TECHNISCHE UNIVERSITÄT DRESDEN

complex nano materials

Faculty of Mechanical Science and Engineering / Institute of Materials Science / Chair of Materials Science and Nanotechnology

Ph.D Booklet

PhD candidate: SURYANSH

Host Institution:

Starting date at the Chair: 02/10/2023

Supervisor: Prof. Dr. Gianaurelio Cuniberti

Co-Supervisor: PD Dr. Rafael Gutierrez

Dr. Thiago Frent

Ph.D. procedure at the Chair of Materials Science and Nanotechnology

During the Ph.D. studies at the Chair of Materials Science and Nanotechnology, the student shall be supported and guided by the **Thesis Advisory Committee (TAC)**. The purpose of the Thesis Advisory Committee is to improve the quality of research and to advice the Ph.D. student throughout her/his scientific career. All interactions between the TAC and the Ph.D. student are strictly confidential. The TAC schedule is binding for you at the Chair of Materials Science and Nanotechnology. TAC consists of the Supervisor, co-Supervisor and further member(s)

Scheduling and documentation of TAC meetings

- Please arrange the appointment for each meeting in advance with the office of Prof. Cuniberti
- The student has to bring the TAC report booklet to the occurring TAC meeting.
- Your pptx for the oral scientific presentation (15min) should be submitted to the TAC members for review 3-4 working days before the meeting.
- During each TAC meeting the committee documents decisions and issues in the TAC report booklet. Later, a copy of the TAC report has to be submitted to the office of Prof. Cuniberti.

Ph.D. Schedule

1st month at the Chair	**Application for acceptance as Ph.D. student** at the Faculty of Mechanical Science and Engineering (via Promovendus), read the Ph.D. regulations (Promotionsordnung) carefully! **Kick-off Meeting**: Presentation of the PhD project (15min)|Discuss the Ph.D. task, scope, impact, feasibility and associated risk of the project, TAC members should be nominated, the Supervision agreement and the confirmation of academic supervision should be signed
6 months at the Chair	**1st TAC Meeting**: presentation and follow-up on the progress of the project (15min)|Discussion of the research results obtained so far
1,5 years at the Chair	**2nd TAC Meeting:** formal oral scientific presentation about your research results over the past year (15min)|discussion of the progress/results and the structure of the Ph.D. thesis|Decision Rigorosum (anticipated or together with the defence
Last year before submission	**Replaced Rigorosum**
2,5 years at the Chair	**3rd TAC Meeting**: oral scientific presentation about your research results over the past year (15min)|discussion of the progress/results, definition of necessary research steps for completion of Ph.D.|10 Statements discussion|Decision about the Ph.D. committee and the reviewers
2 months before submission	**Status talk:** formal oral scientific presentation in front of Prof. Cuniberti and the Chair (30min talk + discussion) within the nano.seminar|last approval to submit the Thesis **Application for the opening of the Ph.D. procedure** (via Promovendus)
ca 4 months after submission	**Defense of your Thesis & (Rigorosum)**

Aria Dr. rer. nat. → enroll in the PhD stud. list of Fak. Physik

TAC Kick off meeting

1st month at the Chair | Presentation of the PhD project (15min) | Discuss the Ph.D. task, scope, impact, feasibility and associated risk of the project and set up the Ph.D. task definition | TAC members should be nominated | Supervision agreement & confirmation of academic supervision should be signed.

Date: 30/11/2023

Your Thesis Advisory Committee (TAC):

Ph.D. thesis supervisor: Prof. Dr. Gianaurelio Cuniberti

Day-to-Day supervisor: Dr. Rafael Gutiérrez, Dr. Arezoo Dianat

Further (extern) Member(s): _____

Ph.D. Topic / Working title:

Computational Modeling of the Chirality Induced Spin Selectivity (CISS) Effect.

Research objective | Ph.D. task definition:

See slides

Estimated Ph.D. schedule:

1st TAC (6 months at the Chair): 05. 2024

2nd TAC (1,5 years at the Chair): 05. 2025

3rd TAC (2,5 years at the Chair): 05. 2026

~~Status Talk (2 months before submission):~~ ~~10. 2026~~ (Physics → no status talk!)

Submission of the Thesis: 01. 2027

Filled and signed the supervision agreement (GA Template) ☐

Filled and signed the confirmation of academic supervision ☐

Checked in at the Chair ☐

Are there other open organizational issues? Do you face any practical problems (housing, mobility, food, working environment)?

Signature Ph.D. candidate: Sueyaash

Signature Ph.D. thesis supervisor/Doktorvater: _____

Signature Day-to-Day supervisor. _____

Signature further member: Gutierrez. Dianat

After signature, please hand in this report to the office of Prof. Cuniberti
Presentation slides sent to office.nano@tu-dresden.de and gianaurelio.cuniberti@tu-dresden.de ? Yes ○ No ◉

1st Thesis Advisory Committee Meeting

6 months at the Chair | Presentation and follow-up on the progress of the project (15 min) | Discussion of the research results obtained so far

Date:

1. Based on the candidate's presentation please evaluate the following areas:

Student's presentation:

15 min on time?	Yes ○	No ◉	Comments:
Slides clear?	Yes ◉	No ○	
Presentation clear?	Yes ◉	No ○	

Ph.D. project - Research and Progress

e. g. frequency and quality of interaction, relevance of the problem, experimental approach; results and accomplishments from the previous year; new scientific discoveries; goals for the next year/meeting; knowledge of the literature; oral presentation

Highlights

Improvements

Working Style

e. g. to work in a systematic and structured way; to be able to set priorities; to develop and apply creative and innovative solutions; to communicate openly, actively and clearly

Highlights

Improvements

Scientific Visibility and Qualifications

e. g. publications; conferences; internal nanoSeminar during the semester break

Highlights

Improvements

2. Recommendations for the PhD candidate

3. Open organizational issues

Accepted as a PHD candidate? Yes ◉ No ○

If no, what has to be done?

Examination for students without Engineering degree

Every student without an Engineering degree needs to absolve two additional courses within the Faculty of Mechanical Science and Engineering to proof the engineering knowledge (see Promotionsordnung §9, between 10 and 20 credit points in total).

Additional course I: _____

Additional course II: _____

Other issues / Problems?

Signature Ph.D. candidate: _____

Signature Ph.D. thesis supervisor/Doktorvater: _____

Signature Day-to-Day supervisor. _____

Signature further member: _____

After signature, please hand in this report to the office of Prof. Cuniberti
Presentation slides sent to office.nano@tu-dresden.de and gianaurelio.cuniberti@tu-dresden.de ? Yes ○ No ◉

2nd Thesis Advisory Committee Meeting

1,5 years at the Chair | oral scientific presentation about your research results over the past year (15min) | Discussion of the progress/results and the structure of the Ph.D. thesis | Decision Rigorosum

Date:

1. Based on the candidate's presentation please evaluate the following areas:

Student's presentation:

15 min on time?	Yes ◉ No ○	Comments:
Slides clear?	Yes ◉ No ○	
Presentation clear?	Yes ◉ No ○	

Ph.D Project - Research and Progress

e. g. frequency and quality of interaction, relevance of the problem, experimental approach; results and accomplishments from the previous year; new scientific discoveries; goals for the next year/meeting; knowledge of the literature; oral presentation

Highlights

Improvements

Working Style

e. g. to work in a systematic and structured way; to be able to set priorities; to develop and apply creative and innovative solutions; to communicate openly, actively and clearly

Highlights

Improvements

Scientific Visibility and Qualifications

e. g. publications; conferences; internal nanoSeminar during the semester break

Highlights

Improvements

2. Recommendations for the PhD candidate

3. Open organizational issues

Rigorosum / replaced Rigorosum

The Rigorosum is an oral examination of knowledge in the specialist field upon which the dissertation is based (primary subject) and in a related field (secondary subject) (§ 13 Doctorate Regulations). The Rigorosum will take place at the day of your defense or as anticipated Rigorosum (vorgezogenes Rigorosum, but please keep in mind, that examinations taken more than one year before the opening of the Ph.D. procedure can't be considered.)

Rigorosum together with defense ○ **anticiated Rigorosum** ◉

Nanostructured Materials is mandatory as the primary subject at our chair and you have to choose the secondary subject for the Rigorosum. For all rules concerning the Rigorosum examination, please study the doctoral regulations (§ 13 and §14)!
After your decision, you need the formal confirmation of the Ph.D. committee of the Faculty of Mechanical Science and Engineering. You apply for this via Promovendus.

Major course: Nanostructured Materials, Prof. Cuniberti oral ○ written ◉

Minor course: 40 oral ○ written ◉

Other issues / Problems?

Signature Ph.D. candidate: _____

Signature Ph.D. thesis supervisor/Doktorvater: _____

Signature Day-to-Day supervisor. _____

Signature further member: _____

After signature, please hand in this report to the office of Prof. Cuniberti
Presentation slides sent per to office.nano@tu-dresden.de and gianaurelio.cuniberti@tu-dresden.de ? Yes ○ No ◉

3rd Thesis Advisory Committee Meeting

2,5 years at the Chair | oral scientific presentation about your research results over the past year (15min) | discussion of the progress/results, definition of necessary research steps for completion of Ph.D. | 10 Statements discussion | decision about the Ph.D. committee and the reviewers)

Date:

1. Based on the candidate's presentation please evaluate the following areas:

Student's presentation:

15 min on time?	Yes ◉ No ○	Comments:
Slides clear?	Yes ◉ No ○	
Presentation clear?	Yes ◉ No ○	

Ph.D Project - Research and Progress

e. g. frequency and quality of interaction, relevance of the problem, experimental approach; results and accomplishments from the previous year; new scientific discoveries; goals for the next year/meeting; knowledge of the literature; oral presentation

Highlights

Improvements

Working Style

e. g. to work in a systematic and structured way; to be able to set priorities; to develop and apply creative and innovative solutions; to communicate openly, actively and clearly

Highlights

Improvements

Scientific Visibility and Qualifications

e. g. publications; conferences; internal nanoSeminar during the semester break

Highlights

Improvements

2. Recommendations for the PhD candidate

3. **Other issues / Problems / What happens after the defense?**

4. **Definition of necessary steps for completion of Ph.D. thesis**

- Date of the "Statusvortrag" (45min, supervisor must be present)
  only valid for students enrolled with the new Promotionsordnung 03/2018
- Thesis approved for final submission: Yes ◯ No (What have to be done) ◉
- 10 statements approved for final submission: Yes ◯ No (What have to be done) ◉
- Thesis should be submitted latest on:
- Estimated date of the defense:
  (earliest possible date: 3 months after submission)

5. **Suggestions for the Doctoral Committee**

Please obtain the commitment of the reviewers and committee members before you submit their names to Promovendus.

1) **Chairman doctoral committee:**
2) **1st reviewer**
3) **2nd reviewer**
4) **Further member doctoral committee:**
   (= 3rd reviewer if the doctoral candidate published joint publications with the 2nd reviewer in the last three years before the opening of the doctoral procedure.)
5) **Further member doctoral committee:**
   (e.g. Rigorosum examiner)
   Minute Taker,
   (PhD candidate is responsible for finding a minute taker)

Signature Ph.D. candidate: _____

Signature Ph.D. thesis supervisor/Doktorvater: _____

Signature Day-to-Day supervisor. _____

Signature further member: _____

After signature, please hand in this report to the office of Prof. Cuniberti
Presentation slides sent to office.nano@tu-dresden.de and gianaurelio.cuniberti@tu-dresden.de ? Yes ◯ No ◉
10 Statements attached? Yes ◉ No ◯