

Max Planck Society

for the Advancement of Science



Rules for Scientific Advisory Boards

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INTRODUCTION

Scientific Advisory Boards are the main instrument used by the Max Planck Society for the regular evaluation of its research facilities. A Scientific Advisory Board composed of internationally recognized scientists is constituted for each Institute; the board functions as an external advisory committee for those organs of the Max Planck Society which, in accordance with its statutes, are responsible for decisions concerning the development of the Institutes and of the Society as a whole. The regular evaluation of its Institutes is in the interest of the Max Planck Society and is conducive to the functioning of its system of self-control, enabling it to plan and assure the quality of its research activities independently. Furthermore, the evaluation process serves public accountability purposes with respect to the appropriate and effective deployment of the funding made available.

I. THE INSTITUTES' SCIENTIFIC ADVISORY BOARDS

1. The Function of Scientific Advisory Boards

A Scientific Advisory Board is constituted for each Institute and Institute-like research facility of the Max Planck Society. The main responsibility of the Scientific Advisory Board is to provide regular evaluations of the Institute's scientific performance. On the basis of these evaluations, the board advises the Institute and the President of the Max Planck Society on the innovative development of the Institute's research activities and the effective deployment of funds.

2. The Membership of Scientific Advisory Boards

Scientific Advisory Boards are composed of internationally recognized national and international scientists who are, as a rule, not from the Max Planck Society. The membership of the Scientific Advisory Board shall properly reflect the Institute's research spectrum and, in addition, bring together sufficient understanding of the German scientific system. In addition, it is advisable also to appoint scientists who are less closely connected with the lines of research pursued at the Institute. As a rule, scientists with emeritus status or who have retired should not be appointed.

The members of the Scientific Advisory Board are appointed by the President of the Max Planck Society after consultation with the Vice President representing the Section to which the Institute belongs. To this end, the Institute submits a list of at least twice as many nominations as new members are to be appointed to the board, with brief justifications for each nomination. The final selection is left to the President. The Institute must disclose any ongoing or past cooperation with the nominees, and any current or previous employment relationships. The President reviews the nominations for lack of impartiality and may make appointments deviating from the proposals submitted. Furthermore, he or she can revoke Scientific Advisory Board membership for good reason.

As a rule, the number of Scientific Advisory Board members shall total at least five and no more than fifteen, depending on the size of the Institute and the scope of its research activities.

In justified cases, the Scientific Advisory Board – in agreement with

the Institute's Board of Directors and the responsible Vice President – may enlist additional ad hoc experts.

3. Term of Office and Rotation of Scientific Advisory Board Membership

As a rule, the term of office for each member of the Scientific Advisory Board is six years and can be extended once by three years up to a maximum term of office of nine years. To meet the need for membership renewal on the one hand and continuity on the other, the members of the Scientific Advisory Board are appointed such that their terms of office partially coincide with the terms of office of incumbent members.

4. Chair of the Scientific Advisory Board

The Chairperson of the Scientific Advisory Board shall be appointed by the President after being proposed by the Institute and after consultation with the responsible Vice President for an open-ended term of office until a different Chairperson is appointed. In the first meeting, the Chairperson shall select with the responsible Vice President a deputy from the members of that Scientific Advisory Board. The Chairperson arranges the board meetings in agreement with the responsible Vice President and the Institute's Managing Director. The Chairperson presides over the meetings, prepares the board's written report, and submits that report to the President of the Max Planck Society.

5. Frequency of Scientific Advisory Board Meetings

As a rule, the Scientific Advisory Board convenes every two years or three years. Care must always be taken that the session dates remain within the six-year cycle of the extended evaluation of the research field of which the Institute is a member. In justified cases, the President may arrange an extraordinary evaluation by the Scientific Advisory Board – of the Institute as a whole or of specific research areas.

The date of each meeting is set by the Institute as early as possible, in consultation with the board members, the office of the responsible Vice President, and the Administrative Headquarters of the Max Planck Society.

6. Status Report

A Status Report prepared by the Institute and sent to the board members in good time before the meeting forms the written basis for the work of the Scientific Advisory Board (see Point 7).

This Status Report describes the scientific research and projects completed, ongoing, and planned since the Scientific Advisory Board's last evaluation, and gives an account of the Institute's budget, the sources and deployment of funds. It presents overviews of the funds allocated to individual departments or research areas (human resources, material resources, investments); an overview of third-party funding acquired; an overview of the personnel structure (temporary/permanent positions, positions financed by third-party funds); information on the career development of junior scientists; information on cooperation with other research institutions and universities, both nationally and internationally; and a list of work published and projects completed since the last meeting of the Scientific Advisory Board. The Status Report includes a list of all Scientific Members and scientific staff (i.e., at least the heads of the Max Planck Research Groups) whose departments or groups are to be evaluated individually by the Scientific Advisory Board. A report on the work of all Scientific Members and heads of the Max Planck Research Groups is also required.

In order to fulfill their mandate, the members of the Scientific Advisory Board may, furthermore, obtain additional information from the Institute's Managing Director, Scientific Members, or heads of research groups and junior research groups and – in agreement with the Institute's Directors – visit the Institute at times other than the meetings of the Scientific Advisory Board.

7. Invitation to the Scientific Advisory Board Meeting

The schedule for the Scientific Advisory Board meeting is drawn up by the Chairperson in consultation and cooperation with the Managing Director of the Institute and in agreement with the responsible Vice President. The Managing Director issues invitations to the meeting and provides the board members with the necessary documentation in good time.

The invitation includes an agenda that specifies the participants in each agenda item. The invitation is sent to all persons participating in at least one agenda item.

8. Participation in Scientific Advisory Board Meetings

The Scientific Members of the Institute, the heads of Max Planck Research Groups, and the member of scientific staff elected to the respective Section participate in the open sessions of the board meeting. The responsible Vice President should always participate in the Scientific Advisory Board meetings. Furthermore, the President of the Max Planck Society, the Secretary General, and delegates from the Administrative Headquarters are entitled to attend the meeting.

The agenda shall provide for discussion with the scientific staff including doctoral candidates and postdoctoral researchers. If necessary, individual consultations are to be arranged, e.g., with the member of scientific staff elected to the Section, the heads of Max Planck Research Groups, department representatives, or the doctoral students' representative.

Non-members of the Scientific Advisory Board are not present when the board retires for its final internal deliberations to prepare its report. The Scientific Advisory Board is subsequently available to the administrative heads of the Max Planck Society for a session closed to third parties. Due to the sensitive nature of certain topics of discussion, the Scientific Advisory Board may also exclude non-members from some or all of the previous sessions.

9. Visit to the Institute

The Scientific Advisory Board convenes at the Institute and deliberates on the basis of the Status Report (see Point 6).

The Institute's Board of Directors reports to the Scientific Advisory Board on the key findings of its research and on plans for future work. Wherever possible, the members of the Scientific Advisory Board shall also conduct individual consultations with the Directors. Scientific staff and research groups shall also have the opportunity to present their research findings and plans to the Scientific Advisory Board in person. The scientists primarily responsible for setting the Institute's research agenda – and, in any case, the Directors and the heads of Max Planck Research Groups – are to be included in the evaluation process. With respect to the evaluation of junior staff development, the Scientific Advisory Board shall have the opportunity to conduct talks with doctoral candidates and postdoctoral researchers according to the Guidelines for doctoral education and training at the Institute.

In addition, the Scientific Advisory Board gathers an impression of specific workplaces and of working conditions at the Institute. To this end, the board members may split up, with subgroups or individual members inspecting different parts of the Institute or speaking to individual scientists. The Chairperson of the Scientific Advisory Board determines the allocation of responsibilities in agreement with the board members at the beginning of the inspection.

10. Report of the Scientific Advisory Board

As a result of its evaluation, the Scientific Advisory Board prepares a final report. The Chairperson is responsible for ensuring its timely and proper completion. The report must contain – for both the Institute as a whole and its individual departments or groups – an extensive and nuanced evaluation of scientific findings and research performance as well as a statement on future projects and planned priorities. In particular, it must discuss the individual departments' standing both nationally and internationally, with regard to both the subject and quality of its research. Furthermore, it is requested to comment on the training and education of the junior researchers at the Institute. A list of the points to be covered in the report of the Scientific Advisory Board is provided in Appendix II.

Furthermore, the evaluation of research performance shall recognize the need to afford Institutes reasonable opportunity to pursue innovative and high-risk research projects.

If the report makes recommendations or comes to conclusions that do not have the unanimous approval of all members of the Scientific Advisory Board, then these divergent opinions shall also be stated in the report. Recommendations or questions directed to the Institute or the President, to which a response is expected, must be explicitly worded and identified as such.

The Chairperson of the Scientific Advisory Board submits the final report to the President of the Max Planck Society within two months of the evaluation. Should the Chairperson not be in the position to meet this deadline, the Vice-Chairperson assumes responsibility for this task.

The evaluations and recommendations of the Scientific Advisory Board are to be treated confidentially by the members of the board themselves and by all others involved.

In cases in which the Scientific Advisory Board considers its evaluations to be particularly problematic, the Chairperson of the Scientific Advisory Board supplements the report with a confidential letter to the President. This letter is not forwarded to the Institute's Board of Directors, but its contents are discussed with the person concerned. The problems or deficits described in the letter must at least be alluded to in suitable form in the report. The content of the report and the letter shall not be contradictory.

11. Responses to the Report of the Scientific Advisory Board

The President of the Max Planck Society forwards the report of the Scientific Advisory Board to the Institute's Board of Directors – specifically, to the Managing Director – with the request for a detailed response. Heads of Max Planck Research Groups and the members of scientific staff are properly informed by the Institute's Directors about those parts of the evaluation that concern their work.

The Chairperson of the Scientific Advisory Board is informed of the Institute's response.

A standing item on the agenda of each board meeting provides the opportunity to discuss the adequacy of the Institute's response to the Scientific Advisory Board's recommendations and questions from the previous meeting's report.

II. EXTENDED MEDIUM-TERM EVALUATION

1. Mandate

Every six years – i.e., as a rule at every third meeting – the Scientific Advisory Board convenes with an extended evaluation mandate. The aim of this extended evaluation is to assess the Institute's performance over the last six years and to give an appraisal of the Institute's ongoing projects and plans. The medium-term evaluation expands on the regular two-year evaluation in two ways. First, the Institute's efficiency in deploying resources is carefully appraised and assessed from a medium-term perspective. Second, the scope of the evaluation process is shifted from a focus on individual Institutes to a

specific field of research within the Max Planck Society (see Point 4), and to the evaluation of how the institutions rank within the scientific field in both the national and international contexts.

If specific provisions for the six-year evaluation are not made in Section II, the provisions of Section I shall apply accordingly.

2. Research Fields

For the purposes of the extended evaluation, Institutes working in similar areas are grouped into research fields; these fields may include Institutes from different Sections and, in justified exceptional circumstances, may involve only parts of Institutes or Institutes with similar organizational structures. The research fields are specified by the President in consultation with the Vice Presidents and in agreement with the Sections. The specification of research fields is reviewed at regular intervals.

3. Rapporteurs

For the extended evaluation, the Scientific Advisory Board is joined by at least two external rapporteurs who – like the members of the board itself – are internationally recognized scientists and also no members of the Max Planck Society. Especially if a research field is very broad or heterogeneous, further rapporteurs may be appointed. The rapporteurs participate not only in the evaluation of a single Institute, but in the extended evaluation of all Max Planck Institutes within a given research field. These extended evaluations within a research field should be closely linked in time.

The rapporteurs are not members of the respective Scientific Advisory Boards, neither do they carry out their own independent evaluation of the Institutes' research performance. Rather, by participating in all sessions – both open and internal – of the Scientific Advisory Board at each evaluation within a research field, they gain a general overview of the implementation and outcomes of the whole set of evaluations, and compare the different boards' application of the evaluation criteria. They participate in each board's final internal deliberations.

The rapporteurs are appointed for each extended evaluation by the President of the Max Planck Society in consultation with the responsible Vice President and the Chairperson of the Section.

4. Research Field Commission

Once the extended evaluation of all Institutes in a research field has been completed, the Research Field Commission convenes; this commission consists of the rapporteurs, the Chairpersons of the Scientific Advisory Boards, the responsible Vice President, and the Chairperson of the Section. The President, the Secretary General, and delegates of the Administrative Headquarters should also attend the Commission meeting.

Based on the reports compiled by the Scientific Advisory Boards and the written report of the rapporteurs, the Commission, chaired by the Vice President, deliberates on the prospects for development and, if necessary, considers the need to reallocate resources within a research field. It writes a summarized statement for the President, which the President then forwards to the Institutes' Managing Directors.

III. STATUTORY FRAMEWORK

1. Advisory Function of Scientific Advisory Boards

The reports of the Scientific Advisory Boards and the summary statements of the Research Field Commission contain information and recommendations serving to advise the Institutes and those organs of the Max Planck Society which, in accordance with its statutes, are responsible for decisions concerning the development of the Institutes and of the Society as a whole. If, subsequent to the evaluation of these reports and statements, structural and/or financial consequences seem necessary, the President calls on the responsible organs^{*}; these organs alone may prepare and make the respective decisions.

2. Statutory Rights of the Institutes' Directors

The statutory rights of the Institutes' Directors, in particular their authority to determine the selection, order, and execution of the scien-

^{*} In the case of Max Planck Institutes that have legal personality, their specific legal circumstances must be taken into consideration.

tific work conducted in their research area, remain unaffected by the recommendations of the Scientific Advisory Boards.

3. Appointment Proceedings

The Statutes of the Max Planck Society set out the responsibilities of Institute Directors, the Sections of the Scientific Council, the Senate, and the President in appointment proceedings. These responsibilities remain unaffected by the Scientific Advisory Board's work to fulfill its mandate.

APPENDIX I

Contents of Institute Status Reports

If responses to the points listed below cannot be given for the Institute as a whole, the report must be broken down by department or research area.

- 1. Structure and Organization of the Institute**
- 2. Institute's Research Program and Departments/Research Areas**
(research concept, scientific methods and findings, cooperation within the Institute, planned developments)
- 3. Personnel Structure**
(ratio of temporary to permanent positions, ratio of scientific to nonscientific staff, guest program of the Institute (Guest scientists with MPG scholarship), number of positions and scholarships financed by third-party funds, age distribution, fluctuation, proportion of women, dates of appointments and retirements)
- 4. Structure of the Institute's Financing**
(institutional funding, third-party funding, other income)
- 5. Material Resources, Equipment, and Spatial Arrangements**
- 6. Junior Scientists and Guest Scientists**
(activities to advance the careers of junior scientists, according to the guidelines for junior researchers and the establishment of a guest program to host guest scientists from abroad, duration of stay, positions assumed after leaving the Institute, funding)
- 7. Equal Opportunities**
(numbers and positions of male and female scientists, measures to increase the number of female scientists, measures to reconcile the demands of family and career)

- 8. Cooperation with National and International Research Institutions**
(cooperation, joint appointments, teaching commitments, participation in external research programs and projects)
- 9. Transfer of Knowledge/Contacts to the Business World**
(patents, licenses, advisory functions, participating interests, establishment of enterprises)
- 10. Symposia, Conferences, etc.**
- 11. Scientific Members' Committee Work**
(within the Max Planck Society, EU committees, DFG, etc.)
- 12. Publications**
(full list of publications indicating the most important; both the list and the publications are to be provided in electronic form; citation analyses if appropriate)
- 13. Open Access**
(description of efforts to promote unrestricted and long-term access to research findings, e.g., the repository of the Max Planck Society, own open-access archives, open access journals, etc.)
- 14. Long-Term Archiving of Research Findings**
(primary data, publications)
- 15. Appointments, Scientific Awards, and Memberships**
- 16. Public Relations Work**

APPENDIX II

EVALUATION CRITERIA (Guidelines)

The criteria listed below form the basis for a thorough and meaningful evaluation of the research facilities' performance. The Scientific Advisory Boards are expected to refer to these criteria in all areas in which it is appropriate to do so, and to comment in detail on this point in its report. Nonscientific aspects (leadership qualities, involvement in science policy, participation in the committees of the Max Planck Society) are evaluated by the President or the responsible Vice President.

A. General Aspects – Significance of the Institute

- o What is the significance of the Institute within its scientific field in both the national and the international contexts?
- o What is the board's evaluation of the overall scientific quality of the Institute?
- o What are the prospects of the research fields in which the Institute is active?
- o Which of the Institute's scientific activities can be described as outstanding in all regards?
- o Which new scientific ideas and fields with high development potential can be identified at the Institute?

B. Individual Departments and Research Areas

What is the board's evaluation of the research unit relative to national and international performance levels (scientific significance, innovative power, quality level, and impact of publications)?

- o What is the board's evaluation of the medium-term research program?
- o What is the quality of knowledge transfer within the scientific community and/or to society and policy makers?
- o How appropriate is the personnel structure to the research goals?
- o What is the board's evaluation of the application of funds (including third-party funds)?
- o What is the board's evaluation of cooperation within the Institute, with other Max Planck Institutes, as well as with universities and other external partners both in Germany and abroad?

- o What is the board's evaluation of the support provided for junior scientists considering the guidelines for junior researchers?

C. Recommendations for Further Development

- o Does the board have recommendations for modifications and, possibly, restructuring?
- o Does the board have recommendations for the continuation or closure of departments or research areas, particularly in the case of forthcoming retirements?

D. Additional Aspects for Extended Evaluations

- o What is the board's evaluation of the effective application of the resources available to the Institute and its departments (including third-party funds), and their distribution relative to the scientific significance of research projects?
- o Does the board have recommendations for restructuring from the cross-institute, comparative perspective, taking into account the other research facilities under evaluation in the research field?

The following evaluation categories can be used to answer the questions listed above in the verbal and written reports produced by the Scientific Advisory Boards. These evaluation categories benchmark the research facilities' performance against national and international standards. They are designed to ensure that the evaluation of the Institutes and their individual departments and research areas is consistent. The report of the Scientific Advisory Board is to include separate sections containing nuanced evaluations of the performance of the Directors and the heads of the Max Planck Research Groups.

The categories provide a basis for assessment. They do not replace the board's detailed and grounded analysis and evaluation in its extensive report.

Outstanding: at the leading position of a broad research field both nationally and internationally

- o outstanding scientific achievements at the highest level of impact
- o unique research program of extraordinary scientific significance
- o highest level of scientific recognition

- o exceptional scientific/technical/social impact

Excellent: a leader in its research field both nationally and internationally

- o excellent scientific achievements and a corresponding publication output
- o research program with excellent development prospects
- o high degree of national and international recognition
- o very visible scientific/technical/social impact

Very good: belongs to a broad group of national and international leaders, and is a leader in a specialist field

- o some high-ranking research contributions and a publication output that can be described as very good overall
- o productive research program
- o national and international scientific recognition in individual fields
- o identifiable scientific/technical/social impact

Good: very solid research when measured against national and international benchmarks

- o reliable performance and stable productivity
- o solid, but less innovative research program
- o scientifically visible both nationally and internationally

Average: average research outcomes with limited impact when measured against national and international benchmarks

APPENDIX III

GUIDELINES ON DOCTORAL EDUCATION

Guidelines on the Education and Training of Doctoral Students at the Max Planck Institutes

(Senate resolution of 13 March 2015)

Preamble

The Max-Planck-Gesellschaft aims to conduct basic research at the highest level. As the research conducted by doctoral students also endeavours to achieve this goal, the Max-Planck-Gesellschaft bears particular responsibility for junior scientists which it must meet through the selection of the best candidates and by ensuring optimal supervision and qualifications. Doctoral students must meet high expectations and be capable of assuming responsibility and working independently at an early stage in order to contribute towards the scientific performance of the research institutes through their work. Equally high standards apply to the supervision of doctoral students at the research institutes of the Max-Planck-Gesellschaft as responsible supervision with transparent framework conditions and rules makes a major contribution to the successful completion of the doctoral stage.

Various specialist discipline cultures require different qualification and supervision structures for which flexible room for manoeuvre must exist. Providing qualifications and supervision in the doctoral programmes during the doctoral phase has proven beneficial and attractive in many cases for securing outstanding doctoral students, in particular from abroad. The IMPRS model, especially in relation to cooperation with universities, points the way forward. The research institutes of the Max-Planck-Gesellschaft should evaluate to what extent the establishment of an IMPRS is worthwhile and, if necessary, apply for additional central funding for an IMPRS. Doctorates outside of doctoral programmes can also be worthwhile.

The following explanatory notes are deemed binding guidelines for both doctoral models in order to offer junior scientists dependable and transparent training and career structures. These are based on the *"Richtlinien für die DoktorandInnenausbildung an Max-Planck-*

Instituten" (Guidelines on the Education and Training of Doctoral Students at the Max Planck Institutes) of the Wissenschaftlicher Rat (Scientific Council) of 2012 and the "*Empfehlungen zur Betreuung und Qualifizierung von Promovierenden in Forschungseinrichtungen der Max-Planck-Gesellschaft*" (Recommendations on the Supervision and Qualifications of Doctoral Students at the Research Institutes of the Max-Planck-Gesellschaft) of the "Promotion of Junior Scientists" Presidential Committee ("Nachwuchsförderung") in 2014.

1. The Max-Planck-Gesellschaft endeavours to attain scientific excellence. As far as research as part of dissertations is concerned, it places high expectations on both the doctoral students, whose work should contribute towards a joint research programme, as well as on their supervisors who should make every effort to ensure the doctoral students reach their full potential. All research institutes should convey the framework conditions, requirements, processes and rules on doctorates in a generally accessible and transparent way.

2. Max Planck Institutes, which take on doctoral students, cooperate with a suitable university regarding admission of the doctoral students to the relevant doctoral programme of this university, if one exists, and with regard to the admission of their supervisor as the primary reviewer of the dissertation.

3. The *Guidelines on the Training and Education of Doctoral Students at the Max Planck Institutes* should supplement the provisions for doctoral studies at universities and apply within the scope of their compatibility with such provisions. Unless already undertaken, the research institutes of the Max-Planck-Gesellschaft should agree rules with the respective partner universities which concur with the principles of the Max-Planck-Gesellschaft and which enable appropriate involvement of the Research Group Leaders and Directors in the doctorate procedure.

4. The education and training for doctoral students provided at the Max Planck Institutes primarily serves to meet the requirements of the doctoral students and supports them with pursuing a successful scientific career.

5. Dissertations completed at Max Planck Institutes are independent pieces of academic work which are produced within the scope of the applicable discipline-specific and professional practice. The Max Planck Institutes and the doctoral supervisors endeavour to ensure that the personal research achievements of the doctoral stu-

dents for the scientific community are recognised as such.

6. The total number of doctoral students per supervisor should be selected so as to ensure adequate supervision is provided. A supervisor should not generally bear primary responsibility for more than eight doctoral students simultaneously. Higher numbers are conceivable in certain research fields or if additional experienced scientists are involved in the daily supervision of the doctoral students. Supervisors should receive sufficient opportunities for further training on matters concerning supervision.

7. Doctoral students must be aware at all stages of their work of the point in time when their dissertation is expected to be completed. Doctoral theses should be completed within a timeframe in line with the standard practices of the discipline concerned. Apart from in exceptional cases, a doctoral thesis should not take longer than four years.

8. A written agreement should be concluded between doctoral students and supervisors at the start of the doctorate in which the rights and obligations are specified for both parties and the relationship between doctoral students and supervisors is put on a clear and transparent footing for both parties ("Fördervereinbarung"/"supervision agreement"). The supervisor bearing primary responsibility for the doctoral thesis and the doctoral student hold regular discussions on the procedural plan for the completion of the dissertation. Model agreements can be drawn up for individual specialist discipline groups which can be used as a basis by the research institutes.

9. The doctoral students should be granted the funding for the entire doctorate period set out in the supervision agreement subject to the condition that the doctoral student produces the scientific performance expected.

10. In addition to the supervisor with primary responsibility, a second independent scientist should be available to all doctoral students as an advisor. The supervisors hold regular meetings with their doctoral students on the progress of the doctoral thesis.

11. A proven form of supervision is the set-up of a Thesis Advisory Committee (TAC), which supports the doctorate phase, whose members are independent of one another and whose documented meetings take place at least once a year and whereby the doctoral students should also have the opportunity to hold exchanges with

other TAC members without the supervisor with primary responsibility being present.

12. Provided this contributes towards successful completion of the research work of the doctoral students, proves expedient as part of their training and education and does not have any adverse effect on the timely completion of an excellent dissertation, doctoral students, depending upon their field of study and in agreement with the supervisor with primary responsibility, should attend courses and conferences, publish their research results, take part in lecturing activities and participate in other beneficial specialist activities. Instruments such as peer coaching, peer mentoring, self-organised retreats and meetings should also be supported financially.

13. Copyright agreements between doctoral students and their supervisors must adhere to the rules of internationally recognised good scientific practice in the respective field of research. The supervisors should encourage doctoral students to publish research results during the doctorate provided such publications foster the scientific career of the doctoral students and do not have any adverse effect on the completion of the thesis.

14. During their doctoral training and education, the doctoral students should be offered the opportunity, with regard to any matters that concern their supervision, in particular in the event of differences of opinion with their supervisor, to turn to an independent person. An officer for doctoral matters should therefore be available at the research Institutes of the Max-Planck-Gesellschaft. This person should be introduced to all doctoral students at the beginning of their doctoral studies. This officer may also be employed at the university concerned where necessary. The independent person must endeavour to resolve any conflicts to the satisfaction of all parties concerned and take account of the legitimate interests of the doctoral students and of the Max Planck Institute responsible for the supervision as well as to strive to maintain or re-establish mutual trust and cooperation.

15. All rules and provisions should be applied flexibly and in good faith. The doctoral training and education also ensures that doctoral students are familiar with the principles of good scientific practice.

16. The Scientific Advisory Boards should explicitly take a position on the quality of training and education for doctoral students as part of their cyclical evaluations of the research institutes, taking ac-

count of the guidelines on the education and training of doctoral students and the IMPRS.

GUIDELINES ON THE INTERNATIONAL MAX PLANCK RESEARCH SCHOOLS (IMPRS)

The IMPRS programme has established itself as a successful model for providing doctoral students with qualifications based on its three distinctive characteristics – structuring, internationalization and close cooperation on an equal footing with the universities and is now well recognised both nationally and internationally. The programme should therefore be continued and further improved on the basis of the resolution adopted by the Senate of the Max-Planck-Gesellschaft in March 1999 and amended in March 2010 as well as the Memorandum of Understanding between the German Rectors' Conference and the Max-Planck-Gesellschaft on the development of the IMPRS of 14.3.2008.

Alternative forms of joint doctoral programmes between research institutes of the Max-Planck-Gesellschaft and universities may be appropriate under certain circumstances but are not generally recommended as a model by the Max-Planck-Gesellschaft. The integration of IMPRS into other structures, such as graduate schools, can prove effective provided no compromises have to be made on principles and provided their profile is maintained.

There should not and cannot be a uniform structure for the IMPRS. The structural diversity of the existing IMPRS is well founded owing to the different specialist discipline cultures and flexible adaptation to the respective local circumstances (e. g. partner university). Based on the experiences of the past 12 years and taking account of the changes in the science policy landscape, the following guidelines are nevertheless defined for the set-up, continuation, evaluation and financing of IMPRS.

1. The basis for the set-up and development of the IMPRS is the concept adopted by the Senate in March 2010 which focuses on internationalisation, cooperation and collaboration on an equal footing with the partner universities, the joint scientific programme and the international call for applications for doctoral student posts. The six-year cycle has proven successful and should be retained.

2. Every IMPRS should operate on the basis of the *Guidelines on the Training and Education of Doctoral Students at the Max-Planck-Gesellschaft*. TACs should nevertheless become the norm at IMPRS.

3. Every IMPRS should set up transparent and collegial structures for the implementation of the programme which also includes the designation of members of the IMPRS who are eligible to vote. Decisions of the IMPRS – whether on the admission of doctoral students, the composition of the TAC, lecturing programmes or other activities – should generally be made based on the multiple control principle whereby the decision-making processes are clearly governed and known to all participants. Particular emphasis should be placed on the inclusion of group leaders and junior scientists as members eligible to vote. The doctoral students should also be appropriately involved in decision-making, e. g. by sending elected representatives to the decision-making committees.

4. In addition to their scientific excellence, the IMPRS should stand out on account of their exemplary promotion and integration of their doctoral students. In addition to those set out under the aforementioned points, special attention should also be placed on measures which

- a. facilitate the integration of foreign doctoral students,
- b. provide opportunities for involvement in teaching,
- c. provide programmes for the acquisition of “professional skills” (e.g. presentation techniques, intercultural communication, the writing of applications, development of management skills),
- d. facilitate the transition to the subsequent professional phase, whether inside or outside of academia (e.g. through mentoring, industry visits, career fairs, networking measures),
- e. enable, provided it is deemed worthwhile by the supervisor with primary responsibility/TAC and subject to the submission of the dissertation on time where applicable, the provision of resources to finance the transitional phase (for a maximum of 12 months) between the completion of the dissertation and taking up a new position (e. g. “wrap-up” postdoc posts/fellowships) in order to finish publications after the completion of the doctorate or to bridge any unavoidable waiting periods.

5. IMPRS can be planned as long-term structures whereby sufficient flexibility and incentive for scientific development and staff renewal must be ensured. Extensions by a further six years are possible in principle.

6. It is recommended that the IMPRS develops an alumni system which contributes to the establishment of networks and, for example, enables conclusions to be drawn for future developments of the programme through career tracking.

7. The application for and funding of IMPRS should be based on a modular concept. All or just individual components can be applied for on justifiable grounds whereby the following modules are recommended as a basis:

- **Master section module** (only for IMPRS which have a preceding master's course phase)
- **Coordination module** (staff only). It is recommended that standards are developed for staff requirements through coordination which – taking account of the structure of the school (e.g. with/without MS stage, national or not etc.) – should be scaled according to the size of the school.
- **Equality and work-life balance module**
- **Material and travel costs module**. This includes all expenses for IMPRS activities (excluding personnel costs).
- **Promotion of doctoral students module** (fellowship/contract, incl. *wrap-up* funding)

The financial requirements are to be indicated and justified separately for each of these modules. A total cost calculation should also be presented at the end when drawing up the financial plan which indicates for each item which funds an application is being made for the IMPRS and which funds are available from other sources (with details of source). The contributions of the partner university should also be documented.

In general, a significant contribution from the research institutes involved is expected in terms of financing. The financing of the doctoral students from their own junior scientist funds should increasingly be aimed at.

8. The set-up and extension of IMPRS is subject to the implementation of the Guidelines on the Training and Education of Doctoral Students at the Max-Planck-Gesellschaft. They should be critically evaluated by an independent group of experts in each funding phase. Quality assurance should be carried out by means of a competitive, objective and transparent evaluation and selection procedure.

The Rules for Scientific Advisory Boards in the Max Planck Society serve the members of Scientific Advisory Boards, the Scientific Members and Directors of Max Planck Institutes, and other persons involved as binding terms of reference governing the evaluation of Institutes by Scientific Advisory Boards. They were adopted by the Senate of the Max Planck Society on 27 March 1998, following detailed deliberations with the Scientific Council and its Sections, and apply to all Institutes and Institute-like research facilities of the Max Planck Society. The present revised version was adopted by the Senate of the Max Planck Society on 18 June 2015.

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