period of 5 years after this MoU has ceased to be in force.

6. Any modifications to this MoU shall be made in writing in order to become valid. The form requirement can only be eliminated by agreement in writing.
7. This MoU will become effective for each partner upon signature. It shall cease to be valid upon conclusion of all contracts required for the implementation of the projects specified under I. and in case the negotiations are terminated, at the latest, however, on May, 2015. However, the provisions on confidentiality shall remain valid.
8. Should a provision of this MoU be or become ineffective, this shall not affect the validity of the other provisions. The parties undertake to replace such ineffective provision by an effective provision as close as possible to the regulation purpose of the ineffective provision.

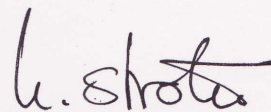
Tbilisi, Georgia, Date

**JULICH:**

Date: 3/5/2010



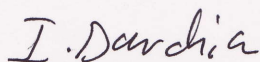
Prof. Dr. Sebastian M. Schmidt  
Member of the Board



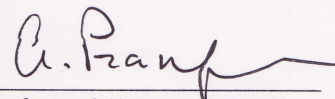
Prof. Dr. Hans Ströher  
Director at IKP

**GEORGIA:**

Date: 3/5/2010



Prof. Irine Darchia  
Vice-Rector of TSU



Prof. Archil Prangishvili  
Rector of GTU