

Evaluation of INRIA research project-teams

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1. Evaluation of research project-teams

Research evaluation is the corner stone of INRIA's scientific activity. Constant quality control and strict evaluation procedures are a major concern of INRIA management and its *Evaluation Committee*.

INRIA research project-teams (numbering 132 as of 1 November 2005) are evaluated by theme every four years. Since 2004, the project-teams are organized into 16 programs grouped according to 5 major themes. The themes for project-teams evaluation (four evaluation seminars per year) are:

Distribution Spread of 132 research project-teams in 2004 and 2005

		2004	2005
1- Communicating systems	A : Distributed systems and software architecture	8	8
	B : Networks and telecommunications	9	10
	C : Embedded systems and mobility	8	10
	D : Architecture and compiling	3	2
2- Cognitive systems	A : Statistical modeling and machine learning	3	5
	B : Perception, indexing and communication for images and video	6	8
	C : Multimedia data: interpretation and man-machine interaction	8	8
	D : Image synthesis and virtual reality	7	7
3- Symbolic systems	A : Reliability and safety of software	8	9
	B : Algebraic and geometric structures, algorithms	10	10
	C : Management and processing of language and data	9	12
4- Numerical systems	A : Control and complex systems	6	8
	B : Grids and high-performance computing	6	7
	C : Optimisation and inverse problems for stochastic or large-scale systems	6	8
	D : Modeling, simulation and numerical analysis	9	11
5- Biological systems	A : Modeling and simulation in biology and medicine	7	9

The main phase in the process the organization of the **evaluation seminar**. A **panel of external evaluators**, gathering a certain number¹ of academic and industrial members with a significant proportion of foreign experts, is selected by INRIA management and the Evaluation Committee. The language of the evaluation seminar is **English** as some evaluators do not speak French. The participants are the researchers in the reviewed project-teams, the panel of evaluators, the members of the INRIA Evaluation Committee and INRIA management. Evaluation is organized so as to ensure that each project-team is examined by at least three evaluators.

During the seminar, **the evaluators meet INRIA general management** who present the evaluation objectives and the subjects that each project-team is supposed to address, such as scientific contributions

¹ In principle, if there are n projects to evaluate, a reasonable number of evaluators is $n+1$

and realization, especially software; the technical transfer activities, the contributions made by the project-team to training through research and teaching. The evaluators are also invited to comment on the individual project-team objectives for the next four years and on all the INRIA activities which are presented to them at the seminar, particularly on collaboration or the lack of collaboration between project-teams and on domains that receive too much or too little coverage.

The evaluation seminar opens with an introduction by the INRIA Vice-President for Research, who presents the project-teams to be evaluated, puts them in the context of all the INRIA activities and goes over any questions raised by the INRIA management on the progress of research activities related to this theme.

The rest of the seminar is divided into two parts:

- During a plenary session each project-team leader gives a presentation overviewing the project-team activity and its purpose ; he is asked to analyze the progress with regard to the objectives proposed four years ago², to put the activities in their international context, to describe his vision of developments in his research area and to **propose scientific and technological objectives** for the coming years.
- Subsequently, a group of evaluators consisting of at least the three evaluators most closely associated to the subject proceed to a detailed examination of the project-team activities in a restricted session attended only by members of the project-team and some members of the evaluation committee. The evaluators have complete freedom over the inquiries to be made at these sessions.

At the end of the evaluation seminar, one of the evaluators, nominated prior to the seminar as “rapporteur” is responsible for collecting the evaluations and making a summary. Each evaluator is invited to make comments on the project-teams assigned to him as well as on the other project-teams. The **evaluation report** is established, in collaboration with all the evaluators, and remains completely anonymous for INRIA. The report contains the evaluators’ opinions on the general economics of the theme concerned and also a detailed opinion on each project-team. It is passed on to the evaluated project-team, to the members of the Evaluation Committee and to INRIA management.

Next, the project-team leaders are asked to record their reactions to the report for transmission to the Evaluation Committee. The Project-teams Committee in each research unit also sends its opinion to the Evaluation Committee concerning the project-teams in its unit. On the basis of these documents the Evaluation Committee makes recommendations for each project-team. These recommendations are then presented to the INRIA Scientific Board by the President or the Vice-president

Decision by INRIA management

The Scientific Board examines the external evaluators’ report for each theme and gives its opinion on the recommendations of the Evaluation Committee. The process is completed by a decision of INRIA management, who announces for each project-team a fixed-term extension, a halt, or any recommendations for scientific follow-up that need to be implemented by the research unit in coordination with the Evaluation Committee. This decision is generally in line with the recommendations of the Scientific Board and the Evaluation Committee, though exceptionally the President can decide on a different direction due to particular circumstances.

Timescale

The instance between the date of the evaluation seminar and the final decision by INRIA management is approximately nine months.

² Remark : In this analysis of four years’ activity with respect to the objectives formulated at the previous evaluation round it is perfectly possible, since we are talking about research activities, that the objectives have not been attained, reasons for which the project leader should be prepared to explain (difficulties greater than those anticipated, opportunities to head the project in a new direction, etc.).

2. Evaluation criteria

The evaluation criteria for **research project-teams** were defined in consultation with the researchers and approved by the Scientific Board and the INRIA board. These are:

■ *Scientific excellence*

Assessment is based on the scientific originality of the project-team, the results obtained and anticipated, the difficulties that are overcome or that may be predicted, successful and hoped-for innovations and the methods used. All these elements are assessed against the goals previously set out. The new scientific objectives of the project-team for the next four years should be presented, accompanied by a timescale; the priorities and any necessary reorientations should be described.

■ *Adequacy to INRIA's scientific strategy*

The purpose here is to evaluate the project-team contributions to the accomplishment of INRIA strategies, together with its contacts and collaborations at national and international levels. Particular attention is drawn to the domains that are not covered and possible ways of covering them with existing project-teams.

■ *Industrial transfer and partnerships*

The applications, particularly the industrial applications, of the project-team are examined, together with the partnerships to which it has contributed. The contractual activities are qualitatively and quantitatively assessed, bearing in mind that apart from the contract itself it is important – though not always easy – to be able to see the impact of the project-team's research work.

■ *Manpower and means*

The development of the reputation in the scientific community of the researchers taking part in the project-team is examined. Changes in project-team personnel are considered (number of researchers appointed, proportion of senior researchers and directors, number of PhD students, etc.) and, in particular, mobility of tenured researchers towards the universities and industry.
