

Guidelines for Scholarship Holders
Research Training Group
“Methods for Discrete Structures” (MDS)

Freie Universität — Humboldt-Universität — Technische Universität
funded by Deutsche Forschungsgemeinschaft (DFG)
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Conditions for admission

To be admitted to the program as a PhD student, any applicant has to meet the following requirements:

1. Speedy completion of university studies, with a degree in mathematics, computer science, or a related area that is equivalent to a German university Diplom (e.g. master degree, MSc), with grades significantly above average.
2. Identification of an ambitious PhD project, to be conducted under the guidance of one of the professors on the MDS faculty. (PhD projects are determined and worked out in cooperation with faculty members of MDS.)
3. Willingness to actively cooperate in the research training group.

To be admitted to the program as a postdoc, any applicant has to meet the following requirements:

1. Speedy completion of university studies, with a doctoral degree in mathematics, computer science, or a related area.
2. An ambitious research plan that fits the objectives of the MDS program.
3. Willingness to actively cooperate in the research training group.

Award of scholarships

Scholarships granted within the framework of the research training group establish no work contract and are no remuneration in terms of §14 SGB IV (German Social Security Law).

In case a scholarship is awarded, the applicant receives a letter of notification that contains the following information:

- Type of the scholarship: PhD student
- Period of the scholarship: usually 2 years with the possibility of extension up to 1 year for PhD students
- Name of the supervisor
- Amount and composition of the scholarship
- Information concerning tax exemption
- Date of first payment

These guidelines are enclosed in the letter offering a scholarship and have to be accepted by signature at the time when the scholarship is accepted.

Obligations of the student

When accepting the scholarship, the student agrees to

- concentrate with his/her full work power on the project in the research training group;
- submit at the end of each semester a short written report on the progress and results of his/her research. Thus, the student will also make a contribution to the report submitted to the DFG by the faculty of the program.
- make the results of his/her research available to the public whenever possible referring to the DFG funding in the following way:

This research was supported by the Deutsche Forschungsgemeinschaft within the research training group ‘Methods for Discrete Structures’ (GRK 1408).

In particular, this reference must be made on the first page of the PhD or habilitation thesis, and a copy of the thesis has to be left with the RTG office.

- attend the relevant events of the research training group such as lectures, colloquia, courses, and workshops;
- attend at least one block course, class, or seminar in each of the six directions outlined by the program of the research training group: geometric methods, approximation and online methods, graph methods, topological and algebraic methods, enumeration methods, probabilistic methods and extremal combinatorics
- attend the seminar ”Good Scientific Practice” (offered by TU Berlin) during the first two years of scholarship
- use the opportunity for one or two shorter stays as guests at a partner university;
- support the work of the research training group to the best of his/her knowledge and capability. This may involve responsibilities for programs and activities of the program, such as organizational tasks at scientific events.

The student also agrees to immediately inform his advisor and the coordinator of the program whenever

- he/she takes up a paid employment. Income from non-scientific activities is fully deducted from the scholarship. In addition to the scholarship an annual income of up to Euro 6.000 from scientific work during the grant period is allowed;
- he/she discontinues, changes, prematurely terminates, or abandons his/her project in the program;
- his/her scientific activity is supported by contributions from third parties;
- with the student’s consent, a third party earns profit from the project funded by the program;
- he/she is granted a scholarship from another party.
- his/her personal conditions change substantially.

Further, the student agrees that

- the scholarship may be withdrawn, if
 - the studies are not started at the date agreed upon, or
 - the scholarship has been awarded because of false or incomplete statements, or
 - requirements have not been fulfilled, or have not been fulfilled within the time limits set;
- the grant may be discontinued for important reasons or in case substantial preconditions for a successful implementation of the project no longer exist;
- the guidelines for students may be supplemented or modified, and current scholarships may be adapted to changed conditions (without taking retroactive effect);
- a scholarship running beyond the current financial year is bound to the condition that the university will be provided with the necessary funds by the funding agency.

Allowances

- Scholarship:

The scholarship is 1468 Euro per month (tax-free, but health-insurance not included).

– Children:

There is a flat fee paid for a scholarship holder's children up to age 18, namely 400 Euro for the first child and 100 Euro for any additional child. The fees can also be paid for children of partners if it can be demonstrated that they have been living in the scholarship holder's household already at the beginning of the scholarship.

Payments according to the "Bundeselterngeld- und Elternzeitgesetz" BEEG have to be deducted from the scholarships. On the other hand, "Kindergeld" is not contained in the scholarship and can be applied for separately.

– Additional Income:

Students may receive limited additional funds from other sources if these do not carry obligations or restrictions for their work. In this case, the Research Training Group and DFG have to be informed. This does not apply to income from scientific work, as long as this is limited to at most 6000 Euro/year for the duration of the scholarship, as well as property income.

For all allowances an application to the coordinator of the program is necessary. More details can be obtained from the guidelines of the German Research Foundation (DFG)¹ or from the coordinator of the program.

The monthly scholarship and allowances are transferred to the student's bank account on the first day of each month.

Supervision in the program

Each student has his/her individual supervisor who is already assigned when the scholarship is granted and whose research area is related to the intended PhD thesis.

The supervisor is the student's immediate contact person; he will be responsible for managing requests to the research training group such as invitations of scientific guests. A student's thesis topic can be modified and the plans for the thesis project (scope, time plan, cooperation partners, etc) can be changed only if this is discussed with the advisor *in advance*, and gets his/her consent.

Absence

Each absence from the program has to be reported to the supervisor and to the RTG office.

For insurance reasons it is necessary to inform the RTG office about vacation times, participation in external events, illness, etc. Vacation has to be approved by the supervisor in advance.

If the student falls ill he/she has to inform the RTG office as soon as possible. He/she has to file an illness certificate within 3 days of the beginning of his/her illness. Although the students are enrolled at a university, they are treated in the same way as scientific staff, i.e. they have the same obligations with respect to work hours, vacation, and illness.

Faculty of the program

The faculty of the MDS consists of all members of faculty on the original MDS proposal (Antragsteller), together with new members adopted by the faculty (usually with unanimous vote).

The research training group is represented through an elected coordinator who is the students' second contact person besides the supervisor.

Faculty meetings are held at least once a semester, and their results and decisions are recorded

¹<http://www.dfg.de/forschungsfoerderung/formulare/programme/Graduiertenkollegs.html>

in writing. In case urgent topics arise, any faculty member or student may ask the coordinator to call for a meeting. A representative of the junior faculty, and of the students, are invited to take part in all faculty meetings (without vote).

Information

The web pages of the program² list lectures and events of the participating universities and institutions that may be of interest for the students.

The names and addresses, telephone numbers, email contacts of students, associate members, and lecturers are recorded on the web pages as well.

Study Program

The students are expected to, and have the possibility to acquire knowledge on a broad spectrum of methods in discrete mathematics, covering in particular the six fields of geometric methods, approximation and online methods, graph methods, topological and algebraic methods, enumeration methods, probabilistic methods, and extremal combinatorics.

They get the opportunity for one or two research stays (typically one to two months), usually during the second year of their scholarship, at a partner university of the research training program or another internationally renowned research group, which is chosen to fit both the student's interests, his/her study program, and the specific thesis research project he/she pursues.

As an essential part of the general "Methods for Discrete Structures" education, a lecture and a colloquium take place once a week during the semester (traditionally on Mondays), as well as special schools and workshops during the year, where all participants can regularly meet.

Special advanced block courses running over several weeks are organized at least once a year. Each PhD student is required to attend at least one block course, school, class or seminar in the direction of each of the six "methods" directions during the whole grant period.

A special "status workshop" will take place once a year in Berlin or in its vicinity, with the purpose of reviewing all the students' projects, and to discuss progress as well as more general topics connected with the research agenda of the MDS project. Thus the status workshop should give an overview of the scientific results achieved at MDS.

The large number of seminars carried out under the program as well as vivid contacts with internationally renowned scientists encourage communication among the students and guests. During each semester each student should attend all lectures and colloquia organized in the frame work of the research training group as well as one regular research oriented course offered at one of the participating universities.

In addition, the MDS program offers "training workshops" for the MDS students, which treat aspects of scientific work and presentation, such as library work, writing, mathematical typography, presentation techniques, and rhetorics. These will be offered to the scholarship holders of MDS and possibly further PhD students at the research groups involved in MDS. They will take place at initiative of the students, who should discuss topics of their interest with the coordinator of the program.

Work environment

1. Work place

The universities supporting the MDS program provide work places for the students within

²<http://www.math.tu-berlin.de/MDS/>

their premises. The necessary technical equipment will be made available and all corresponding facilities can be used. Each student will have his own telephone enabling him to phone internally and within the city of Berlin; long distance calls need special permission. Private calls have to be paid for according to the common practice of the local institution.

2. *Library*

The students will have the status of scientific staff, allowing them to borrow books from libraries of their departments.

3. *Computer account*

All students get computer accounts and access for the time of their PhD projects.

4. *Consumable materials*

Consumable and office materials can be obtained via the supervisors' offices.

5. *Literature*

Literature required for the research work has to be borrowed from specialized libraries or purchased by the student himself.

Invitation of guest scientists, visit of external events

When guest scientists are invited the relevance of their research areas for the PhD projects of the students are to be considered. Students may propose an invitation via the responsible supervisor. Written proposals covering the following information have to be made:

- Name of the scientist and university
- Field of activity and relevance
- Period of invitation, if applicable
- Estimated costs.

It is highly appreciated that students submit lectures at conferences and workshops. They are allowed leave from the program in order to participate. They shall also have the opportunity to take part in conferences, seminars, and workshops relevant to their areas of research. Any travel has to be confirmed by the supervisor and applied for in writing.

Travel expenses

Students who are invited to give a lecture or students whose papers have been accepted for presentation may be reimbursed for their travel expenses. They may also apply for an allowance in order to attend schools, workshops, and block courses at partner universities. Applications for travel expenses have to be sent to the RTG office before the travel starts and have to be supported by the supervisor. Applications shall contain the following information:

- reason for the travel (conference, workshop, seminar, colloquium lecture, research stay, etc.)
- Topic/title of the event
- comments on scientific contribution by/value for the student
- title of lecture (if applicable)
- location
- travel dates/length of stay
- estimated costs.

The research training group can reimburse

- travel expenses (only direct travel, second/economy class),
- accommodation,
- conference fees.

Daily allowances will not be paid. Longer stays abroad (more than 30 days) are not financed ac-

ording to these travel expenses rules (Bundesreisekostengesetz), but according to DFG flat rates; see http://www.dfg.de/forschungsfoerderung/nachwuchsfoerderung/stipendien/download/liste_auslandszuschlag.pdf

Status

PhD students of the program are enrolled as students at one of the three universities of Berlin. Each semester, they have to enroll or re-register according to the rules of the respective university. They benefit from the usual reductions for students.

There are no further payments by the research training group in excess of the scholarship, for example, contributions to social security or health insurances. The program recommends that all scholarship holders, for their own benefit, make contracts of health, accident, liability, and life insurances on their own. Upon enrollment students have to prove that they are members of registered health insurances and paid the contributions and fees due. The payment of contributions to private or statutory pension insurance funds is voluntary.

Insurance protection

During the period of education at the participating universities, enrolled students are insured against accidents by the legal accident insurance as far as there is a temporal, local, or internal connection of the accident with the research training group. Accidents of this type have to be reported immediately to the RTG office so that insurance coverage may take effect. This accident insurance is implemented by Eigenunfallversicherung (EUV).

There is no other insurance protection provided for, in particular, no health insurance (see Status).

Extension of the scholarship/position

Scholarships for the PhD students are granted for a period of two years. If, by the fourth semester, the PhD thesis has made progress such that the completion thereof is ensured within one further year, the student may apply for extending his/her scholarship grant by one year. The written application together with a detailed description of the status of the PhD thesis has to be submitted to the coordinator about three months before the scholarship ends. The supervisor briefly comments in writing on this application. Postdoc positions are granted for one year with a possible extension for another year.

Postdocs

The preceding guidelines analogously apply to postdocs unless explicitly stated for PhD students. In particular, postdocs cannot enroll as students of one of the universities.

Postdocs are expected, besides scientifically working for their further professional qualification, to actively support the work of the research training group and to be contact persons for the students. Teaching is desirable.

Each postdoc is assigned to the working group of a faculty member of the program, when the decision to offer a position is made. The scientific area of the group should be related to the postdoc's research field.

Associate members

There is the possibility of associating PhD students or postdocs of the participating universities and institutions as "associate members" of the MDS program. They will not receive scholarships,

but they are eligible for travel allowances (with the same rules being applicable as for the scholarship holders).

Associate members have the same obligations for attendance and reporting as regular members/scholarship holders: They are expected to attend the block seminars and the Monday lectures, and to give lectures in the colloquium. They have to file reports in the same way as the students of the program (see above) and to render contributions to the annual report to be submitted to the DFG, wherein they are presented. They may receive a certificate confirming participation in the research training group.

Junior faculty

The Junior Faculty of the MDS program consists of younger researchers/faculty (Juniorprofessoren, junior research group leaders, postdocs, etc.) at the three Berlin universities. They join the MDS Junior Faculty on invitation of the MDS faculty. They do support the teaching and advising at MDS, and in this function they can also apply for MDS funds, e.g. for travel to MDS events. However, they do not get scholarships/salaries from the MDS program.

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MDS Web pages – further/current information:

<http://www.math.tu-berlin.de/MDS/>