

Additional IMPRS curriculum for PhD students

*(excerpt from the supervision agreement
between advisor and PhD student)*

- (1) Besides their own PhD research, IMPRS-PL students are obliged to complete a training programme. The additional curriculum encompasses courses and workshops on soft or research skills, scientific and public outreach, as well as seminars and retreats. These activities have the goal of improving the student's scientific knowledge as well as her/his personal skills. They will foster collaboration and the exchange of experience among PhD students and broaden their horizons within the field of physics and the science of light.
- (2) In the course of the three-year doctoral programme, all five parts of the IMPRS curriculum must be fulfilled.
- (3) Besides these curricular activities, all students are expected to participate actively in all scientific events of their advisor's group and to fulfill all the requirements of the research group.
- (4) Membership in IMPRS-PL and the completion of the curriculum will be certified in writing for every student.
- (5) The curriculum comprises five parts:
 - a. *Minithesis*: All IMPRS-PL PhD students are required to write a minithesis (20-30 pages) and submit it for examination before the end of the 11th month after having started their PhD. The minithesis should contain three main sections: a review of the field of research, a summary of their progress to date and a detailed description of their planned PhD research. This thesis will be orally examined by the TAC committee in the 12th month. Failure to satisfy the examiners will result in termination of the studentship.
 - b. *Annual meetings*. A 4- or 5-day annual meeting will be held once a year at a location outside Erlangen. Annual meetings feature lectures by invited speakers, postdocs and advisors. All first year IMPRS PhD students will be required to present a poster about their research, whereas all second and third year IMPRS PhD students will be obliged to present a poster and give a talk about their research. The best student poster and best student talks will be elected by the PhD and master students and awarded with a certificate. The annual meeting will include block-lectures provided by invited lecturers or advisors. Every IMPRS student is required to attend three annual meetings in the three years of PhD studies.
 - c. *Monthly meetings*. Students are expected to attend monthly get-togethers, held at one of the institutes or laboratories participating in IMPRS-PL, and organized by the IMPRS-PL PhD students themselves. The duration of these meetings should be 1-2 hours. Talks may be given by local researchers, postdocs and IMPRS students. Also speakers from other institutions may be invited. Those monthly meetings might also be combined with talks of IMPRS-PL alumni who give scientific and practical insight into their career. A sign-in sheet will monitor the students' participation and it is expected that all IMPRS-PL students will attend at least 20 get-togethers during their first 3 years. A maximum of 3 lectures per year from the distinguished lecture series will also be counted towards this requirement (written certification of attendance is required in each case). If an IMPRS-PL PhD student does not fulfill this requirement, a meeting with the scientific coordinator will be scheduled to discuss further steps. The candidate's membership in the IMPRS-PL might be terminated.

- d. *Block lectures.* PhD students are required to attend four block-lectures within the first three years. A single block-lecture consists of three blocks on topics related to their PhD research. Such lectures may be specialized stand-alone sets of three lectures taken at any time, or they can be the last three advanced lectures of a regular university lecture course, held during the semesters. After each block, the student must obtain an attendance certificate, signed by the lecturer, and present it to the IMPRS-PL coordination office. As an alternative, it is possible for students to fulfill these requirements by attending four block-lectures during the IMPRS-PL annual meetings.
- e. *Summer school.* PhD students are expected to attend at least one international summer school, in a field related to their research topic. An attendance certificate, signed by the summer school organizers, must be presented to the IMPRS-PL coordination office, together with a 1-page summary of the event.