

# Universität zu Köln



Bonn-Cologne Graduate School  
of Physics and Astronomy



MATTER AND LIGHT FOR  
QUANTUM COMPUTING



## Welcome new PhD students

# Overview

- Introduction
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  - A little bit of history
- What does it mean to be member of a GS?
  - Duties & benefits
  - Thesis Advisory Committee
- Formal issues
  - Becoming a PhD student at the UoC
- Training offers
  - Offers by your GS
  - Albertus Magnus Center

# Introduction – Who are we and why are we here?

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(PhD in Physics, Coordinator BCGS since 2008)

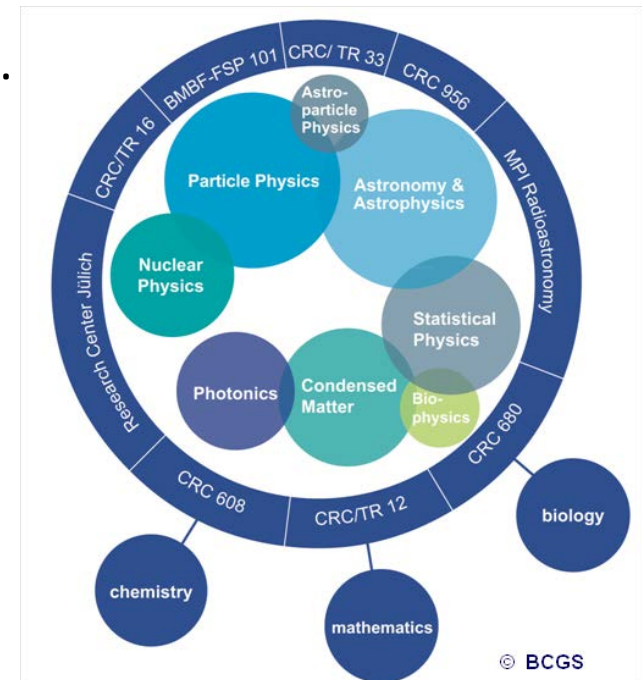
PhD students in Maths and Natural Sciences at the UoC are supposed to do their PhDs in a structured program (GS).

- Information on relevant rules
- Opportunity to ask questions

# Introduction – a little bit of history

## Bonn-Cologne Graduate School of Physics and Astronomy (BCGS)

- Joint GradSchool in Physics in Cologne & Bonn.
- Founded in 2007, all graduate students in Physics/Astronomy in Cologne and Bonn are members of the BCGS by now.
- 5-year program, MSc + PhD (2 + 3 yrs)  
Cologne: ~120 MSc + ~150 PhD (steady state)
- All fields of Physics/Astronomy represented  
Cologne & Bonn (+ FZJ, + MPIfR).
- PhD students may additionally join another graduate program (e.g. HITEC, IMPRS, ML4Q Research School, SFB 956 Doctoral Program, etc.)



# Introduction – a little bit of history

## ML4Q - Matter and Light for Quantum Computing

- Cluster of Excellence funded in 2019 within the Excellence Strategy by the German Research Foundation (DFG), cooperation by the universities of Cologne, Aachen, and Bonn, as well as the FZJ.
- ML4Q Research School: provides support in training and scientific development to young researchers from undergraduate to postdoctoral level.

## Further graduate programs:

- IMPRS – in cooperation with MPI for Radio Astronomy.
- JuDocs, HITEC, BioSoft – programs at Research Center Jülich (FZJ).

# What does it mean to be member of a GS?

## Duties & Benefits

### Duties

- Thesis Advisory Committee (TAC)
  - Assemble TAC (best within the first 6 months of thesis) – use respective form (mentoring agreement)
  - At least one TAC meeting during your PhD – latest after 18 months after beginning of PhD (in BCGS). More meetings if needed/wanted.
  - Fill respective form (TAC meeting), to be submitted to GS/uploaded in Docfile.
- Active participation in ‘Doctoral Symposium’
  - Once during PhD (usually within first 18 months)
  - Usually poster session
- Participation in course Scientific Integrity

# What does it mean to be member of a GS?

## Duties & Benefits

### Benefits

- Structured PhD program vs. individual PhD
  - Thesis Advisory Committee, not only one supervisor
  - Teaching offers (e.g. Intensive Weeks)
- Financial support (provided that funding is available)
  - Funds for travel reimbursement
  - Hardship cases
- Special training offers
  - Specifically for BCGS e.g. “Scientific Integrity“
  - Also from AMC (Cologne) & Graduate Center (Bonn)

PhD students can be members of more than one program.

# What does it mean to be member of a GS? Thesis Advisory Committee

## What is it?

- Consists of direct PhD supervisor and two additional mentors of relevant expertise.
- Accompanies you throughout the PhD project, via regular TAC meetings and whenever additional support is needed (e.g. if original project plan needs modification).
- Can serve as a mentoring platform in scientific development and career planning.



# What does it mean to be member of a GS? Thesis Advisory Committee

## Why is it good for you?

- Good for your project(s): get external feedback, discuss potential problems or new directions with someone not directly involved.
- Mentor from outside can be helpful if there are issues between you and your supervisor, that are not that easily solved in the dependence position.

### **THESE DO NOT HAVE TO BE 'BAD' ISSUES**

E.g.: Things are working well, you have enough to write up, but your boss doesn't want you to stop, because there are still so many interesting side projects to follow – an opinion from external prof might help in keeping your PhD in planned time frame.

# What does it mean to be member of a GS? Thesis Advisory Committee

## Selection of the TAC

- You should arrange your TAC together with your supervisor, but make sure you feel comfortable with people you chose as you mentors!
- Your TAC members should have an expertise that is useful for your topic.
- If it has an added value for the project it is advisable to have one TAC member from partner institution/university (for ML4Q students, it would be optimal to have two external members).

# Formal issues – getting started

Two administrative steps needed for getting started as a PhD student.

## Step 1:

Getting admitted by the Faculty of Mathematics and Natural Sciences as a doctoral student -> **Registration**

## Step 2:

Getting enrolled at the UoC as PhD student -> **Enrollment**

See:

<https://mathnat.uni-koeln.de/en/doctoral-candidates/how-to-apply>

# Formal issues – how to register as PhD student?

You have to register as PhD student and be admitted by the Faculty of Mathematics and Natural Sciences (Doctoral Office).

- You need to register in **Docfile**, fill in the application form and provide documents listed at:

<https://mathnat.uni-koeln.de/en/doctoral-candidates/how-to-apply>

- All documents (including **signed** application form!) should be uploaded to Docfile as scanned pdf.
- Once it's done – inform the doctoral office via email, that you are applying for admission – mention department name in the subject!

Don't forget signature(s) of GS coordinator(s)

Everything correct?

=> Doctoral Office issues **Confirmation of Admission**

# Formal issues – how to enroll as PhD student?

According to PhD regulations, enrollment as PhD student is mandatory throughout your PhD studies!

- Enrollment requires admission by the faculty.
- To enroll, register in KLIPS2.0 and upload the required documents (including admission letter).
- Enrollment can be done online.
- Might get enrolled in preparatory PhD studies first (possible for 12 months at most), if admission comes with conditions
- Once enrolled, you have to pay the semester fee each term – amount and payment details are announced in your KLIPS2.0 account.

# Formal issues – administrative process

## Player involved

- Doctoral Office of the MNF (Promotionsbüro) → responsible for registration and admission for doctoral students, also administration of doctoral examinations (thesis/defense)
- International Office → enrollment (international students)
- Student Application and Registration Office (Studierendensekretariat) → enrollment (German students)
- Gradschool → lots of help and support for PhD students, quality-ensurance & mentoring etc. but in administrative process **only in charge for two signatures:**
  - a) when you apply for admission as a PhD student (registration)
  - b) when you apply for admission to the doctoral examinations

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**Signature a) is also registration as GradSchool member!**

# Formal issues – what else to take care of?

- Check your status in Docfile once a year, submit changes to *mnf-docfile@uni-koeln.de*
- Useful links for accommodation:  
<https://www.kstw.de/en/student-housing>  
&  
<https://portal.uni-koeln.de/en/international/study-in-cologne/accommodation-for-international-students>
- Insurances (Health, Liability)
  - Health insurance is mandatory for enrollment.
  - Liability insurance („Haftpflicht“) is highly recommended.



# Formal issues – what else to take care of?

- Important differences in type of residence permit:  
according to § 16 (as a student) vs. § 18 (as employee)  
=> contact International Office to figure out what is best for you
- Contract issues (incl. taking holidays, sick leave): ask personnel department or person in charge in your institute

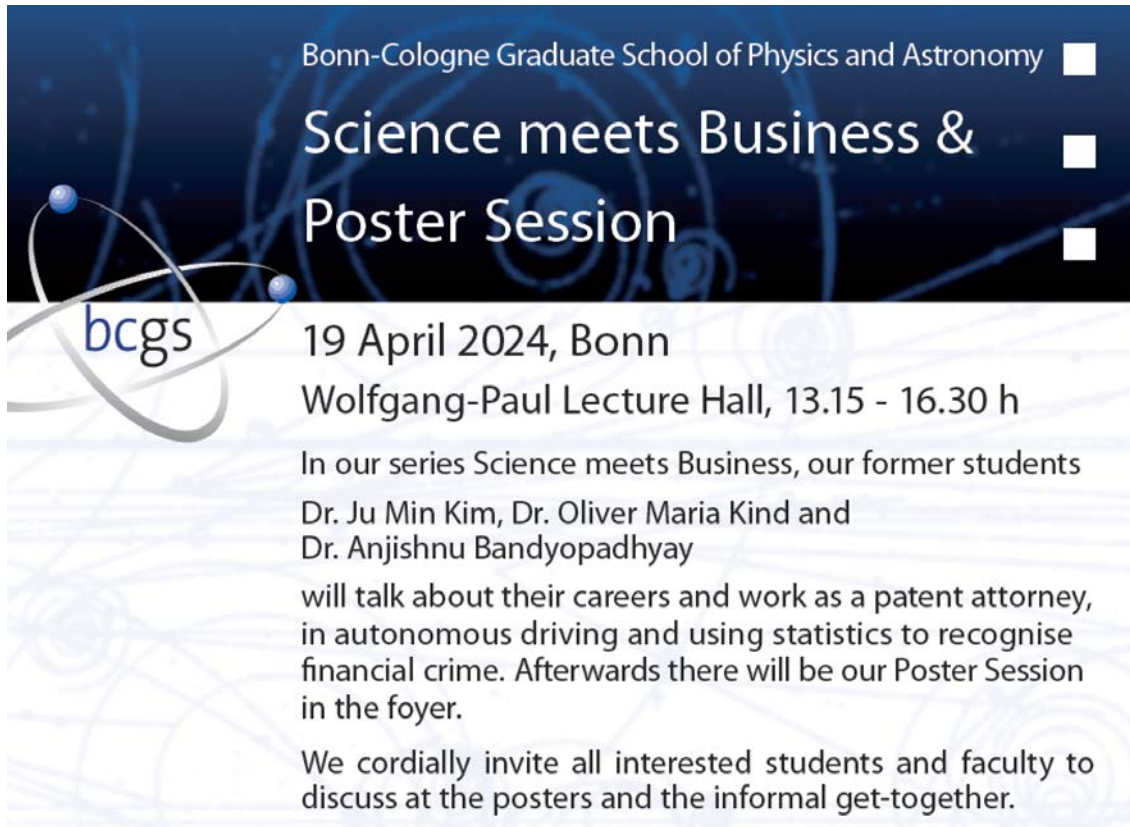
Note: in case you need to call in sick there is a special website to do so  
[https://vits.uni-koeln.de/staff/sick\\_and\\_healthy\\_notification/meldung/index\\_eng.html](https://vits.uni-koeln.de/staff/sick_and_healthy_notification/meldung/index_eng.html)

# Training offers – Offers by your GS

- Will be announced on respective website(s) or via email.
- Training offered by BCGS and its ‘subprograms’
  - Scientific Integrity (approx. three times per year, next: May 24, 2024)
  - Career coaching for female scientists
  - Networking and Career Day
  - ...
- Additionally: scientific training
  - All courses in Physics/Astronomy are open for PhD students.
  - Specific offers by guest lecturers etc.
- Registered PhD students can also use the offers of the Albertus Magnus Center (UoC) and the Bonn Graduate Center (UoB) (see <https://portal.uni-koeln.de/en/albertus-magnus-center/doctoral-candidates/workshops-for-doctoral-candidates>)

# Next event

## Science meets Business & Poster Session



Bonn-Cologne Graduate School of Physics and Astronomy

### Science meets Business & Poster Session

bcgs

19 April 2024, Bonn  
Wolfgang-Paul Lecture Hall, 13.15 - 16.30 h

In our series Science meets Business, our former students Dr. Ju Min Kim, Dr. Oliver Maria Kind and Dr. Anjishnu Bandyopadhyay will talk about their careers and work as a patent attorney, in autonomous driving and using statistics to recognise financial crime. Afterwards there will be our Poster Session in the foyer.

We cordially invite all interested students and faculty to discuss at the posters and the informal get-together.

Foto: Frank Lammig, Universität Bonn | www.physik.uni-bonn.de

# Questions?

*Scientific integrity*

Registration TAC

BCGS

KLIPS2.0

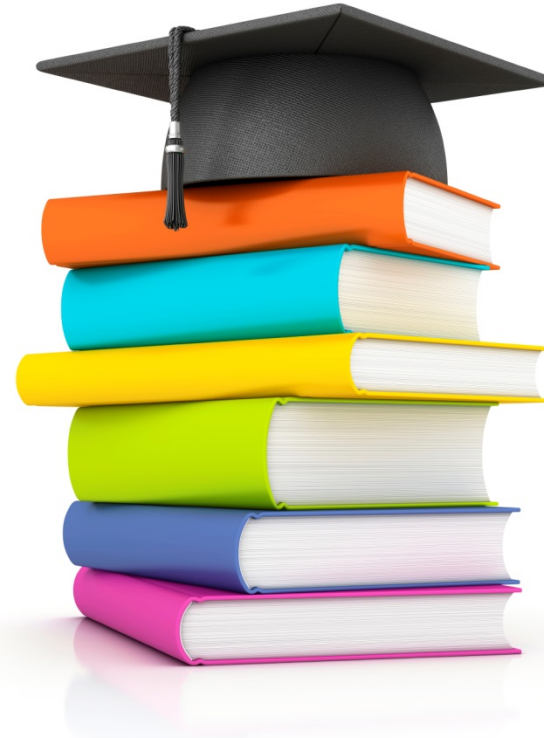
Enrollment

Docfile

ML4Q

AMC

Mentoring  
agreement



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