Catalysis Graduate School (CatGS) - a structured doctoral programme at LIKAT

After the last evaluation of the LIKAT in 2023, the evaluation report of the evaluation commission pointed out, among other things, the lack of a structured doctoral programme as a central reference.

The institute should [...] develop its own structured doctoral programme tailored to the requirements of the LIKAT.

The present programme takes into account the special features of LIKAT as an affiliated institute of the University of Rostock.

Aim of the programme

Participation in the LIKAT's structured doctoral programme serves to deepen and expand the knowledge and skills of doctoral students with the aim of providing qualified scientific training and a diverse personal development of young scientists in the sense of optimal preparation for the requirements of individual career paths.

Advantages

A structured doctoral programme at LIKAT offers the following advantages:

- Further academic training beyond the topic of the doctoral thesis.
- Learning and deepening soft skills and key competences as part of the doctorate.
- Utilisation of existing further education programmes offered by the Graduate Academy of the University of Rostock.
- Interdisciplinary networking with other doctoral candidates.
- Simple documentation of achievements and issue of a transcript of records in English
- Joint supervision by first supervisor (doctoral supervisor) and second supervisor (additional mentoring)

Details of the programme

Structure of the programme

Activities in the programme are assessed with credit points. The programme has started on 1 April 2024 and doctoral candidates who have already started their doctoral project by this date can also participate in the programme. Doctoral candidates who have already completed more than 18 months of their doctorate are not recommended to join the programme. Details are to be discussed with the scientific advisor of the programme. Interested doctoral candidates who start their doctorate after 1 April 2024 should thus join the programme immediately after joining LIKAT.

The credit points are taken into account on a pro rata basis. The curriculum of the LIKAT doctoral programme is designed for three years and is structured as follows:

Module	**Credit Points (CPs)**
Subject-related events - *Lecture in internal research seminars and LIKAT seminars (2 CP per year)* - *Attendance of research lectures (GDCh and LIKAT, 2 CP per year)*	 min. 6 CP min. 6 CP
Workshops - *At least one active participation in workshops of the Ostseelehrverbund Katalyse (4 CP)*	min. 4 CP
Catalysis-related lecture courses[1] - *One course with 2 SWS per year (2 CP per 2 SWS)* - *LIKAT PhD/Postdoc lecture series (2 CP per year)*	 min. 6 CP min. 6 CP
Core competences, soft skills (1 CP per course) - *Courses of the Graduate Academy* - *Language courses* - *At least one mandatory course on Good Scientific Practice (GSP)*	min. 4 CP
Outreach activities - *e.g., Long Night of Science, Girls Day, Science Camp, School Lab (each 1 CP)*	min. 2 CP
Optional further activities and events - *Committee activities* - *Involvement in teaching (e.g. tutorials, guidance of BSc and MSc students)* - *Participation in LIKAT alumni meetings* - *Research stays abroad (4 CP[2])* - *Active participation in conferences (presentation or poster)*	optional
Total	**min. 34 CP**

[1] A list of eligible courses of the Master's programme in Chemistry at the University of Rostock is attached.
[2] These 4 CP serve as a compensation as during a research stay abroad certain activities/events offered in Rostock cannot be attended.

The following achievements must be completed and documented in order to obtain credit points:

Module component	Credit points (CPs)	Remarks
Internal research seminars	1 CP per presentation; these presentations can be held in LIKAT or departmental seminars, or as part of project meetings (industry, RTG, EU, etc.; progress of work or literature)	To be organised in the research departments, documentation by the PhD student
Research lectures (GDCh, LIKAT, RTG, and other meetings/workshops)	1 CP per 4 attendences	Documentation by the PhD student
OLV Katalyse	4 CP per attendence	Documentation by registration
Catalysis-related lecture courses	2 CP per 2 SWS (75% course attendance)	Documentation by the PhD student and the tutor
PhD/Postdoc seminar series	2 CP per year (75% course attendence)	Documentation by the PhD student
Core competences	1 CP per course	Documentation by registration at GradA
Outreach	1 CP per participation	Documentation by the PhD student and by Public Relations
Further activities	No CPs	Documentation by the PhD student and research departments

All activities and events are documented accordingly and centrally certified by the LIKAT secretariat at the end of the doctoral programme. The contact person for the programme is Prof. Torsten Beweries. If the required credits are not achieved, the doctoral candidate is automatically awarded a regular doctorate and does not receive a LIKAT certificate.

Application and registration

In principle, any doctoral candidate at LIKAT can become a member of the structured doctoral programme. Registration for the structured doctoral programme at LIKAT takes place at the time of recruitment via a form which is deposited in the secretariat. This is followed by a form which the doctoral candidate uses to document activities and events. Prerequisites for participation in the programme are:

- Enrolment as a doctoral student at the University of Rostock
- Appointment of a first and second supervisor[3] for the doctorate
- Registration for the structured doctoral programme of the LIKAT (upon employment)

Contact persons

Documentation – Anne Tonn (sekretariat@catalysis.de, Tel. 189)

Scientific advisor – Prof. Torsten Beweries (torsten.beweries@catalysis.de, Tel. 104)

[3] The second supervisor can be a group leader from LIKAT (ideally not your direct subgroup leader), but also an external colleague, i.e., from Rostock, Germany, or abroad.

Appendix

Lecture courses at the University of Rostock

Students are encouraged to register their attendance in courses of interest in Stud.ip (access available using Uni Rostock login details). Lecture materials and information on dates will be shared through this platform.

Students who completed their Master in Rostock should not attend the same course again as part of CatGS.

For obtaining the credit points, LIKAT students must attend at least 75% of the classes of the respective course.

Module/course	Tutor	SWS[a]	Semester[b]
Catalysis 2: Advanced Heterogenous Catalysis	Kondratenko	4	WS
Catalysis 3: Advanced Homogenous Catalysis	Beweries, Baràth	4	WS
Catalysis 4: Industrial Homogenous and Heterogeneous Catalysis	Beller	4	SS
Catalysis 5: Spectroscopy and Computational Chemistry in Catalysis	Jiao, Baumann	4	SS
Current developments in organometallic chemistry	Beller	1	WS
Electrochemistry 1 - Fundamentals and Applications	Francke	2	WS
Electrochemistry 2 - Electrosynthesis and Electrocatalysis	Francke	4	SS
Chemical Energy Conversion	Moustakas	4	WS
Computational Methods in Inorganic Chemistry	Bresien	4	SS
Organic Chemistry 5: Organic Molecules - Synthesis and Application	Huy, Brasholz	4	SS
Current Topics and Methods in Nanoscience	Boldt	4	SS

[a] SWS = Semester hours per week. [b] WS = winter semester, SS = summer semester.