



Memorandum of Understanding

between

**The Faculty of Mathematics and Natural Sciences,
University of Bonn, Bonn, Germany
and**

Ivane Javakhishvili Tbilisi State University, Tbilisi, Georgia

and

**The Faculty of Physics,
Yerevan State University, Yerevan, Armenia**

**regarding a
Common Ph.D. program in Physics**

1. Introduction

The parties to this MOU agree to collaborate in and to support the advanced education and training for graduate students of theoretical physics between the Faculty of Mathematics and Natural Sciences of Rheinische-Friedrich-Wilhelms-Universität Bonn (from here on called Bonn University (UB)), the Tbilisi State University (TSU) and the Faculty of Physics of the Yerevan State University (YSU). The parties therefore agree to establish a common Ph.D. Program (referred hereafter to as "program"), subject to further rules, regulations and guidelines to be agreed upon between the parties. The program refers to a three year training and research phase of the Ph.D. program as specified in Section 2.2 of this MOU. Students participating the program will be enrolled in the Ph.D. programs of two Universities. One of these is the student's home University, and the second one is the guest University, where the student's co-supervisor is from. In recognition of the completion of the program, UB, TSU and YSU will confer to the student a common certificate about the successful participation in the program. The Ph.D. degree will be granted by the students home institution.

The efficiency of the program management in the short term and its sustainability in the long term are considered important goals to all involved institutions. To fulfill these goals, the program stakeholders commit themselves to support the program and carry it out on a high scientific standard and to the benefit to the advancement of science. Therefore the parties wish to establish Regional Training Network in Theoretical Physics (referred hereafter to as "Network"). Status and structure of the Network will be defined in separate rules and regulations between the parties.

If successful, this agreement may be extended to other fields of physics and astrophysics that are of common interest to UB, TSU and YSU.

2. Program Structure

2.1. Admission

Admission to the Ph.D. program will be granted only to applicants who demonstrate convincing evidence of high-level analytical skills, intellectual curiosity, and the ability to work independently in pursuing scholarly research. The admission requirements and criteria are set jointly by UB, TSU and YSU. All candidates for the program must have successfully passed their M.Sc. requirements (or equivalent). Only students, who have been admitted to do a doctorate in a relevant subject either by UB or TSU or YSU, are eligible candidates for the program. Details on the selection process are given in Section 3.3.

2.2 Organization of the education process

All students are held to the highest scientific standards, and must satisfy the following requirements:

- **Period of stay-** Students will stay typically 60% at their home institution and 40% at the guest institution, for an expected overall duration of three (3) years. Students may

deviate from this principle but must satisfy the minimum attendance requirements to be defined by the respective institutions.

- **Co-supervision-** Theses will be co-supervised, with two co-supervisors from different institutions provided that one co-supervisor will be from the home institution.
- **Non-course requirements-** Students must satisfy non-course requirements set by the Physics Ph.D. programs of the degree-awarding institution.
- **Defense of dissertation-** Involves delivery of a dissertation deliberately written for the purpose, its corresponding discussion, and approval. The dissertation will be defended in an oral examination at the home institution. Video-conferencing may be allowed and will be encouraged to the extent possible.
- **Mutual recognition of the ECTS credit points-** The sides agree to mutually recognize the ECTS credit points, acquired from the lecture courses delivered in the framework of the program, if legally possible.

3. Management Model

3.1 Leadership of the Common Ph.D. programs

The Dean of the Faculty of Mathematics and Natural Sciences of UB and the Rectors of TSU and YSU will appoint three Ph.D. co-directors, one in each institution, and form a Common Program Committee led by them. The committee will be responsible for (i) pre-selecting and nominating students who will be considered for admission to the program, (ii) day-to-day managing of the program, and (iii) representing the program in all instances. The Ph.D. co-directors are selected from the members of the Regional Training Network in Theoretical Physics.

3.2 Announcement and Application

- The Common Ph.D. program will be announced by all Universities in accordance with their local rules and procedures.
- Students who have been admitted to the program by the Regional Training Network in Theoretical Physics will be notified of the offer to enroll in the program promptly via acceptance letter. Students are required to reply to the letter by accepting or turning down the offer.
- Students replying positively to the acceptance letter will be enrolled in the program.

3.3 Admission and Selection

- The Common Program Committee will recommend students for the program from a pool of students who have already been admitted to do a doctorate by one of the Universities. All students must be explicitly recommended to the Common Program Committee by one of the Ph.D. co-directors.
- Every student, who applies, should have one initial contact point in two institutions. Initial contacts should be co-supervisors of her or his choice.
- Final decisions on admissions to the program will be made by the Regional Training Network and should be endorsed by at least the two Universities providing the co-supervisors.

3.4 Funding Process

- The funding of the program is subject to the budgetary appropriations available to the Regional Training Network. At the moment, the funds of the Regional Training Network are provided by Volkswagenstiftung under the contract 86 260 "Regional Training Center in Theoretical Physics", with the co-financing by TSU and YSU (see the attached documents Annex (A)). The distribution of the funds will be subject to a separate agreement between the parties specifying the necessary terms and conditions according to the grant of the Volkswagenstiftung.
As the expenses for the program are only covered for the first 2,5 years the parties to this MOU will use all reasonable endeavours to obtain more funds for the program. .
- We anticipate using the program as the springboard for application for future funding, in particular, to support other fields of physics and astrophysics of mutual interest to UB, TSU and YSU as well. This will allow all partners to expand their participation.
- This MOU shall not create any additional financial obligation for any participating party.

3.5 Compliance with Official Requirements

- All thesis examination boards are appointed and approved in agreement with the rules of the home institution.
- The thesis must be written, as a rule, in English.
- Protection of any intellectual property developed during research conducted as part of the program will be carried out in compliance with the specific procedures of the relevant countries and institutions involved in this program provided that (i) the copyright in the thesis shall remain the property of the student; and (ii) nothing shall prevent or hinder a student from submitting for a degree at the home institution a thesis based on the results obtained during the course of work undertaken as part of the program, the examination of such a thesis by examiners appointed by the home institution, or the deposit of such a thesis in accordance with the relevant procedures of the home institution, and (iii) any potential disruption to the procedures at the home institution due to the protection of intellectual property shall be kept to a minimum.
- Subject to legislation on doctoral studies in effect in each contracting University, the selected candidates will register for study in both the home institution and the guest institution. All Ph.D. Candidates must pay tuition and other required fees at their home institution if applicable. The guest institution will provide tuition waivers, as appropriate and if legally possible.

4. Miscellaneous

- This MOU is a declaration of intent of the parties to implement the program. However, it shall not create any legal obligation to the parties. All issues not covered by this MOU will be handled by the parties aftermath. The parties will therefore negotiate certain documents, rules and regulations concerning the program in a friendly manner.
- This MoU shall come into force when signed by the representatives of the parties and shall be valid for an unlimited period of time. After 2,5 years, each party can leave the MoU, notifying other parties six month in advance by registered letter. In this case, the MoU will terminate completely.

University of Bonn, the Chancellor
Date: 2013-03-14

Dr. Reinhardt Lutz

Faculty of Mathematics and Natural Sciences, Bonn University (UB)
Date: 2013-03-14
Dean of the Faculty

Professor Ulf-G. Meißner

Ivane Javakhishvili Tbilisi State University (TSU)
Date: 2013-03-14
Rector

Alexander Kvitsashvili



Faculty of Physics, Yerevan State University (YSU)
Date: 2013-03-14
Dean of the Faculty

Professor Roland Avagyan