

## IMPRS for Global Biogeochemical Cycles Agreement

*This agreement concerns the PhD studies of FirstName LastName (born MONTH XX, YEAR) on the PhD project "XXXX" at the IMPRS for Global Biogeochemical Cycles.*

>> *Funding status: IMPRS / BGC / FSU Jena / associated*

>> *Entry date: MONTH XX, YEAR.*

### Preface

In cooperation with the Friedrich Schiller University Jena (FSU Jena), the Max Planck Institute for Biogeochemistry offers a unique and flexible research program that grants German and foreign students a broad selection of learning opportunities while still maintaining a research focus. The International Max Planck Research School for Global Biogeochemical Cycles (IMPRS-gBGC) provides first class training and education for outstanding doctoral researchers from all over the world in a stimulating research environment. This competitive doctoral program will provide doctoral researchers with an excellent starting platform for a successful career in a the field related to global biogeochemical cycles.

### General structure of the PhD program

Usually, doctoral researchers are enrolled at the FSU Jena. It is also the FSU Jena who awards the doctorate (the German Dr. rer. nat., which corresponds to the American PhD or occasionally the Dr. Ing). Participation in the IMPRS-gBGC will be documented on the official PhD certificate. The graduation criteria of the FSU Jena, as laid down in the regulation of the faculties of Chemistry and Earth Sciences, Biology and Pharmacy and Mathematics and Computer Sciences, are therefore applied to their full extent. However, should no suitable supervisor be available at the FSU Jena, the PhD advisory committee (PAC) of the respective doctoral researcher can agree to a graduation from another university. In general, the PhD work should be completed within three years. All scientific work in the program is based on the Max Planck Society's Rules of Good Scientific Practice.

The three-year IMPRS-gBGC program consists of original and independent research leading to a PhD thesis and an additional PhD curriculum. The thesis will be conducted under the guidance of the direct supervisor and a PAC.

### Some definitions

- **PhD thesis:** Independently compiled scientific output of the PhD work. It has to be written in English and should be composed of several single scientific manuscripts with a detailed summary in English and German.
- **Doctoral researcher:** Person who has been admitted to the program by the IMPRS-gBGC steering committee. Researchers can be funded by the IMPRS-gBGC (paid by the Max Planck Society, the MPI-BGC or the FSU Jena) or — for **associated doctoral researchers** — externally.
- **Direct supervisor:** Senior scientist and IMPRS-gBGC faculty member in whose group the doctoral researcher is performing her/his PhD work.
- **PhD advisory committee (PAC):** Committee of at least three senior scientists (including the direct supervisor, another IMPRS-faculty member from the partnering institution, and ideally a scientist related to the foreign research visit) who guide the doctoral researcher in all aspects of her/his PhD work.

## PhD thesis and supervision

A PAC is composed of the direct supervisor, another IMPRS-gBGC faculty member (from FSU Jena if the direct advisor is from MPI-BGC and vice versa) and at least one other senior scientist. The third scientist could be related to the three month foreign research visit. The members of the PAC are jointly elected by the doctoral researcher and her/his direct supervisor. This committee should be formed within the first 3 months and meets regularly. The purpose is to monitor the work progress and to advise the doctoral researcher regarding the development of the project. In addition, career planning and networking are discussed with the PAC.

Within 5 months of admission, the doctoral researcher should have completed a written thesis proposal. This PhD proposal should clearly develop the research questions out of a detailed overview of the recent research in this specific area. Furthermore, a method section on how to answer the research questions, possible results and their implications for recent research in this area, and a timeline with defined milestones are mandatory. A preliminary program for the additional curriculum, tailored to fit this research program, should also be presented in the proposal. This proposal will be sent to all PAC members, and a PAC meeting will be held. At this meeting, all committee members will have read the proposal in detail and will discuss the proposed thesis work in great detail, the main aim being to provide critical and constructive feedback to the doctoral researcher before the main practical work is done.

The second PAC meeting has to be organized by the doctoral researcher after 12 months of PhD work. The doctoral researcher will present her/his research progress. Thereafter, PAC meetings should be called by the doctoral researcher every 6 to 12 months. Before each meeting the doctoral researcher will send a brief progress report to each committee member, and give a short presentation at the meeting itself. The research and additional curriculum schedule for the next period should also be planned/adjusted during these meetings. The doctoral researcher and the PAC members are obliged to document their meetings briefly to the program coordinator using standard forms.

PAC members are asked to actively collaborate with the doctoral researcher, e.g., to read and comment on drafts of manuscripts.

*All PAC meetings are organized by the doctoral researcher.*

## Scientific results and publication

By law, all scientific results (e.g., original lab-books) have to be stored for ten years in the labs and are lab-property. Only copies for private documentation may leave the labs. All results should be published following the Max Planck Society's Rules of Good Scientific Practice. Preferably, all manuscripts should be submitted (ideally also accepted) before the deadline for finishing the PhD and leaving the host lab. If results are not fully published by this time and the doctoral researcher does not have the time to finish the publication work in her/his new affiliation, the direct supervisor may ask someone else to finish the work. This third person might gain the right of first authorship depending on how much work still needs to be done. All documents that shall leave the lab such as grant proposals, manuscripts (and also revisions of manuscripts), and abstracts for conferences have to be approved by the direct supervisor prior to leaving the lab.

## Additional curriculum

Besides their own scientific research culminating in the PhD thesis, the doctoral researchers are obliged to complete an additional training program.

### The additional curriculum contains:

- An **overview course** on global biogeochemical cycles and related earth system sciences.
- **Core courses** that introduce the doctoral researchers to scientific fields relevant to global biogeochemical cycles in which they have no deep knowledge yet. The purpose of those courses is to facilitate interdisciplinary communication and collaboration.
- Specific **skill and elective courses** on techniques that are relevant for research in global biogeochemical cycles.

Table 1: Overview of minimum points per curricular activity

Curricular element	credit points (CP)	Minimum CP
<b>Courses related to global biogeochemical cycles</b>		
Biogeochemical Cycles in the Earth System - an Overview*	1	1
Core courses • e.g.: ‣ Atmosphere & Ocean ‣ Terrestrial Biosphere ‣ Soils, soil biology & soil hydrology ‣ Paleoclimate	1 per 5-day course	2
Skill and elective courses • e.g.: ‣ Applied statistics & data analysis ‣ Analytical techniques ‣ Earth observation techniques ‣ Modelling and numerical techniques	1 per 5-day course	3
<b>Transferable skills</b>		
• e.g. ‣ Good Scientific Practice* ‣ Scientific Writing ‣ Presentation Skills ‣ Data visualization	0.2 per day	1
<b>Outreach activities</b>		
Presentations at international conferences	1 CP/ talk; ½ CP/ poster	1
first author publications in international peer-reviewed journal	1 CP/ submitted 2 CP/ accepted	1
Non-first-author publication in international peer-reviewed journal	1 CP/ publication	0
Public outreach (e.g. radio contribution, newspaper article, public talk, Long Night of Science, blog...)	1 CP/ outreach	1
<b>Other scientific activities</b>		
Research visit at foreign research group	1 CP/ month	3
Active participation in PhDnet, organization of scientific events, active participation in scientific societies, teaching, ...	depending on effort	0
Award/prize at an international conference/of a scientific organization	1 CP/ award	0
Peer-reviewing of scientific work	1 CP/ review process	0
∑ CPs from curricular elements specified above		13
<b>Total number of CPs necessary to obtain IMPRS-gBGC certificate</b>		<b>20</b>

\* mandatory course for doctoral researchers

(1) offered by IMPRS-gBGC

(2) The doctoral researcher is free to choose together with PAC how to collect the credit points

- Training in collaborative research through short-term *research visits at foreign top research groups*. These exchange visits give the opportunity to specialize and further qualify in a field of interest. This will give unique contacts to top experts in the field and

increase visibility of the research projects. The foreign research visit can be done in one or several parts and must last 3 month in total. Summer schools and conference participations do not count as research visits.

- **Transferable skills.** Workshops on any personal skills which will improve the doctoral researcher's employment opportunities and future career performance in academia and elsewhere.
- **Outreach.** Presentations of results at international conferences, publications in international journals, and explanation of one's own scientific work to the general public (either in Germany or in the researcher's home country). Participation in the IMPRS for Global Biogeochemical Cycles should be acknowledged in all outreach activities.
- **Other scientific activities.** All other activities that are relevant for a scientific career (e.g. organization of scientific events) can also be credited.

Besides these highly-individual aspects of their curriculum, all doctoral researchers are obliged to participate actively in all **scientific events of their advisor's department** (journal club, lab seminars, ...) and to fulfill possible further requirements specific to the department. Furthermore, active participation at **IMPRS events** (symposia and retreats) is mandatory. Although these additional curricular events are rated as very important for the doctoral researcher's scientific training, the doctoral researcher's own scientific work will have priority where time constraints are an issue (e.g. field work). Non-attendance has to be agreed on by the supervisor prior to the IMPRS event.

These activities are meant to improve the doctoral researcher's personal skills, foster research collaborations and the exchange of experiences among doctoral researchers, and broaden their horizon within the field of global biogeochemical cycles.

In the course of the three-year doctoral program, a minimum of 20 credit points (CP) has to be achieved (Table 1).

Courses and workshops will be offered by the IMPRS-gBGC. Nevertheless, doctoral researchers are encouraged to participate in activities offered by other scientific institutes and universities after prior consent of the PAC and the program coordinator.

The CP system is closely related to the European Credit Transfer System (ECTS) and courses attended elsewhere are therefore easily

creditable (1 ECTS = 25-30 hours of work  $\approx$  5-day block course).

The IMPRS-gBGC course leaders (specified on the school's web site) define the criteria for successful completion of their course. Each doctoral researcher's PAC and the IMPRS coordinator jointly determine the amount of CPs for other curricular activities of the doctoral researcher according to Table 1 and the ECTS. It is the doctoral researcher's responsibility to verify and document their achieved CP and to report them to the program coordinator.

The participation in the IMPRS-gBGC and the detailed additional curriculum will be certified individually by the IMPRS.

## Non-compliance

Non-compliance with the IMPRS-gBGC regulations might result in the cancellation of the funding and the exclusion of the doctoral researcher for the IMPRS-gBGC. E.g. the cancellation of the funding shall become effective if the doctoral researcher did not organize the first PAC meeting within the first 12 months of his or her funding. Then the steering committee can decide to exclude a doctoral researcher from the IMPRS-gBGC.

## Funding

Doctoral candidates will receive either a grant (I) or a contract (II) which covers the first 36 months. The direct supervisor is responsible for providing funding for any time not covered by the initial funding period. The kind of funding depends on the funding sources.

### (I) grant

#### ... by the FSU Jena

Doctoral candidates who are funded by a stipend paid by the FSU Jena receive the amount specified in their stipend letter (currently 1365 €/month plus a monthly lump sum of 103 € in the first year). The scholarship certificate will be issued initially for 12 months. Following a positive evaluation by the PAC at the end of the first year it will be extended for an additional two years.

#### ... by the DAAD

Doctoral candidates who have been awarded the scholarship by the DAAD receive the stipend which is specified in their stipend letter (currently 1000 €/month including health insurance). In

addition, 450 €/month may be paid by the MPI-BGC.

## (II) contract

### ... by the IMPRS

Doctoral candidates who have been selected for a contract funded by the IMPRS receive a special kind of support contract *sui generis* (*Fördervertrag*) with a basic duration of three years.

*Associated members are funded by other means.*

### Equipment & travel funds

The direct supervisor is responsible for providing office space and the equipment necessary to conduct the thesis work.

During their three years of funding, doctoral researchers are entitled to 1,500 €/year of IMPRS support for participation in conferences and/or workshops (transport, accommodation, fees) or consumables and analysis related to the PhD project. These expenditures are subject to prior approval by the direct supervisor and the program coordinator.

*Associated members receive travel funds from their main advisor.*

### Research visit

There is extra funding available to help with expenses related to the 3-month foreign

research visit (transport, accommodation). Travel arrangements are subject to prior approval by the direct supervisor and the program coordinator.

*Funding for associated members will be provided by the main advisor.*

### Additional Remarks

Doctoral researchers as well as advisors are encouraged to discuss emerging problems early on. In case the direct communication between them does not lead to a solution a multitude of contact persons are available to discuss problems and to give advice:

- other PAC members
- program coordinator
- PhD representatives of the IMPRS-gBGC
- ombudspersons at MPI-BGC & FSU Jena
- Graduate Academy of the FSU Jena

In case of conflict the primary goal is to maintain a good working basis for a successful completion of the PhD project. In serious cases it should be explored whether a change of the first advisor would be helpful and possible.

The MPI-BGC and FSU Jena are committed to assist doctoral researchers in reconciling scientific work with family life issues. Additional information on programs for doctoral researchers with families can be obtained from the coordination office.

FirstName LastName has been admitted to the IMPRS-gBGC by the PhD program's steering committee.

.....  
name of coordinator

date

signature



## Acknowledgment and consent of doctoral researcher

I, the undersigned, hereby:

- i. Confirm that I have received a copy of the IMPRS for Global Biogeochemical Cycles Agreement;
- ii. acknowledge and understand the requirements for my PhD studies as set out in the IMPRS for Global Biogeochemical Cycles Agreement and the applicable rules, regulations and policies of the IMPRS-gBGC; and
- iii. consent to the processing of my personal information for all purposes by the IMPRS-gBGC in conjunction with my PhD studies and this PhD agreement.

I understand that if I have any questions about the agreement or my record, I may contact the IMPRS-gBGC office.

Name of the doctoral researcher:      FirstName LastName

Date:

Signature

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.....  
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Max Planck Institute  
for Biogeochemistry



Friedrich-Schiller-Universität Jena

## Acknowledgment and Consent of PhD advisory committee member of FirstName LastName

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- iii. consent to be a member of the PhD advisory committee (PAC) of FirstName LastName.

I understand that if I have any questions about the agreement, I may contact the IMPRS-gBGC office.

Name of PAC member:

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Institution of PAC member:

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Role of PAC member:

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Date:

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Signature:

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Comments:

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Date:

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Signature:

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Comments:

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