

## **XII Optical excitations in organic and inorganic semiconductors (OPTEXC)**

### **1. Organization**

(1) <sup>1</sup>Members of the doctoral programme are those members of Faculties I and II of the University of Bayreuth who have applied for the OPTEXC International Research Training Group. <sup>2</sup>Scientists working in the field of optical excitation in organic and inorganic semiconductors who hold a doctorate and are engaged in independent research activities may be admitted upon application. <sup>3</sup>The governing body of the doctoral programme shall decide on the admission; membership in BayNAT is associated with admission to the doctoral programme.

(2) <sup>1</sup>The governing body of the doctoral programme shall be elected together with the deputies in accordance with the regulations of BayNAT. <sup>2</sup>The governing body may delegate tasks to the chairperson.

(3) <sup>1</sup>The doctoral candidates in the doctoral programme shall elect a student representative to represent their interests to the governing body. <sup>2</sup>The governing body of the doctoral programme must be informed immediately of the election of a spokesperson.

### **2. Scope**

This appendix regulates the additional qualifications of a doctorate in the doctoral programme Optical Excitation in Organic and Inorganic Semiconductors with the degree of a Doctor of Natural Sciences (Dr. rer. nat.) beyond the central research work on the basis of the doctoral regulations of the BayNAT of the University of Bayreuth in the currently valid version. If a double degree is sought with another university, further regulations stated in the joint PhD agreements apply.

### **3. Objectives of the doctoral programme**

<sup>1</sup>The aim of the doctoral programme is to provide young scientists with additional qualifications beyond research work, enabling them to meet the special requirements that characterise the interdisciplinary field of optical excitation in organic and inorganic semiconductors. <sup>2</sup>The graduates of this doctoral programme are qualified in a special way for work in the field of photophysical questions and the investigation of organic and inorganic semiconductors. <sup>3</sup>They shall creatively contribute to the further development and communication of scientific concepts. <sup>4</sup>To this end, the doctoral programme offers a broad additional interdisciplinary qualification through research and the promotion of interdisciplinary competences.

#### **4. Admission to the doctoral programme**

(1) <sup>1</sup>Admission to or acceptance in the doctoral programme shall be in accordance with the regulations of the doctoral regulations of BayNAT. <sup>2</sup>If the subject matter is not sufficiently related to this doctoral programme, it may be made dependent on the provision of additional services in individual cases in accordance with the doctoral regulations of BayNAT.

(2) Admission according to the fast track procedure is possible in accordance with the doctoral regulations of BayNAT.

(3) In this case, the applicant has to undergo an aptitude test, which is regulated in Annex 1.

#### **5. Procedure of the doctoral programme**

(1) The doctoral programme may commence at any time and is generally designed to last seven semesters.

(2) <sup>1</sup>Each doctoral candidate shall be accompanied by a advisory committee (mentorate) in the course of his/her doctorate in accordance with the doctoral regulations of BayNAT. <sup>2</sup>At least two members of the mentoring committee shall be members of the doctoral programme OPTEXC according to No. 1 Para. 1.

(3) The scientific work on the research project shall form the core of the doctorate.

(4) <sup>1</sup>Accompanying the research work, each doctoral candidate shall acquire individual additional qualifications which are optimally geared to the abilities and needs of the doctoral candidate and the requirements of the scientific doctoral project. <sup>2</sup>This programme shall support the qualification of doctoral candidates for independent research and scientific communication and enable them to take on responsible activities in research, education, industry and society. <sup>3</sup>The selection of the most suitable combination of events for this purpose is made in consultation with the Mentorat. <sup>4</sup>Participants in the doctoral programme shall acquire at least 30 credit points from the courses listed in Annex 2. <sup>5</sup>In exceptional cases, which must be justified separately and individually, achievements that have been or will be made outside this doctoral programme may be recognised by the doctoral programme's steering committee after a proposal by the mentorat.

## 6. Form of the dissertation

<sup>1</sup>Dissertations may be written as monographs. <sup>2</sup>Doctoral candidates who have done an exceptional amount of independent work in the context of their doctorate and whose work has resulted in several publications in scientific journals with peer-reviewed quality assurance, to which the doctoral candidate has made the main scientific contributions and in the written version of which he or she has played the decisive role, may submit an application to the governing body to write a cumulative dissertation. <sup>3</sup>The application must include the following elements:

1. A precise indication of the publications which are to be combined in the cumulative dissertation.
2. The contribution of each author to each of these publications must be explained and declarations must be received from all co-authors that they agree to the presentation of the contributions in the form presented.
3. A statement by the doctoral candidate submitting the proposal stating which overarching scientific question was addressed in the doctoral thesis and the connection to this question and to each other of the publications that are to be summarised in the cumulative dissertation.
4. A statement by the supervisor that he or she is informed about the application.

<sup>4</sup>The application must be submitted before writing the dissertation begins, so that the doctoral candidate does not lose time if the application is rejected. <sup>5</sup>The governing body shall decide on the application promptly and by simple majority. <sup>6</sup>Deviations from this regulation may arise if a double degree with another university is being sought.

## 7 Transitional regulations

<sup>1</sup>Doctoral candidates who have already started their doctoral studies in another doctoral programme of BayNAT before the entry into force of this doctoral programme may apply to transfer to the OPTEXC programme, provided that they have not yet been admitted to the doctoral examination procedure. <sup>2</sup>As a rule, a double degree requires the simultaneous start of the doctoral project at both institutions. <sup>3</sup>The governing body of the doctoral programme Optical Excitations in Organic and Inorganic Semiconductors (OPTEXC) shall decide on the application, the crediting of the achievements made until the transfer and the conditions imposed for acceptance in the previous doctoral programme of BayNAT (analogous to Annex 2), taking into account No. 4 of this doctoral programme.

### **Annex 1: Qualification procedure for fast-track admission to the doctoral programme.**

1. An applicant can be admitted to the doctoral programme Optical Excitations in Organic and Inorganic Semiconductors (OPTEXC) after a two-semester Master's programme.

He or she may apply for this:

if, in accordance with § 8 Para. 1 of the doctoral regulations of BayNAT, a member of the doctoral programme who is entitled to examine has agreed in writing to supervise the doctorate.

if he or she has successfully studied at least one semester in a Master's degree programme related to the doctoral programme Optical Excitations in Organic and Inorganic Semiconductors (OPTEXC) at the time of application and has acquired at least 27 credit points in this Master's degree programme.

2. The applicant must undergo an aptitude test.

3. The application for admission to the qualifying procedure shall be submitted by the applicant and an authorised examiner according to § 2 sentence 1 of the doctoral regulations of BayNAT (usually the supervisor of the doctoral project) to the governing body of the doctoral programme Optical Excitations in Organic and Inorganic Semiconductors (OPTEXC).

The application must be accompanied by:

A cover letter explaining the motives (motivation) for the application for admission to the fast-track option of the doctoral programme Optical Excitations in Organic and Inorganic Semiconductors (OPTEXC).

Proof of completed university studies related to the doctoral programme Optical Excitations in Organic and Inorganic Semiconductors (OPTEXC).

Proof of at least 27 credit points previously acquired in a Master's degree programme related to the doctoral programme Optical Excitations in Organic and Inorganic Semiconductors (OPTEXC).

If available, proof of special qualifications (e.g. professional training, awards, internships, scholarships, stays abroad), if these are related in content to the doctoral programme Optical Excitations in Organic and Inorganic Semiconductors (OPTEXC).

4. On the basis of these documents, the Steering Committee decides on the suitability of an applicant for fast-track access to the doctoral programme Optical Excitations in Organic and Inorganic Semiconductors (OPTEXC). Applicants who belong to the 30 % best students of the respective current year in their Master's programme are generally suitable for fast track

access. Here, the percentiles from the Bachelor's degree grade and from the course-related performance in the first semester of the Master's programme are taken into account with equal weighting. An aptitude interview is held with the other applicants. It is conducted by a panel consisting of two members of the Steering Committee and the member of the doctoral programme Optical Excitations in Organic and Inorganic Semiconductors (OPTEXC) who will guide the candidate's doctoral studies. In this interview, which should last about 30 minutes, the candidate must confirm the impression that he or she is professionally suitable for fast-track access to the doctoral programme Optical Excitations in Organic and Inorganic Semiconductors (OPTEXC). Criteria for this are excellent subject knowledge in the basic natural science subjects as well as the ability to understand and present complex scientific relationships. The applicant will be admitted via fast-track access if the majority of the College deems him or her suitable.

5. A transcript shall be made of the proceedings of the aptitude interview, including the date, duration and place, as well as the names of the applicant and the examiners. The transcript must show the topics of the interview and the reasons for the assessment. The reasons and the topics may be listed in key words. The minutes shall be signed by the members of the college.

6. The governing body shall base its decision on the documents submitted by the applicant and, if applicable, on the outcome of the aptitude interview. The decision shall be "suitable" or "not suitable".

7. For the final admission to the doctoral programme Optical Excitations in Organic and Inorganic Semiconductors (OPTEXC), achievements totaling 60 credit points must be proven from the Master's programme with subject-related reference to the doctoral programme Optical Excitations in Organic and Inorganic Semiconductors (OPTEXC).

8. The decision of the governing body shall be communicated to the applicant in writing by the chairperson of the governing body. Rejection decisions shall be justified and accompanied by a notice of appeal.

## Annex 2: Recommended contents of the doctoral programme Optical Excitation in Organic and Inorganic Semiconductors

<sup>1</sup>The compilation of the achievements serves as a guideline for the selection of suitable courses by the doctoral researchers in consultation with the mentor. <sup>2</sup>The aspects of research, self-qualification and teaching should be considered appropriately. <sup>3</sup>The recognition of further achievements is governed by No. 5, Para. 4.

Strand	Module	CPs	Minimum CPs required	Maximum CPs allowed
A: Research Skills	Excitons in nanostructured systems I (ENSI)	4 CP	6 CP	12 CP
	Excitons in nanostructured systems II (ENSII)	4 CP		
	Excitons in nanostructured systems III (ENSIII)	4 CP		
	Hybrid meeting	2 CP per event	4 CP	4 CP
	Research stay at partner location	1 CP per month	3 CP	6 CP
B: Pro- fessional Skills	Health and Safety lecture (annually)	1 CP	1 CP	1 CP
	Scientific ethics, gender and diversity and research data management	1 CP	1 CP	1 CP
	In-depth tutorials	1 CP per tutorial	0 CP	no limitation
	Specialized Master's courses at partner location	4 CP per term	0 CP	no limitation
	First author papers	4 CP	4 CP	12 CP
	Co-author papers	2 CP		
	Conference presentations (oral)	4 CP		
	Conference presentations (poster)	2 CP		

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<p>C: Self- develop- ment</p>	<p>Free selection, e.g. from: UoM, MON: Writing for a non-scientific audience Exploring non-academic career pathways Poster design and presentation Effective presentation skills Time Management UBT: Mentally strong during the PhD Building an international Career Never speechless again Leadership for young scientists External: Research project management Science communication</p>	<p>2 CP per course (1 day)</p>	<p>0 CP</p>	<p>no limitation</p>
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