

Advice for Applicants for a Young Graduate Scientist Position at INRIA

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1 Introduction

This guide is intended for potential candidates for a CRCN (Young Graduate Scientist)¹ position at INRIA. Its purpose is to assist them in their decision whether to apply or not, as well as help them understand how to best prepare their application.

Concerning the latter, the intent is solely to provide some advice for the presentation of the application document and to warn against certain pitfalls. The purpose is not at all to obtain uniform applications but to argue that it is important to emphasize and to explain the highlights of an application rather than to “tick all the boxes of the form” even when there is little to report for certain entries, in the belief that a committee would view empty space as negative (this will be restated further along in this document).

2 What is INRIA?

INRIA is a French institute of academic research in computer science and applied mathematics. The basic entity of the institute is a project team (called “team” in the following). A team is characterized by a scientific project, focusing on a research subject. A team consists of a group of tenured scientists² as well as of members with a fixed-term contract (for example for preparing a doctoral thesis, pursuing post-doctoral research, or contractual engineers). A specific characteristic of this organization is that a team unites scientific members of different levels of seniority (unlike certain university systems, in particular abroad, where a research group corresponds to a chair surrounded by members with fixed-term contracts).

INRIA is organized in several research centers (the list is available online³), and each center hosts teams in the same geographic area. An INRIA center typically hosts between 15 and 30 teams (see⁴ for the list of teams grouped by research center).

3 What is a CRCN position?

The activities of a CRCN are obviously centered on academic research. Depending on the different research domains and the chosen orientations, this may include the development of software or of hardware platforms for experimentation or for disseminating results, the participation in standardization or transfer, among many other activities. Moreover, it is expected that the supervision of young scientists (preparing a doctoral thesis or performing post-doctoral research) will become an important aspect during a research career, and frequently part of a researcher’s time is devoted to tasks such as dissemination of scientific knowledge or popularization and outreach activities. CRCNs hold full-time research positions and do not have teaching obligations but they may hold a contract for contributing to university-level teaching, usually related to their research domain. The application form that is presented in more detail in part 7 of this guide attempts to encompass this diversity of possible contributions, reflecting the diversity of profiles of the researchers of the institute. One should therefore not attempt to “tick all the boxes” (be it in the application form or in one’s activities after having been recruited) but rather highlight the important contributions.

¹The abbreviations used in this document are explained in appendix A.

²Usually, the tenured members hold a CR (researcher) or DR (senior researcher) position at INRIA or another research institute, or they are associate or full professors at a university department.

³<https://www.inria.fr/en/inria-research-centres>

⁴<https://www.inria.fr/en/teams>

It is also important to understand the long-term character of a CRCN career. Successful applicants are hired on a tenured public servant position. Technically, during the first year the status is that of a temporary public servant, before tenure is obtained by decision of the CEO of INRIA, after consulting the Evaluation Committee. Therefore, a CRCN holds a permanent position that provides support for an entire scientific career, with the possibility of being promoted (to CRHC or to a DR position). This has a significant consequence for the CRCN hiring procedure. Since applicants are hired for a permanent position that supports a long-term career, committees expect convincing contributions that ensure that the application is scientifically solid. The research project is of particular importance and should reflect a long-term scientific vision of the research domain and the proposed contributions. Obviously, the committees do not expect a research project spanning 40 years that nobody could reasonably produce, but a credible project that spans a mid- or long-term horizon is of paramount importance.

4 How does the hiring procedure proceed?

INRIA announces its competitive selection campaigns at the beginning of the calendar year. The CRCN campaigns are usually organized by center. In certain years these are complemented by a national campaign.⁵

The campaign proceeds in the following steps:

1. Check the eligibility of applications.
2. Selection of the applicants to be invited for interviews by the admissibility committee.
3. Interviews, followed by a ranking of applicants, establishing a (partially) ordered list of the *admissible* candidates.
4. Final selection by the admission committee, producing a main list of successful candidates and of a complementary list, which are then used for appointing candidates in order of ranking.
5. Appointment and taking office.

Eligibility. The first step serves to verify the eligibility of an application. Besides the existence of a completed application form (part 7), the main criterion is that the applicant holds a doctoral degree or an equivalent title (the latter case mainly applies to candidates who acquired a degree abroad and that is comparable to a doctorate). This step is carried out by the human resources department and may involve the heads of the CE (INRIA's Evaluation Committee) for ascertaining the equivalence of degrees.

Admissibility. The two following steps are performed by the admissibility committees. Every campaign has its own committee (i.e., one per INRIA research center as well as a committee for the national campaign if such a campaign is organized). The admissibility committees for the local campaigns consists of roughly fifteen scientists (of which one third are members of the CE and another third are members of the respective INRIA center) and cover the scientific domains that are present in the center. The admissibility committee for the national campaign consists of members of the CE and possibly additional scientists in order to ensure thematic coverage. The lists of members

⁵No national campaign is organized in 2021.

of these committees are published on the INRIA Web page corresponding to the campaigns as soon as the decree constituting the committees has been signed.

During the second step, the admissibility committee determines the list of candidates who will be interviewed, based on an examination of the applications. This list is published on the INRIA Web site, and the selected candidates receive an invitation for the interview.

The third step begins with the interviews (cf. part 8) of the candidates whose application was selected. After another discussion, the admissibility committee establishes the list of applications, ranked by merit (which is usually a partial order) based on the written applications and the interviews. This list of admissible candidates is usually longer than the number of positions available for the campaign. It is published on the INRIA Web site as soon as the deliberations of the committee have ended.

Admission. The fourth step is the one of admission. It is performed by the admission committee, which is the same for all CRCN campaigns. The admission committee consists of nine members, five of which are designated by the directorate of the institute and four are members of the CE. For each campaign, this committee establishes a main list (whose length is at most the number of positions available for the campaign) and a complementary list (whose length is at most double the number of positions). Both of these lists contain only admissible candidates, and they are totally ordered. The rankings of the admission committee are based on the evaluation of the candidates by the admissibility committees but they also consider questions of scientific strategy, for example the desire of a research center to strengthen certain research domains. As a result, the main list and the complementary list need not contain all admissible candidates, and the order in which candidates are ranked need not be identical to that of the list of admissible candidates.

Appointment and taking office. Following this step, the human resources department contacts the candidates in the order of admission, starting with the main list, and asks them if they accept the position. In case of non-acceptance, the candidates on the complementary list may be called upon in order. In case of acceptance, candidates usually take office during the fall of the year of the campaign (but it is possible to join a few months later, for example in order to finish post-doctoral research).

5 When and for which campaign should I apply?

The first question that candidates should ask themselves is in which year it is best to apply?

First, the legal and regulatory texts only require that candidates hold a doctoral degree or an equivalent title. In particular, there is no age limit.

In practice, successful candidates have usually carried out a few years of post-doctoral research elsewhere than in the research group in which they prepared their doctoral thesis. This leads to the question if there is a “best” number of years of post-doctoral research before applying.

Before we discuss this question, let us insist on the fact that the committees take into account the number of years after the completion of the doctoral thesis, minus any career breaks. The objective is to avoid handicapping persons who had such career breaks and thus to ensure equal opportunities for all candidates. A career break may correspond to maternal leave or leave of parenthood, a period devoted to military obligations or any other personal reason that prevents a candidate from carrying out professional or scientific activities. In the specific case of maternal leave, the committees follow

the practices of the European Research Council (ERC) and consider a career break of 18 months. In any case, the duration of and reasons for each career break must be indicated in the application form. Before their discussions, the committees list the applications that exhibit career breaks and are careful to take these into account. Candidates are advised to consult the charter for parity and equal opportunities⁶.

Furthermore, the appreciation of the applications is not solely based on the number of contributions but evaluates them relative to the number of years after the doctoral thesis (minus career breaks). The committees expect applicants with a long post-doctoral experience to have more solid contributions (in quality, originality, and quantity) and a higher visibility than applicants shortly after completing their thesis with only a short duration of post-doctoral research, even if some post-doctoral experience is an important asset.

This implies that we advise that candidates should not wait for too long before submitting a first application. It is impossible to give exhaustive statistics but in recent years about half of the recruitments occurred within the two or three years following the defense of the doctoral thesis, and sometimes within the year that followed the defense (minus career breaks). There are also cases of successful candidates with many years of post-doctoral experience, but these cases are less frequent.

The second important decision to take is the choice of the campaign (or campaigns) and of the team (or teams) for which to apply. In the vast majority of cases, CRCN applications target a specific team but it is also possible to apply “outside a team” and target a center. The latter case is rare at the CRCN level and more frequently seen at the DR level since it usually coincides with the project of creating a new team. In either case it is very important to contact the person responsible for the entity that the application targets (head of the team —or REP— or directorate of the center —DCR or DS/DSA⁷). Indeed, these persons will be requested by the committee to submit an opinion on the application (it is therefore useless to ask these persons for a letter of recommendation since they will anyway have to provide a detailed appreciation). Moreover, this contact represents a useful opportunity to obtain an opinion on whether it is appropriate to submit an application and advice on how to set up the application, present the research project and, in the case of an application selected for interviews, prepare the interview.

Finally, it is possible to apply for several campaigns (corresponding to different centers and/or the national campaign). In that case, the admissibility committees examine the application independently, whereas the admission committee is unique (and may decide to admit a candidate for one center but not for another one). In the case of an application targeting several entities, it is important to discuss the research project with the head of each team or center that one targets, and to explain the intended integration for each entity (cf. part 7.4).

6 Expectations of the admissibility committees

The expectations of the committees follow naturally from what has been described above. The application and the interview must provide evidence for a high scientific quality, as well as a scientific vision embodied in the research proposal and a scientific autonomy that justifies a recruitment on a tenured position that supports a long career. In particular, the application must prove that the research proposal is both credible and ambitious, and that it aligns well with the chosen team(s)

⁶<https://parite.inria.fr/en/charter-parite-et-egalite-des-chances/>

⁷cf. the glossary in appendix A

or center(s).

In addition to the above, the committees expect that the different scientific results and the personal contributions (publications, software, transfer etc.) highlighted in the application are presented honestly and with impeccable ethics. Indeed, the committee members strive to verify the correctness of the contents of the application, and they are regularly confronted with problems such as publication lists in which the order of authors is not respected or scientific contributions for which the role of the candidate is overstated. Any such doubts have a highly negative impact on the evaluation of the applications and on the chances of success.

7 The application forms

In this part we describe the different sections of the standard application file and give some advice on each of them.

As a preliminary remark, we insist on the fact that **it is not a problem if some sections are empty** (except for those that describe the scientific contributions and the research proposal), and that it is preferable to leave a section empty when there is nothing important to mention, rather than to try by all means to list contributions that are in fact very minor. One should also not repeat a single item in several sections in order to avoid the impression to attempt to “inflate” the application.

The size of certain parts is limited, and one must not try to work around these limits by modifying the font size or the spacing, as doing so runs the risk of rendering the application unreadable and consequently negatively affecting its appreciation.

A further general recommendation touches on the level of presentation. It is important to explain everything as thoroughly as possible so that committee members whose expertise lies in neighbor domains can follow the argument without problems. For example, acronyms that are specific to the subject area should be explained, at least at their first occurrence.

7.1 Professional history (Form 1)

The first part of the application describes the curriculum vitae and contains factual information. It is partitioned in sections that must be respected.

Although its preparation may appear to be straightforward, one should avoid two pitfalls: on the one hand, a too exhaustive description may harm the visibility of highly important elements that would be submerged among minor items. On the other hand, one should of course not forget important items. The total size of this part is limited to 4 pages. One must therefore carefully select the items that one wishes to put forward because devoting much space to minor items will be at the expense of more important or relevant items.

Finally, for elements related to one's visibility such as, for example, awards or membership in program committees, it is very useful to insert hyperlinks that allow the committee to verify them.

Professional history. The table should list the affiliations in (reverse) chronological order during and after the preparation of the thesis. It is usually advisable not to include information on the preparation of the master or earlier (except for special cases, for example in order to highlight a multi-disciplinary curriculum).

Career breaks. The importance of this item was discussed in part 5. List and justify all career breaks after the thesis in (reverse) chronological order.

Supervision of students and early-stage researchers. List your actual activities of supervising research (master students, doctoral theses etc.), with a percentage corresponding to your level of involvement in case of co-supervision. For each of the activities, indicate the name of the person whose work you followed, the level, the duration, the subject, a succinct description of the results and, if relevant, what became of the person.

The committees are conscious that at this level of their scientific career, the candidates may not yet have had the opportunity to supervise research work, and one should abstain from listing in this section irrelevant information. As an example, one sometimes sees applications that contain a long list of supervision or “mentoring” of doctoral theses although in fact the candidates simply discussed informally with other young researchers in the group in which they prepared their thesis: this does not correspond to actual supervision and listing such activities may rather harm the application.

Supervision of technological development (software, hardware, robotics). This section refers to contributions such as participation in the design or the architecture of a piece of software for which one has not actually written code (see part 7.5 for contributions to technological development with an actual involvement in coding and experimentation). Similar roles in the production of hardware, in robotics or in the production of data sets should also be described in this section.

Responsibilities. Two types of responsibilities should be distinguished.

First, list your contributions to the animation of your scientific community, such as membership in program committees or editorial boards. For each activity, mention your exact role, since the terminology varies between different communities: for certain conferences, the “program committee” includes the list of all reviewers whereas more often, this term refers to a more limited group of members who actually compared the submitted articles and debated the selection of the program after having established and ranked the reviews. Recall that it is preferable to not provide an endless list of minor contributions (for example, an exhaustive list of reviews produced should usually not be given) and that, whenever possible, a link to the conference or journal should be provided.

Secondly, one may indicate any administrative responsibilities, including tasks such as membership in committees such as a laboratory council or an instance of a doctoral school. These tasks can be diverse and sometimes result in little visibility despite taking up significant time and energy. It is therefore necessary to describe the role of these instances, explaining any acronyms, and the exact nature of the tasks, the time that was devoted to them and during which period.

Management. At the CRCN level, this section is often relevant only for more senior candidates. One may list activities that correspond to involvement in the management of funded research projects, such as the responsibility for a task or work package in a joint project.

Mobility. The term “mobility” should be understood in a broad sense, including geographic as well as thematic mobilities. For each item, explain in a few lines the nature of the mobility, in particular when this is not clear from the rest of the application (such as in the sections on the professional history or the parts devoted to scientific contributions).

Teaching. Teaching activities as such are not evaluated by the committees but it may be useful to mention in this section important activities. Avoid a detailed and exhaustive list, but include succinct descriptions of significant or characteristic items.

Dissemination of scientific knowledge. This section refers to popularization and outreach activities, such as the organization of thematic days or the production of articles or resources (Web sites, videos etc.) that target a public beyond the scientific community. Here also, only include significant activities.

Visibility. Indicate any elements of visibility within the scientific community such as for example invited talks in conferences or membership in thesis committees. Important awards such as a thesis award or a best paper in a respected conference also fall within the scope of this section (including a link that confirms the award). Awards in minor conferences or distinctions obtained in high school or undergraduate study are irrelevant.

Other relevant information. This section may be used to indicate important factual information that does not fall within the scope of the above sections.

7.2 Summary of past activity (Form 2)

This is the first part devoted to giving an overview of past and perhaps ongoing research work (the second one will be described in part 7.3), in one page at most. Its objective is to present the domain or domains of research covered in the thesis and post-doctoral research, to describe the main contributions without going into details and to present the coherence and overall direction of the research activity. This is also an opportunity for presenting the scientific context (the motivations, important problems addressed by the research community and the approaches that have been explored), as well as the main ingredients for putting in perspective the personal contributions of the candidate. Candidates who worked in different domains should also use this part of the application to explain the relations between the various contributions or explain their decision to change their research subject.

7.3 Major contributions (Form 3)

The goal of this part of the application is to describe in more detail at most three contributions (one *fiche* per contribution) of the applicant's choice, with a limit of 3 pages for the overall size of this part. One will therefore describe in depth certain parts of one's work, whereas the part presenting a summary of past activity (part 7.2) requires a broader view.

The choice of which contributions to present is important. Generally speaking, it is important to show a representative selection of one's work. Therefore, if certain contributions are of foundational nature whereas others are more practical, a judicious choice of contributions can emphasize this. Similarly, in case of thematic mobility, one may strive to cover the different research domains on which one has worked. It is possible to present one or more contributions corresponding to technological development such as software production or a transfer or dissemination activity. Such a choice may be appropriate if it illustrates an original aspect of the application. Finally, the choice of presented contributions may be influenced by the research proposal, in order to strengthen the credibility of the application.

It is possible to include a *fiche* about work in progress, mentioning to which extent the work has advanced and the steps that remain to be accomplished (for example, publishing the results).

Just as for other parts of the application, there is no requirement of being exhaustive. It may be an appropriate choice to structure the part in less than 3 *fiches*. Also, it is not necessary to mention each of one's past activities in at least one *fiche*. The only constraints are to remain within at most 3 *fiches* and at most 3 pages.

Each *fiche* is subdivided into standard paragraphs that must be followed in order to avoid losing clarity of presentation or omit important points. In particular, the first two paragraphs call for distinguishing the overall description from the personal contribution. In the case of work carried out jointly with others, precisely indicate the aspects to which you contributed personally (formalization, introduction of novel ideas, implementation and experimentation, etc.), as well as the importance of each item. The following paragraph succinctly describes the main difficulties and technical choices, as well as what you consider to be particularly original about the contribution. The two final paragraphs correspond to the results that were obtained and their validation. As far as possible, provide links that confirm the elements indicated in these two paragraphs (publications, software, etc.). Avoid providing numerical indicators (such as for example the number of citations). Finally, it may be appropriate to request a reference letter that confirms the impact of a contribution or the contribution of the candidate (see part 7.6).

7.4 The research program (Form 4)

This part is devoted to a description, in 3 pages, of the short- and medium-term research proposal. As we already mentioned in part 3 and part 6, the research proposal plays an extremely important role in the deliberation of the admissibility committee.

A question that arises frequently concerns the time horizon for which it is appropriate to give research perspectives. It is of course impossible to predict one's research work and projects over the coming 40 years, and consequently it is useless to indicate an excessively long-term proposal. However, a research program that simply suggests finishing work that has already started does not allow the committee to appreciate the scientific autonomy and the ability to carry out a long-time career within the research domain. In general, it appears appropriate to provide a solid plan for short-term (approximately 3 years) and mid-term (about 5 years) research. One may of course explain in what sense the proposal contributes to a longer-term project, however this should not be to the detriment of a precise description of short- and mid-term objectives that demonstrates the interest, the ambition, and the credibility of the proposal.

The continuation of ongoing work, for example in order to prepare its publication, can be described in the two preceding parts, discussed in part 7.2 and part 7.3.

The presentation of the research program may include references to work by others (in this case, the list of references appears at the end of this part and is included in the 3-page limit).

It is strictly necessary to provide elements about the proposed integration into the team or the center (in the case of an application outside of a team). In particular, it is important to explain what the candidate brings to the team and to show how the research proposal contributes to the scientific objectives of the team while being complementary to the work that is already carried out there. If an application targets several entities, the integration should be explained for each of them (one may for example devote one paragraph to each of the targeted entities). As a general rule, a doubt about the effective integration is often considered as an extremely problematic issue when an application is evaluated.

7.5 Complete list of contributions (Form 5)

The last part of the application is made up of several lists of contributions, not just in terms of publications but also technological developments and contributions to transfer. As far as possible, provide links that allow the members of the committee to evaluate your contributions. The committees are particularly vigilant about making sure that the contributions are presented with precision and fidelity.

Representative publications. The three publications indicated in this section will be read by the committee members when they prepare their reports on the applications, and it is therefore absolutely necessary that they are available online (in a repository such as arXiv or HAL or on the Web page of the candidate).

It is important to select them carefully. It is difficult to give specific advice because every research domain has its proper codes (concerning technicality, length, etc.) and every candidate has a different profile (more or less theoretical, giving more or less consideration to software development, to technology transfer, to knowledge dissemination, etc.). Nevertheless, we can reasonably advise against publications that are too descriptive, too “verbose” without much actual scientific content or on the contrary against too technical publications (the goal is not to show off), or yet against publications that are too long (do not forget that the reviewers have limited time). For example, even if you are a co-author of a magnificent 60-page survey of the state of the art that is recognized in your domain, it is not necessarily a good idea to choose it as one of your main publications.

We recommend that you explain in a few lines the reasons why you chose each of the publications.

The publication list. Each publication must be given with its full references, including its title, the full list of authors in the order in which they appear on the publication, the name of the conference or the journal, the year, the editors, the pages, etc. It is important to distinguish the different publication types (books, journals, refereed conferences, workshops, book chapters, etc.), to group publications according to their type (following the sections indicated in the form) and to list publications in chronological or reverse chronological order (2021, 2020, 2019, etc.) within each category. It is important to carefully prepare this section because any error, even in good faith, risks making a negative impression on the committee members.

Just as for the three representative publications, it is strongly recommended to make sure that all publications are available online.

It may be useful to insert a short paragraph above the list, explaining the practice that is commonly followed in the community, for example about the order of author names, about publishing in journals or conferences or the rules about attributing authorship.

The candidate may also, if this appears useful, describe in a few sentences her or his publication strategy, for example explaining the choices of publication venues (conferences targeting a wide or specific area, conferences vs. journals, etc.) or duplicates due to publishing short versions in conferences, followed by long versions in journals, etc.

Technology development (software or other realizations). INRIA’s Evaluation Committee considers that technological developments (software, hardware platforms, robots, data sets, etc.) can serve as vectors for disseminating research results just like publications. The development (or participation in the development) of software or platforms that is ambitious, difficult, or original (non-exhaustive list) is therefore considered as a strong point of the application, just like obtaining

an important scientific result. However, technology development is not necessarily relevant for all kinds of research activities, and therefore no application is penalized in principle because it does not include any development activity.

Some developments constitute a research activity, and they must be presented as such. In that case, the application should explain the role that these development activities played in the scientific career. Other developments take place as part of transfer activities. And indeed, these two categories are not exclusive. In any case, the presentation of each development activity must describe its objective and give tangible elements that allow it to be evaluated. For example, if some piece of software was developed for specific users, it may be appropriate to provide a letter of reference from that user community that confirms the relevance of the development and its quality.

In all cases, the committee looks for elements that allow it to evaluate the technological contributions and the strategy followed by the candidate in this respect. Those elements could be the source code or the development tree for research software. They could be a reference letter written by users for software that was transferred and is not publicly accessible. If no element whatsoever useful for this evaluation is provided, this will be considered as negative by the committee. Let us add that purely administrative criteria such as a registration with some bureaucratic entity have little chance by themselves to impress the committee. Finally, contributions that are limited to tasks related to the design or the organization of the development should be presented elsewhere (part 7.1, Supervision of technological development), whereas the present section is limited to developments in which the candidate participated actively.

In order to assist the candidates, the CE has published codes for the evaluation of software developments, using a document called “Criteria for Software Self-Assessment” whose link is provided in the application form⁸. Although this document is specific to software development, one may use the same sections for evaluating any form of technological development. Just like for the presentation of research results, it is very important to honestly evaluate the scope of the technological development, its current dissemination and use, as well as the role of the candidate. In particular, one should keep in mind that the codes explained in the document “Criteria for Software Self-Assessment” do not correspond to an evaluation of the quality of a piece of software. They simply indicate the category within which the committee will evaluate it.

Socio-economic impact and transfer. The title of this section of the application is voluntarily broad in order to cover all possible cases such as for example the “classical” transfer of some software or know-how to a company, but also to other societal groups (political deciders, medical doctors, teaching, culture, etc.). In the case where a transfer activity is based on some technological development, one should avoid repeating oneself, for example by discussing in this section only the transfer aspects and referring to the other section for the description of the development. Each contribution should be described with pedagogy and ensuring a honest evaluation of its use and impact. Just as for software, the CE prepared a guide⁹ in order to help describing the contributions to technology transfer, which is referenced in the application form. Here again, it may be appropriate to request a reference letter from somebody who can attest the impact of the transfer.

⁸<https://www.inria.fr/sites/default/files/2021-01/Criteria%20software%20self%20assessment.pdf>

⁹https://www.inria.fr/sites/default/files/2020-01/2018-06-GuideMethodologique_EvaluationTransfert%281%29.pdf, unfortunately no English version is available.

7.6 The reference letters

The reference letters serve to attest the recognition, in particular at an international level, of the candidate in her or his research community, the quality of the contributions (results, publications, software, transfer, etc.) that are presented in the application; they may also comment on the relevance and credibility of the research proposal. A diversity of the profiles of the recommenders is important, and some of them should not be closely related to the candidate (persons who participated in the supervision of a research stay, of the thesis or of post-doctoral research are closely related, as well as co-authors of scientific papers and partners in a collaborative research project). This being said, the absence of any letters from persons who supervised the thesis or post-doctoral research also systematically raises questions by the committee, and we therefore recommend to request some such letters. As we mentioned in part 5, the heads of the team or teams that are targeted by the application are contacted directly during the evaluation procedure, and it is therefore useless to solicit them for letters of reference.

As already indicated in several parts of this document (for example, in part 7.3 and part 7.5), the letters may also attest the importance of specific contributions that may otherwise be difficult to explain in the application, such as for example, a development or transfer activity concerning some software that is not open source.

At most five reference letters may be requested: this is an upper bound, not an obligation. Here as well, three excellent letters are better than five lukewarm letters.

It is preferable to contact the recommenders before submitting the application in order to ensure that they will be available and disposed for providing a letter, and to advise them that they will be solicited by an automatic email sent by INRIA's human resource department, shortly after the deadline for submitting applications.

The reference letters are collected by INRIA and must therefore not be submitted together with the application. The candidates only provide the name and the email address of each of the recommenders through the Web interface when submitting the application.

8 The interview: presentation and questions

The interviews are of paramount importance for the CRCN campaign at INRIA because they allow the committee to better know the candidate and to elucidate some questions that they may have about the application. Since they take place one or two days before the deliberations of the admissibility committee, their (positive or negative) effect is very much present in the minds of the committee members.

The exact format of the interviews is determined by the committee for each campaign, and the rules are communicated to the candidates in the invitation letter that they receive. An interview usually consists of a presentation and a question and answer session with all committee members, both of fixed duration. Some committees also organize a more open discussion shortly after the presentation and the question session. Moreover, the committees sometimes provide specific indications (for example, they may request that one result be explained in detail during 10 minutes). One should strictly respect the format and the recommendations given in the invitation letter, and keep in mind that these may vary from one campaign to the other.

The foremost question to consider is “Who is the target of the interview?”. The reviewers of the application know it very well, and if an application is selected for an interview, it was supported by the reviewers. It is therefore particularly relevant to address mainly the other committee members,

without neglecting the presentation of one's core contributions. The goal is to present the essence of one's contributions **and** of the research proposal.

We cannot overemphasize the importance of timekeeping: it is **imperative** to respect the maximum duration of the presentation and to maintain a balance between the two parts (past contributions and project), respecting any requests specific to the campaign. We see too many presentations that are too long or that do not spend enough time on the research proposal! In general terms, the presentation consists of the following ingredients:

- Presentation of the essence of the application:

Given that a committee may attend fifteen interviews in a single day (which is a lot!), it is important to start by indicating one's name, first name, and the team one is applying for because this allows a committee member to immediately set the context for the application. It is unnecessary to spend time on the academic CV and similar factual information such as the publication lists, since these items are easily accessible in the application and the committees are mainly interested in seeing the important contributions. A succinct presentation of the research domain is important because it allows the committee to understand the larger scientific context. Usually one should not attempt to present in detail all of one's contributions and instead present in depth just one or two representative contributions.

- Presentation of the research proposal:

This is the most difficult part because one needs to demonstrate the scientific maturity and autonomy expected of a CRCN and to underpin the integration project. It is preferable not to immediately dive deeply into technical details: remember that most of the committee members must be able to grasp the stakes of the project even though they are not specialists of the research domain of the candidate. As a general rule, a candidate may consider that among the members of a committee that interviews her or him, there are between one and three colleagues that he or she might meet in a conference of her or his domain. This is unavoidable because of the diversity of the research domains that are present at INRIA. One should therefore start by giving the overall research direction, the individual steps, and argue that the project is ambitious but feasible, and that the candidate is the right person to carry it out. Finally, some technical details should be provided in order to demonstrate that the project is scientifically solid.

It is strongly recommended to **give a practice talk** in front of colleagues, be they from the same domain or not, if only to check the timing of the presentation. In particular, one may do a rehearsal with the members of the team or the teams within which one applies.

The presentation is followed by a session of questions and answers. This phase is of crucial importance, and it is all too often not or badly prepared. However, it enlightens the committee on the degree of maturity of the candidate, shows that he or she masters the scientific domain, demonstrates her or his pedagogical qualities, etc. The committee will prefer precise and short answers, as this will allow the committee to ask more questions and thus to expose additional elements of the application or discuss items that were not part of the presentation. One should not be shy: the committee members do not attempt to trick the candidate but to understand the scientific objectives that the candidates want to attain and how. Answers to some of the questions may not be convincing, but sometimes the questions themselves may not be very clear. In that case, one should feel free to ask to clarify or rephrase the question.

9 Criteria

In conclusion of this document, we state (or recall) some criteria that play an important role in the deliberations of an admissibility committee even though, as we already mentioned previously, one should not attempt to identify oneself with a unique researcher profile. Moreover, the following paragraphs can obviously not be construed to provide an exhaustive list of criteria that may be used by the committees.

First and foremost, for all applications, including multi-disciplinary ones, it is paramount to highlight their methodological contributions in computer science and applied mathematics.

The scientific quality obviously plays a major role at all stages. The committees try to determine which are the most promising applications for a bright long-term career rather than over a few years, since the recruitment on a CRCN position is intended as the first step of a long career with the institute. Therefore, the quality, the originality and the scientific solidity of the contributions are always more important than their quantity. This applies to the contributions themselves as well as to the results, publications, software, etc.

Similarly, the application and the interview must exhibit a broad vision of the research domain and the capacity to identify ambitious lines of research. For scientific subjects for which this is relevant, the fact that a candidate studies not only the theoretical foundations of the discipline but also its applications (through implementations or experimentally) will also be considered as an advantage. A third important point concerns the capacity for integration into the team or the research center. Complementarity with already existing lines of research in the respective entity is an important asset, as well as the capacity of initiating novel lines of research that align with those that are already pursued.

Since CRCN recruitments provide support for long careers, the degree of scientific autonomy of the candidates will be carefully evaluated. This aspect is considered with respect to the lines of research as well as the scientific strategy.

Candidates who have demonstrated their mobility (such as one or several post-doctoral research stays) have an advantage in the sense that they have shown their ability to work on different subjects and with different research groups, leading to greater scientific maturity; however one should note that there is not one single way to demonstrate these qualities. For example, joint contributions and/or a reference letter may attest them. Moreover, a question that sometimes comes up concerns applications within a team or a research center that the candidate was part of during her or his thesis. Such applications are possible but they must demonstrate that they are not limited to continuing ongoing work. For example, joint publications with researchers different from the members of the original research group, obtained during post-doctoral research, can attest the scientific independence.

To conclude, committees are generally very reluctant towards applications for which some doubts persist with respect to scientific honesty. It is therefore absolutely necessary to faithfully describe one's contributions and results, as well as the personal contribution to each of them, be it in the application or during the interview.

A Glossary

- CE: Commission d'Évaluation INRIA / INRIA's Evaluation Committee.
The evaluation committee is an internal instance that is involved in all acts of scientific evaluation, including the hiring campaigns. Its members constitute a significant part of the admissibility and admission committees. The committee also produces documents that serve as guides for the various evaluations, including the present document.
- CR: Chargé ou Chargée de Recherche / Research Scientist.
The CR positions are subject to the statutes of French public service, they exist in EPSTs such as INRIA. They are open to anybody holding a doctoral degree or an equivalent title.
- CRCN: Chargé ou Chargée de Recherche de Classe Normale / Young Graduate Scientist.
CRs are hired as members of this rank. Eventually, a CRCN may apply for a promotion to the rank of *CR Hors Classe* (CRHC). The statutes are identical for all CRs, the only difference is with respect to salary.
- DCR: Directeur ou Directrice de Centre de Recherche / Head of Research Center.
Each of INRIA's research centers is directed by a DCR.
- DR: Directeur ou Directrice de Recherche / Senior Researcher.
The DR positions are subject to the statutes of French public service, they exist in EPSTs such as INRIA. They are held by researchers who generally hold a habilitation degree or an equivalent title and whose experience is comparable to that expected of a full professor.
- DS: Délégué ou Déléguée Scientifique / Head of Science.
The DS and DSA coordinate the scientific activities within an INRIA research center.
- DSA: Délégué Scientifique Adjoint ou Déléguée Scientifique Adjointe / Deputy Head of Science.
See DS.
- EPST: Établissement Public Scientifique et Technologique / Public Research Institute.
An EPST is a French public research institute, such as INRIA but also CNRS, INRAE, INSERM and more institutes. They are affiliated with different ministeries of the French government, and their missions are related to academic research.
- REP: Responsable d'Équipe Projet / Head of Research Team.