agence d'évaluation de la recherche
et de l'enseignement supérieur

Department for the evaluation of research units

# AERES report on unit:

## Pathology and Molecular Virology

## Under the supervision of the following institutions and research bodies:

Centre National de la Recherche Scientifique

Institut National de la Santé Et de la Recherche Médicale

Université Paris 7- Denis Diderot

February 2013

agence d'évaluation de la recherche
et de l'enseignement supérieur

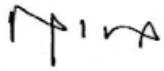
Research Units Department

President of AERES

**Didier Houssin**

Research Units Department

*Department Head*



**Pierre Glaudes**

The president of AERES "signs[...], the evaluation reports, [...]countersigned for each evaluation department by the relevant head of department (Article 9, paragraph 3, of french decree n°2006-1334 dated 3 november 2006, revised).

# Grading

Once the visits for the 2012-2013 evaluation campaign had been completed, the chairpersons of the expert committees, who met per disciplinary group, proceeded to attribute a score to the research units in their group (and, when necessary, for these units' in-house teams).
This score (A+, A, B, C) concerned each of the six criteria defined by the AERES.
NN (not-scored) attached to a criteria indicate that this one was not applicable to the particular case of this research unit or this team.

Criterion 1 - C1 : Scientific outputs and quality ;
Criterion 2 - C2 : Academic reputation and appeal ;
Criterion 3 - C3 : Interactions with the social, economic and cultural environment ;
Criterion 4 - C4 : Organisation and life of the institution (or of the team) ;
Criterion 5 - C5 : Involvement in training through research ;
Criterion 6 - C6 : Strategy and five-year plan.

With respect to this score, the research unit concerned by this report (and, when necessary, its in-house teams) received the overall assessment and the following grades:

- Grading table of the unit: PATHOLOGY AND MOLECULAR VIROLOGY

| C1 | C2 | C3 | C4 | C5 | C6 |
|---|---|---|---|---|---|
| A+ | A+ | A+ | A+ | A+ | A+ |

- Grading table of the team: MOLECULAR PATHOLOGY

| C1 | C2 | C3 | C4 | C5 | C6 |
|---|---|---|---|---|---|
| A+ | A+ | A+ | A+ | A+ | A+ |

- Grading table of the team: DYNAMICS OF RETROVIRUSES AND RETROTRANSPOSONS

| C1 | C2 | C3 | C4 | C5 | C6 |
|---|---|---|---|---|---|
| A | A | A+ | A+ | A+ | A+ |

- Grading table of the team: GENOME AND CANCER

| C1 | C2 | C3 | C4 | C5 | C6 |
|---|---|---|---|---|---|
| A+ | A+ | A | A+ | A+ | A+ |

- Grading table of the team: BIOLOGY OF EMERGING VIRUSES

| C1 | C2 | C3 | C4 | C5 | C6 |
|---|---|---|---|---|---|
| A+ | A | NN | A+ | A+ | A+ |

- Grading table of the team: TRANSLATIONAL CANCER STUDIES

| C1 | C2 | C3 | C4 | C5 | C6 |
|---|---|---|---|---|---|
| NN | NN | NN | A | NN | A+ |

- Grading table of the team: UBIQUITIN AND DYNAMICS OF MOLECULAR SCAFFOLDS

| C1 | C2 | C3 | C4 | C5 | C6 |
|---|---|---|---|---|---|
| A+ | A+ | NN | A | A | A+ |

# Evaluation report

| | |
|---|---|
| Unit name: | Pathology and Molecular virology |
| Unit acronym: | |
| Label requested: | UMR |
| Present no.: | UMR 7212-UMR-S 944 |
| Name of Director (2012-2013): | Mr Hugues DE THÉ |
| Name of Project Leader (2014-2018): | Mr Hugues DE THÉ |

# Expert committee members

| | |
|---|---|
| Chair: | Mr Cédric BLANPAIN, Université Libre de Bruxelles, Belgique |
| Experts: | Mr Jan COOLS, Faculty of Medicine, Leuven, Belgium |
| | Ms Cécile DENIS, INSERM, Le Kremlin-Bicetre (representative of INSERM CSS) |
| | Mr Carsten DENKERT, Berlin University, Germany |
| | Mr David GRIMWADE, School of Medicine, London, UK |
| | Mr Laurent LE CAM, CNRS, Université de Montpellier |
| | Ms Claire RODRIGUEZ-LAFRASSE, Faculté de Médecine Lyon-Sud (representative of CNU) |
| | Mr Bertrand SERAPHIN, CNRS, INSERM, Université de Strasbourg |
| | Mr Christophe TERZIAN, INRA, Université Lyon 1 |
| | Mr François VALETTE, Centre Inserm, Université de Nantes (representative of CoNRS) |

Scientific delegate representing the AERES:

Ms Sylvette TOURMENTE

## Representative(s) of the unit's supervising institutions and bodies:

Ms Corinne ALBERTI, University Paris Diderot

Ms Evelyne JOUVIN-MARCHE, CNRS

Ms Chantal LASSERRE, DSA INSERM

# 1 • Introduction

## History and geographical location of the unit

The unit directed by Mr Hugues DE THÉ is localised at Saint-Louis Hospital in Paris. During the period 2007-2012, 7 teams were present (1 joined the unit in 2010). Two teams left the unit, and 1 researcher left to develop his independent research project in a new environment, whereas a new team will join the unit, which therefore will be composed of 6 teams.

## Management team

Mr Hugues DE THÉ will continue to manage the proposed structure composed by 6 teams.

## AERES nomenclature : SVE1-LS4

## Unit workforce

| **Unit workforce** | **Number as at 30/06/2012** | **Number as at 01/01/2014** | 2014-2018 **Number of project producers** |
|---|---|---|---|
| **N1**: Permanent professors and similar positions | 14 | 14 | 13 |
| **N2**: Permanent researchers from Institutions and similar positions | 7 | 8 | 8 |
| **N3**: Other permanent staff (without research duties) | 12 | 10 | 9 |
| **N4**: Other professors (Emeritus Professor, on-contract Professor, etc.) | 1 | 0 | 0 |
| **N5**: Other researchers from Institutions (Emeritus Research Director, Postdoctoral students, visitors, etc.) | 12 | 14 | 12 |
| **N6**: Other contractual staff (without research duties) | 3 | 3 | 3 |
| **TOTAL N1 to N6** | **49** | **49** | **45** |

| | |
|---|---|
| Percentage of producers | *90 %* |

| Unit workforce | Number as at 30/06/2012 | Number as at 01/01/2014 |
|---|---|---|
| Doctoral students | 12 | |
| Theses defended | 10 | |
| Postdoctoral students having spent at least 12 months in the unit* | 10 | |
| Number of Research Supervisor Qualifications (HDR) taken | | |
| Qualified research supervisors (with an HDR) or similar positions | 12 | 11+2 |

# 2 • Assessment of the unit

Historically, the unit had a strong focus on leukemia research and virology. In 1995, Mr Hugues DE THÉ and another team leader, took over the direction of the unit and enlarged to different topics in cell biology, which have implications for human diseases. The existing groups work on virus entry, viral integration, leukemia and breast cancer. The unit will move to a new building, which will constitute a great opportunity to foster existing collaborations between the different groups and also recruit new groups. Ms Catherine DARGEMONT who has a strong basic background in protein modification and nuclear trafficking, will move from the Institute Jaques Monod to the new building once it will be operational. The research of the unit is outstanding with high international recognition as judged by the list of scientific papers in high profile journals and competitive funding obtained from both national (ANR, ) and European agencies (ERC, AVENIR, etc.) and the number of talks to international meetings. The projects are in most cases cutting edge and ambitious and for many projects carry very strong potential for translation into important clinical applications (leukaemia, breast cancers and virology). A remarkable contribution of the unit is its very high societal involvement with thousand of hours of teaching and science communication to the young people.

## Strengths and opportunities

The main strengths of the unit are its outstanding research, its diversity, enthusiasm and its strong potential for future accomplishments. The unit will be hosted in a new research building, which will foster collaborations between the different groups that all have a strong basic cell biology interest. The director is conducting outstanding research and is very concerned to keep going a strong collegial and collaborative atmosphere in between the different group leaders. One of the most remarkable strengths of the unit is its societal implications with the leadership in giving classes to the CNAM (500H/year) and being the founder of association “L’arbre de la connaissance”, for which they received high national (Prix Diderot de l’initative culturelle, catégorie espoir 2011) and international recognition (EMBO award for communication in life sciences). A great strength of the unit is the privilege access to human pathological samples as national center for leukemia, which is really unique compared to other international institutions. Once all the existing groups, including the group from Institute Jacques Monod, will join the new building, this will leave 35 spaces to recruit new group leaders, which represent a great opportunity to strengthen the basic science of the unit.

## Weaknesses and threats

The teams are overall well funded. However, not all group leaders have permanent technical staffs, which is essential to ensure the scientific and technical continuity of the lab. The committee does not see any major weaknesses of the unit. It is important to realize that with the new lab space opening soon, there will be a recruitment phase to attract the best talents and the most promising group leaders. This is always a difficult enterprise in the French system since no one can promise a stable position from the beginning to this newly recruited group leaders, nor promise them they will be successful in their grant applications. One possible threat that should in theory last for a few months only will be the move to the new research building, which will induce a temporary disorganisation in the different units. Hopefully, no major delay in the moving seems to be scheduled. Another possible threat is the current absence of an administrative officer for the unit (due to the move of the previous one to another position), which leads to a further increase in work load for the PIs.

## Recommendations

The committee has been unanimously impressed by the outstanding quality of the current research and the very strong potential of this unit, which represents a very successful and unique example of top quality Science, top quality teaching and top quality translational research being mixed harmoniously. The opportunity to recruit new group leaders in the new building should be focused in trying to recruit top-notch group leaders with strong basic science program to stimulate interaction with the more translational and clinically orientated research groups.

# 3 • Detailed assessments

## Assessment of scientific quality and outputs

The scientific production of the unit during the last five years has been excellent. All PIs, including the young group leaders have produced outstanding research papers published in high profile journals (since 2007: 2 Cancer Cell, Nature Medicine, 2 Nature Cell Biology, Nature Genetics, 2 Journal of Experimental Medicine, Cell Stem Cell, Journal of clinical investigation, 2 Cell host and microbes, Mol Cell, Journal of Cell Biology …) or in the best specialized journals of their field (PLOS pathogen, PLOS medicine, nucleic acid research, Journal of Virology, …). The current research is highly innovative and has led to several major papers with extremely important implications for the understanding of the pathogenesis and treatment of several human diseases including promyelocytic leukemia, lymphoid leukemia, Fanconi anemia, infection by flavivirus, and breast cancer.

## Assessment of the unit's academic reputation and appeal

The strong national and international reputation of the groups in this unit is attested by the numerous invitations to international meetings and talks in various universities, as well as the award of both national and international competitive funding (ATIPE/AVENIR, 2 ERC, INCA, ANR, plus several other international grants obtained through collaborative work (EU-FP7, NIH R01, …). In addition, one group leader is a coordinator of the LAbex "Who I am", which involved 27 laboratories from different horizons with a total funding of 11 millions euros. The most senior members of the unit have received prestigious national and international awards: Embo member, French academy of Science, French Légion d'honneur, Griffuel prize, Foreign collaboration award from the Chinese office for Science and Technology, director of the biology department of the conservatoire national des arts et métiers. The junior group leaders received national awards: prix Valerie Meillet 2008, prix Ana Panebeouf 2012, prix Yvelines cancer 2012, Helene Starc prize 2011. Many group leaders of the unit participate in expert of scientific committees (STIC/Inca, ATIP/Avenir, AERES, EUROCANCER, ARC, ANRS, European school of haematology, société française du cancer, French universities, clinical research board of the institut curie). All groups participate actively as referees for high profile and specialized scientific journals (Nature, Cell, Science, Cancer cell, Nature cell biology, Nature medicine, EMBO J, Blood, J. Virol, …) and some PIs are member of the editorial board of well respected journals (Cancer research, Cancer discovery, International journal of cancer, Leukemia). Many PIs have organised international and national conferences, symposia and workshops.

## Assessment of the unit's interaction with the social, economic and cultural environment

The unit has made major contributions to different initiatives of science communication and teaching, which have a great cultural impact in France. Members of the unit were the founding members of the "L'Arbre de la connaissance", which allows high school students to familiarize with scientific research. A unit member gave a radio interview to explain this action. This association has been extended to 13 other research centers in France and involved altogether more than a hundred researchers. This association has been supported by several public and private funds and has been awarded with the EMBO award for communication in life sciences. Moreover, the PIs communicate and give interviews for the popular press, radio and TV to highlight the impact of their research discoveries. Economically, the unit is involved in consulting and collaborating with the pharma industry and biotechs. Some PIs are members of scientific council of French scientific charities.

## Assessment of the unit's organisation and life

The unit is organized in different groups, each under the direction of PIs, which are all responsible for the financial and scientific direction of their group, although solidarity exists between the teams. Common services (glassware, administrative, common supplies) are under the supervision of the director but common responsibilities are shared within staff members. The unit has a scientific advisory board run by prominent French and international researchers. The PIs can meet the director whenever they want. In addition, a formal Laboratory council is held twice per year. There is a weekly lab seminar during which all postdocs and PhD students present the results of their studies. There is also a weekly seminar with invited international and national researchers outside of the institute. The unit is marked by a convivial atmosphere, which was attested by the three categories of personnel during theirmeeting with the committee (ITA, PhD/Post-doc and Researcher). In general, people seem very happy with the scientific and technical opportunities offered by the unit.

## Assessment of the unit's involvement in training through research

The unit is affiliated to the University Paris Diderot. Many group leaders and their associated researchers give a huge amount of hours and many classes in Paris Diderot University (Biochemistry…) and CNAM (>500 h/year). The unit signed an agreement with the CNAM , to wellcome assistant professors from the CNAM. The group leaders from the unit participate in several Master programs (Biologie cellulaire du cancer, thérapie ciblée, biothérapie et biotechnologies, génétique somatique du cancer), M2-students classes, DU, … The various teams and platforms of the unit have hosted 17 M2 students, 26 PhD students and 12 postdocs during the last 4-year period. 14 students have graduated and obtained their PhD.

## Assessment of the five-year plan and strategy

The five-year project of the unit derives from individual teams projects, which have all been highly favourably evaluated (see individual teams evaluations). All the individual 5-year proposals were excellent, innovative, and feasible regarding the resources available.

Despite the apparent broad topics of research conducted in the unit, there is a very strong cohesion and collaboration between the different group members, which are all focused in defining new biological insights of human diseases. There is a strong focus on basic and translational researches on human cancers: promyelocytic leukemia, acute lymphoblastic leukemia, breast cancers. There are strong links in the study of posttranslational modifications such as ubiquitylation and sumoylation by different groups looking at the same pathways in different biological settings (virus integration, PML biogenesis, transcription, nuclear trafficking, autophagy), which contribute to the cohesion of the different teams of the unit.

In conclusion, the unit has developed over the last years into an outstanding unit, publishing regularly papers in top-notch journals and working in a very convivial atmosphere. Every PI developed a very clear strategy enabling many more new breakthroughs in biological sciences. This unit constitutes a reference for excellence in basic and translational research in France with a strong commitment to societal and educational participations.

# 4 • Team-by-team analysis

**Team 1 :** MOLECULAR PATHOLOGY

Name of team leader: Mr Hugues DE THÉ

## Workforce

| Team workforce | Number as at 30/06/2012 | Number as at 01/01/2014 | 2014-2018 Number of project producers |
|---|---|---|---|
| **N1**: Permanent professors and similar positions | 2 | 2 | 2 |
| **N2**: Permanent EPST or EPIC researchers and similar positions | 2 | 2 | 2 |
| **N3**: Other permanent staff (without research duties) | 6 | 6 | 5 |
| **N4**: Other professors (PREM, ECC, etc.) | | | |
| **N5**: Other EPST or EPIC researchers (DREM, Postdoctoral students, visitors, etc.) | 6 | 5 | 5 |
| **N6**: Other contractual staff (without research duties) | | | |
| **TOTAL N1 to N6** | **16** | **15** | **14** |

| Team workforce | Number as at 30/06/2012 | Number as at 01/01/2014 |
|---|---|---|
| Doctoral students | 2 | |
| Theses defended | 4 | |
| Postdoctoral students having spent at least 12 months in the unit | 5 | |
| Number of Research Supervisor Qualifications (HDR) taken | | |
| Qualified research supervisors (with an HDR) or similar positions | 2 | 3 |

# • Detailed assessments

## Assessment of scientific quality and outputs

The team has gained international recognition for its work on Acute Promyelocytic Leukemia or APL. This particular form of leukemia is caused by gene rearrangements, most notably between the retinoic acid receptor-alpha gene and the promyelocytic leukemia gene. This rearrangement leads to the formation of a hybrid protein PML/RARA with altered and deleterious functions.

Using various approaches, the team has made several breakthrough discoveries on this disease both on its pathogenesis and in the treatment response mechanisms.

In particular, they have uncovered the mechanism by which arsenic can degrade PML/RARA and be therefore efficient as treatment for APL. They have also made the important observation that differentiation of APL cells is an independent process from disease eradication upon treatment by retinoic acid. Most of the work performed is clearly translational in nature, having as long term aim the benefit of patients suffering from APL.

The group has also uncovered important role of the PML proteins as redox sensors and further deciphered their implication in cellular senescence.

Their results have been published in top international journals (Nat Medicine, Nat Cell Biol, J Exp Med, Cancer Cell…), emphasizing the quality of the research performed in the team. The team was awarded an ERC grant, which are highly competitive, and a clear sign of the international recognition and excellence of the team.

## Assessment of the team's academic reputation and appeal

The team leader has been elected at the French Academy of Science in 2011 and was awarded an ERC senior grant (2011-2016). Other prestigious prizes and awards have been obtained by the team leader as well as team members, including the Foreign cooperation award of the Chinese Office for Science and Technology.

The team is very well funded with a number of important grants (INCa, Ligue contre le Cancer, CEE, ARC, ANR, NIH).

The academic reputation of the team can also be illustrated by the impressive number of invited conferences received by team members between 2007-2012 (71 in total) and also by the number of top-level reviews (Nat Rev Cancer, J Cell Biol, Cell Stem Cell).

As a general statement, the team is clearly at the forefront of international competition in its research area.

## Assessment of the team's interaction with the social, economic and cultural environment

Four patents have originated from the work performed in the team. The team has ongoing contracts with pharmaceutical companies and one of the antibodies developed by a team member has been licenced to an antibody company.

The team leader is a consultant for several pharmaceutical companies.

Team members are founding members and president of "l'Arbre des connaissances", and especially the "Apprentis chercheurs", an action that is designed to bring high school students in contact with research laboratories during a whole year in order to encourage future scientific careers. This remarkable initiative has already trained 641 teenagers since 2004 and now employs 2 full time employees since it is supported by public and private funds. The researchers involved have given interviews on TV, radio and in newspapers.

The team leader is also a public figure when it comes to explaining the mode of action of arsenic to treat APL.

### Assessment of the team's organisation and life

The team appears to work closely together. There is a friendly atmosphere and a strong support from the team member stimulating discovery and top research.

### Assessment of the team's involvement in training through research

Four PhD students have been trained in the past 5 years. The team has also welcomed 6 post-doctoral fellows as well as 2 M2 students.

The teaching contribution of the team is otherwise important as already mentioned with the "Apprentis chercheurs" initiative, the responsibility of a master module "Biologie Cellulaire du cancer" and the classes given to medical students.

### Assessment of the five-year plan and strategy

The team's project builds on previous results obtained in the past 5 years on the pathogenesis and treatment mechanisms of Acute Promyelocytic Leukemia.

One project proposes to investigate the preleukemic phase of APL using murine and cellular models. A number of tools are apparently already available but have not been published yet.

Another direction will focus on studying the assembly and function of PML nuclear bodies and particularly the potential influence of sumoylation in these processes.

They will also pursue their search for the mechanism behind efficacy of retinoic acid/arsenic treatment of APL. This project will contain a translational aspect mixing both clinical research with APL patients and basic research.

One final project will widen a bit the scope of the team and proposes to test whether the biochemical pathways involved in PML/RARA degradation in APL could be similar to those involved in Tax degradation in HTLV1-infected patients developing Adult T cell leukemia.

The project appears very coherent and solid. The funding available in the team will allow the proposed projects to be undertaken and therefore feasibility appears excellent. Collaborations are also in place to ensure good networking.

## Conclusion

- Strengths and opportunities:

- Impressive record in term of quality of the publications;

- Strong leadership;

- Strong international recognition;

- Complementarity between basic and clinical research;

- The collaborations are excellent, and further support the viability of the studies.

- Weaknesses and threats:

- the committee could not see any weaknesses of the team.

- Recommendations:

- the committee congratulates the team leader with the results of the past 5 years and the plan for the next years: it is a focused research project with a clear goal, driving new findings in APL and related diseases. The new ideas are excellent and well funded on preliminary data.

# 4 • Team-by-team analysis

**Team 2 :** DYNAMICS OF RETROVIRUSES AND RETROTRANSPOSONS

Name of team leader: Mr Ali SAÏB

## Workforce

| Team workforce | Number as at 30/06/2012 | Number as at 01/01/2014 | 2014-2018 Number of project producers |
|---|---|---|---|
| **N1**: Permanent professors and similar positions | 3 | 3 | 3 |
| **N2**: Permanent EPST or EPIC researchers and similar positions | 2 | 2 | 2 |
| **N3**: Other permanent staff (without research duties) | | | |
| **N4**: Other professors (PREM, ECC, etc.) | | | |
| **N5**: Other EPST or EPIC researchers (DREM, Postdoctoral students, visitors, etc.) | | 1 | 1 |
| **N6**: Other contractual staff (without research duties) | 1 | 1 | |
| **TOTAL N1 to N6** | **6** | **7** | **6** |

| Team workforce | Number as at 30/06/2012 | Number as at 01/01/2014 |
|---|---|---|
| Doctoral students | 3 | |
| Theses defended | 3 | |
| Postdoctoral students having spent at least 12 months in the unit | 1 | |
| Number of Research Supervisor Qualifications (HDR) taken | | |
| Qualified research supervisors (with an HDR) or similar positions | 3 | 3 |

# • Detailed assessments

## Assessment of scientific quality and outputs

The group leader is known internationally in the field of retroviruses, and the research carried out is highly relevant. It concerns the interaction between host cells and retroelements, and more particularly the early steps of the life cycles for three of them: HIV1, Foamy Virus and the yeast retrotransposon Ty1. One original characteristic of the research is based on the fact that members of the team are respectively experts in the analysis of HIV1, FV and Ty1, which represent three exemplary case studies within the complex phylogenetic tree of retroelements. This gives a unique opportunity to combine functional and comparative approaches. More recently, the team has developed the analysis of simian to human transmission of FV in collaboration with two French teams.

The team has recently published new and original results. It was shown for the first time a novel pathway among retroviruses: foamy virus Gag mediates the chromosomal tethering of the FV DNA genome and the nuclear export of the FV RNA genome. Concerning Ty1, the characterization and the role of a Ty1 anti-sens transcript as a regulator of Ty1 transposition is a new result published recently by the team. Finally, the fact that HIV1 Integras sumoylation is important for efficient viral replication was first published by the team, then this result was acknowledged in several following publications.

The team published in total 18 primary research papers (Plos Pathogens, Blood, Traffic, JBC, J Virol, Oncogene, Retrovirology, NAR, MCB), 8 reviews and comments, and 27 oral and poster presentations in national and international conferences.

The quality of research is excellent thus leading to a high impact within the scientific community involved in virology and retroelement biology.

## Assessment of the team's academic reputation and appeal

Multiple national and international collaborations are listed. The members of the team participate actively in international and national conferences. The team leader received numerous prestigious awards (EMBO and Académie des Sciences prizes) highlighted by many collaborative grants (ANRS, Sidaction, ANR, EU FP7). The senior scientist in charge of Ty1 topic has obtained grants from CNRS and ANRS. Both are involved in several editorial boards and organization of national and international meetings.

## Assessment of the team's interaction with the social, economic and cultural environment

The team leader has initiated an highly relevant organization involved in communication in life science ("l'Arbre des connaissances") and participates to conferences cycle at la Cité des Sciences et de l'Industrie. He is also in charge of the "observatoire de la biologie de synthèse" which concerns the impact of the development and applications of synthetic biology on the society.

## Assessment of the team's organisation and life

The team is composed of one professor (team leader), two associate professors and two research scientists (1 DR2 CNRS and 1 CR1 INSERM). The team leader delegates responsabilities among the other scientists within the team because his administrative tasks (first as the manager of the research department at the CNAM from 2009 to 2012, then as « recteur »).

## Assessment of the team's involvement in training through research

The PI is full professor at CNAM, and two assistant professors ("maitre de conférences ") at CNAM are also members of the team: they report together high teaching activities at Paris 7 and CNAM. Four PhD students have been trained in the past 5 years and two post-doctoral scientists have been welcommed. Three PhD students are currently trained.

## Assessment of the five-year plan and strategy

The team has a feasible and long-term strategy that builds on its current strengths. The rational of the two main projects is clear: it concerns 1) the intranuclear trafficking of FV and Ty1 Gag and 2) the regulation of retroelements integration through site selection and Integrase sumoylation. These projects are strengthened by a strong interaction between members within the team, but also with members from the others teams.

## Conclusion

● Strengths and opportunities:

- Comprehensive knowledge of retroelements, from exogenous orthoretroviruses to non infectious retrotransposons;

- good production of papers;

- High cohesion of the group;

- Strong teaching activities;

- Strong interactions wth the social environment;

- Good funding.

● Weaknesses and threats:

- small number of publications in journals with high impact factor (> 10);

- sustainability of funding programs.

● Recommendations:

The committee recommends to keep pursuing their current research and if possible develop new collaborations with the other teams.

# 4 • Team-by-team analysis

**Team 3 :** GENOME AND CANCER

Name of team leader: Mr Jean SOULIER

## Workforce

| Team workforce | Number as at 30/06/2012 | Number as at 01/01/2014 | 2014-2018 Number of project producers |
|---|---|---|---|
| **N1**: Permanent professors and similar positions | 4 | 4 | 3 |
| **N2**: Permanent EPST or EPIC researchers and similar positions | | | |
| **N3**: Other permanent staff (without research duties) | | | |
| **N4**: Other professors (PREM, ECC, etc.) | | | |
| **N5**: Other EPST or EPIC researchers (DREM, Postdoctoral students, visitors, etc.) | 3 | 3 | 3 |
| **N6**: Other contractual staff (without research duties) | 1 | 1 | 1 |
| **TOTAL N1 to N6** | **8** | **8** | **7** |

| Team workforce | Number as at 30/06/2012 | Number as at 01/01/2014 |
|---|---|---|
| Doctoral students | 3 | 2 |
| Theses defended | 1 | 3 |
| Postdoctoral students having spent at least 12 months in the unit | 3 | 5 |
| Number of Research Supervisor Qualifications (HDR) taken | 2 | 3 |
| Qualified research supervisors (with an HDR) or similar positions | 2 | 2 |

# • Detailed assessments

## Assessment of scientific quality and outputs

Scientific production is of high quality relative to the size of the research group with regular publications in journals with high / very high impact factor (Blood, Nat Genet, J Clin Invest, J Exp Med, Cancer cell, Cell Stem Cell). This is even more remarkable given the medical duties of most of the staff members and the current absence of senior scientists with permanent positions. These publications are related to the 2 main research themes of the group that aims at characterizing genetic alterations and oncogenic mechanisms driving leukemogenesis. Their integrated approach, mainly based on patient samples, has allowed them to make some breakthrough discoveries in the pathogenesis of T-ALL and Fanconi anemia. In addition to these major publications, members of the group have been participating in collaborative projects that led to almost 50 publications in good to excellent journals. Research programs are well supported by important funding resources from national and international agencies (ANR, INCa, ARC, ERC).

Members of the group have medical responsabilities in St Louis Hospital that represent a strong added value to their own research since they are involved in diagnosis of leukemic patients and directly participate in bio-banking of valuable samples that they use for their basic and translational research programs.

## Assessment of the team's academic reputation and appeal

The scientific production has provided the group an excellent international reputation, in particular in the field of FA and T-ALL for which the group coordinates national networks (INCa project). Different members of the group have important responsabilities as research institute director, director of a PhD program, members of national committees (CNU, specialized commissions) and hematology-related academic societies (European School of Hematology). The team leader is regularly invited to international (17 in the past 5 years) and national (34 in the past 5 years) conferences. The research group is well connected and is driving interesting collaborations, at both the national and international levels. The group is attractive for students and post-docs and its attractiveness will likely improve in the coming years with the ERC-funding. The principal investigator is associate editor of Haematologica.

## Assessment of the team's interaction with the social, economic and cultural environment

Recent interactions with 1 biotech company for drug screening in the context of T-ALL are mentioned but not detailed. The group leader participates in meetings organized by FA-related family associations in France, Spain and Germany where he gives advices and discussions. As other teams from IUH, the team participates in the "arbre de la connaissance", an interesting initiative that fosters scientific interactions with young students.

## Assessment of the team's organisation and life

Overall organization of the group appears good, with regular meetings including all members of the group.

## Assessment of the team's involvement in training through research

The group hosted several students (some of them being outstanding) at both the master and PhD levels, some of them being MDs with clinical duties. The group also hosted 2 post-docs so far, one of them has not yet published as first author, the second one left the group after only one year of training. One of the team members is head of the doctoral school B2T and other team members are involved in higher education training (European School of Hematology courses, M1 and M2 courses on oncogenesis and somatic genetic of cancer).

## Assessment of the five-year plan and strategy

The group will continue to develop ambitious cancer genomic projects related to leukemia development and progression using their own collection of samples harvested during the course of evolution of the disease (diagnosis versus relapse). It would enhance the project if sequential tracking of T-ALL samples could be conducted in parallel with analysis of Minimal Residual Disease (MRD). Ambitious profiling of these samples using next-generation sequencing, exome sequencing and RNA-seq will likely generate a very large amount of interesting data. The group wish to continue modeling specific oncogenic alterations occuring in T-ALL and AML in FA patients using relevant mouse models (using humanized models of FA on immunocompromised mice and genetically enginereed mouse mutants in syngenic models). The project appears very coherent and solid. The funding available in the team will allow the proposed projects to be undertaken and therefore feasibility appears excellent. Collaborations are also in place to ensure good networking. At the current moment, mechanistic studies do not appear to be as well described as the translational programs.

## Conclusion

- Strengths and opportunities:

The group develops excellent translational research programs with potential direct applications in onco-hematology. Translational programs are supported by excellent ties with clinical departments that may result in clinical trials in the context of T-ALL and AML in FA patients. The PI is the head of the National Reference Center for Constitutional Bone Marrow Failure syndromes, a situation that guarantees a privileged access to patients samples. Their ambitious programs should help redefine paradigms regarding leukemia progression and might lead to the development of novel therapeutic strategies. Expertise in animal modeling and bio-banking activities are the basis for strong scientific collaborations involving various research groups with international reputation in France and abroad. Excellent funding has been secured for the coming years that should provide the group with a strong opportunity to recruit more post-docs and PhD students.

- Weaknesses and threats:

Although the translational research programs are well developed, basic research programs could still be improved. As mentioned by the PI, there is currently no full-time researcher with permanent position dedicated to more basic science programs. Only few experienced post-docs have been hired so far.

- Recommendations:

Hiring permanent staff scientists at the "chargé de Recherche" level or senior post-docs with a more basic science profile could help re-inforce the leadership of the group within the onco-hematology community, and complete their current lines of research. This should help the group to take even more benefits from their cancer genomic / profiling efforts. The group should further secure their stratgy in term of bioinformatic analyses by completing their current expertise and extending their knowledge to a higher number of lab members and/or future post-docs.

# 4 • Team-by-team analysis

**Team 4 :** BIOLOGY OF EMERGING VIRUSES

Name of team leader: Mr Ali AMARA

## Workforce

| Team workforce | Number as at 30/06/2012 | Number as at 01/01/2014 | 2014-2018 Number of project producers |
|---|---|---|---|
| **N1**: Permanent professors and similar positions | | | |
| **N2**: Permanent EPST or EPIC researchers and similar positions | 2 | 2 | 2 |
| **N3**: Other permanent staff (without research duties) | | | |
| **N4**: Other professors (PREM, ECC, etc.) | | | |
| **N5**: Other EPST or EPIC researchers (DREM, Postdoctoral students, visitors, etc.) | 3 | 3 | 3 |
| **N6**: Other contractual staff (without research duties) | 1 | 1 | 1 |
| **TOTAL N1 to N6** | **6** | **6** | **6** |

| Team workforce | Number as at 30/06/2012 | Number as at 01/01/2014 |
|---|---|---|
| Doctoral students | 2 | |
| Theses defended | 2 | |
| Postdoctoral students having spent at least 12 months in the unit | 1 | |
| Number of Research Supervisor Qualifications (HDR) taken | 1 | |
| Qualified research supervisors (with an HDR) or similar positions | 1 | 2 |

# • Detailed assessments

## Assessment of scientific quality and outputs

The team has joined the unit only two years ago, moving from Institut Pasteur. The group leader is an expert in the field of flaviviruses. The research carried out in this team concerns the mechanisms of virus entry and the highjacking of the host cell machinery by the virus during its life cycle. The team tackles important public health issues related to arboviruses (Dengue viruses, west Nile virus and yellow fever virus).

In the past years, team members have made some important discoveries 1) about the role of the ubiquitin ligase CBLL1 in flaviviruses replication and 2) in the identification of new entry factors allowing Dengue virus to infect human cells. Additional work performed by the team has allowed to distinguish different entry pathways for the wild-type yellow fever virus and the attenuated strain used for vacination. They have also participated in a collaboratve study aimed at identifying factors involved in yellow fever virus entry and replication using an RNAi screen.

The team published from 2007 to 2012 nine primary research papers (J of Virology, Virology, J Infect Dis, 2 Cell Host Microbe), 4 reviews and comments, and 7 oral and poster presentations in national and international conferences. Their last paper has a high impact within the scientific community: it describes two receptors that enhance Dengue virus infection. This last study shows that Dengue virus is able to hijack an ubiquitous phenomenon, the clearance pathway of apoptotic bodies ("eat-me signals"), in order to enter their target cells, thus explaining why the Dengue virus can infect very different cell types. Two others major results were obtained, concerning the entry and replication of flaviruses : 1) the ubiquitin ligase CBLL1 was identified as a mediator during WNV endocytosis 2) different entry pathways were identified for the wild-type yellow fever virus and an attenuated strain used for vacination, opening new interesting perspectives for vaccin design.

The work performed in the team clearly appears of very good quality.

## Assessment of the team's academic reputation and appeal

Numerous national and international collaborations are listed. Several national and international grants were obtained as PI or Co-PI (ANR, EU, FRM, NIH, Gates Foundation). The team leader belongs to several French scientific committees.

The team leader has been invited to a few national and international conferences. Recent results about the TIM and TAM role in Dengue virus entry in cells will help increase the international recognition of this team.

## Assessment of the team's interaction with the social, economic and cultural environment

At this moment, the team does not have interactions with pharmaceutical companies. This point could eventually be improved as their results may hold some promising leads for vaccine development especially for Dengue virus infection.

As for the other teams of the unit, this team is involved in communication in life science (« l'Arbre des Connaissances »).

## Assessment of the team's organisation and life

The team is composed of two full-time research scientists (CR1 Inserm), one post-doc, 2 PhD students and one technician (half-time).

## Assessment of the team's involvement in training through research

The team welcomes high school students through the "Apprentis chercheurs" action.

One student has defended his PhD in 2010 and two more are in training. The team has also welcomed 1 post-doctoral fellows as well as 1 M2 student.

The team leader is responsible for a Virology module in a PhD program and is teaching fundamental virology to M2 students from Paris Diderot and the Pasteur Institute.

## Assessment of the five-year plan and strategy

The project is based on a robust strategy and is divided into 3 parts: 1) the role of phosphatidylserine receptors TIM and TAM during Dengue virus entry, in the continuity of their last paper published in Cell Host Microbes suggesting that DV mimics apoptotic signals to infect cells 2) the analysis of the interaction between CD300 and DV 3) the characterization of the endocytic pathways used respectively by the YFV wild type and an attenuated vaccine form during entry. The project appears very coherent, building on previous work and results obtained in the team. The funding available in the team will allow the proposed projects to be undertaken and therefore feasibility appears excellent. Collaborations are also in place to ensure good networking.

## Conclusion

● Strengths and opportunities:

- Very promising emerging team;

- Importance of the thematic in a global public health perspective;

- Good funding.

● Weaknesses and threats:

- Small team;

- Difficulty in the recruitment of stable staff member(s).

● Recommendations:

The team should be reinforced through the recrutement of a full-time technician.

# 4 • Team-by-team analysis

**Team 5 :** TRANSLATIONAL CANCER STUDIES

Name of team leader: Ms Patricia de CREMOUX, Ms Jacqueline LEHMANN-CHE

## Workforce

| Team workforce | Number as at 30/06/2012 | Number as at 01/01/2014 | 2014-2018 Number of project producers |
|---|---|---|---|
| **N1**: Permanent professors and similar positions | 5 | 5 | 3 |
| **N2**: Permanent EPST or EPIC researchers and similar positions | | | |
| **N3**: Other permanent staff (without research duties) | | | |
| **N4**: Other professors (PREM, ECC, etc.) | | | |
| **N5**: Other EPST or EPIC researchers (DREM, Postdoctoral students, visitors, etc.) | | | |
| **N6**: Other contractual staff (without research duties) | | | |
| **TOTAL N1 to N6** | **5** | **5** | **3** |

| Team workforce | Number as at 30/06/2012 | Number as at 01/01/2014 |
|---|---|---|
| Doctoral students | | |
| Theses defended | | |
| Postdoctoral students having spent at least 12 months in the unit | | |
| Number of Research Supervisor Qualifications (HDR) taken | | |
| Qualified research supervisors (with an HDR) or similar positions | 2 | 3 |

# • Detailed assessments

## Assessment of scientific quality and outputs

The "Translational Cancer Group" was created at the beginning of 2012. The two team leaders have previously acquired expertise in translational research in the field of breast cancer and obtained significant results during the 2008-2012 period concerning the identification of predictive biomarkers (mRNA signature and p53 status) of chemotherapy in neoadjuvant setting and the definition of patients with a molecular apocrine signature. The research on p53 is linked to the previous research activities of the unit and has the potential for increased interaction with the basic science teams.

The future team is small and composed of 6 part-time researchers (the two PIs (MCU-PH), 2 doctorants, 2 medical oncologists, one half-time technician for animal experiments). Nevertheless, they have developed several national (essentially in Paris) and international (Copenhagen, Brussels, MD Anderson Texas) collaborations which enabled them to have a significant number of publications during the 2007-2012 period : 21 major contributions, 30 collaborative publications and 5 reviews. The publication output from the team is very good (PLOS med, Int J Cancer, Cancer Res, Clinical Cancer Research, BMC Cancer, Med Oncol..) but not outstanding.

The team has coordinated molecular studies in several national multicentre trials, which indicates a good research network and access to clinical samples. For this, the additional expertise of the team in diagnostic molecular pathology is of great value. It should be emphasized that many national and international breast cancer groups are currently actively seeking collaborations with molecular diagnostic experts, and this could be a very interesting opportunity for the further development of the translational group.

The team leaders are PI of at least one academic grant per year (INCa/DHOS 2012; ANR 2011; Ligue 2011; InCa transfert, ARC, IHU 2009), which enables them to function autonomously.

## Assessment of the team's academic reputation and appeal

The team has a strong academic reputation on the national level, one of the team leaders is a member of the administrative staff of the French Cancer Society and has been coordinator of the Board for clinical research at the Institut Curie. Futhermore, one PI has been the expert for STIC on the INCa committee. The team leaders have achieved international recognition for their research output (e.g. molecular apocrine and p53). The international recognition as invited speakers is however limited, since they have been invited to give talks only in French meetings or European congresses (Eurocancer) organized in France. They have a large number of national and international collaborations with excellent groups, which is a good basis for the further development of the group and will lead to increased international reputation.

## Assessment of the team's interaction with the social, economic and cultural environment

In the Breast Cancer field, there is a strong culture of patient advocate groups. The translational team is well linked with this social environment. One of the PIs is a member of the scientific board of Europa Donna France, non profit organisation, which aims at improving breast cancer education for patients.

## Assessment of the team's organisation and life

Both PIs are working only part time for research, as they are doing molecular diagnostic as well. However, this could also be seen as strength of the group and provides a direct link to the field of molecular diagnostics for patient diagnosis and treatment, which is essential for efficient translational research. They organize weekly Lab meetings to discuss science and the organization of the lab. There is a very close interaction and extensive discussion of projects between the team leaders and the students and residents.

This group has two PIs, which share the responsibility for the projects, which provides a good basis for the further development and the long-term perspective of the translational group. It is not very clear how the two team leaders share responsibility for the three projects. It is the visiting committee's impression that both PIs have a very good interaction and personal communication and are very dedicated. The current co-PI structure provides good

opportunities for training and personal development and provides a basis for the long-term development of the translational group.

### Assessment of the team's involvement in training through research

The team has recently recruited 2 doctorants. They supervised 2 M2 students and train regularly 3-4 residents for six months each. The two team leaders are highly involved in teaching duties in cancerology and biochemistry courses (L1 and L2 Sante, DIU, DESC, co-organization of a L3 unit of cancerology). They have half-day project meetings every week.

### Assessment of the five-year plan and strategy

The results obtained during the last period together with the expertise acquired in translational research and their facilitated access to patient samples have led them to propose a project divided into three tasks :

- The validation of early predictive markers of response to chemotherapy in neoadjuvant settings (links between mRNA expression of proliferation network and metabolic shut-off);

- The clarification between the link between P53 status and response to chemotherapy (isogenic p53-modified breast cancer cell lines and nude mice xenografted with these cell lines);

- The exploration of molecular apocrine subgroups (Androgen receptors and signaling).

The question raised are clinically relevant, such as the AR/apocrine issue. The direct involvement of the group in the translational investigations of a current prospective clinical trial on apocrine cancer provides a very good opportunity for further validation. It would be ideal if a similar situation (prospective clinical validation trial) could be developed for the other main research topic of the group, the role of p53 in therapy response. The present results are very interesting, but an additional prospective validation would be a basis for transfer into daily clinical practice and of great additional value. We would encourage the team to further actively try to get funding for such a prospective clinical validation study focused on p53.

The future plans and the scientific programme are ambitious considering the present size of the team. Furthermore, the field of predictive biomarkers is very competitive. The interactions with local clinicians and national clinical groups have already reached a very good status. For further development the interaction with industry and international clinical groups should be intensified. The translational group has the potential to form a link between basic science and clinic. Currently, the personal interactions with the basic science groups in the institution are good, however the scientific interactions could be improved to reach a higher level of international recognition. There is no other team in the unit with a major research focus on breast cancer and the recruitment of such a team should be considered for the further development of the unit.

### Conclusion

- Strengths and opportunities:

- Wide experience in translational reseach in breast cancer;

- Scientific production and grant fundings;

- Direct connection with clinical molecular diagnostics;

- Access to large collections of clinical samples and integration in ongoing clinical trials;

- Clinically relevant questions raised, such as the AR/apocrine issue;

- Several national (essentially in Paris) and international (Copenhagen, Brussels, MD Anderson Texas) collaborations.

- Weaknesses and threats:

- No other team in the unit working on breast cancer and lack of interaction with basic scientists;

- Limited size of the team compared with the large number of proposed projects and international competition in the field.

- Recommendations:

- Top priority should be given to the recruitment of a full-time researcher with a focus on translational breast cancer research;

- The interaction with clinical groups should be further intensified;

- The unit should consider to recruit an additional basic science breast cancer group, which would facilitate the interaction;

- The personal development of the Co-PIs is important for the long term perspective of the translational group.

# 4 • Team-by-team analysis

**Team 6 :** UBIQUITIN AND DYNAMICS OF MOLECULAR SCAFFOLDS

Name of team leader: Ms Catherine DARGEMONT

## Workforce

| Team workforce | Number as at 30/06/2012 | Number as at 01/01/2014 | 2014-2018 Number of project producers |
|---|---|---|---|
| **N1**: Permanent professors and similar positions | | | |
| **N2**: Permanent EPST or EPIC researchers and similar positions | 2 | 2 | 2 |
| **N3**: Other permanent staff (without research duties) | 1 | 1 | 1 |
| **N4**: Other professors (PREM, ECC, etc.) | | | |
| **N5**: Other EPST or EPIC researchers (DREM, Postdoctoral students, visitors, etc.) | 2 | 2 | 2 |
| **N6**: Other contractual staff (without research duties) | | | |
| **TOTAL N1 to N6** | **5** | **5** | **5** |

| Team workforce | Number as at 30/06/2012 | Number as at 01/01/2014 |
|---|---|---|
| Doctoral students | 5 | |
| Theses defended | 3 | |
| Postdoctoral students having spent at least 12 months in the unit | 5 | |
| Number of Research Supervisor Qualifications (HDR) taken | 2 | |
| Qualified research supervisors (with an HDR) or similar positions | 2 | |

# • Detailed assessments

## Assessment of scientific quality and outputs

Considering its size, the production of the team « Ubiquitin and Dynamics of Nuclear Scaffold » is very good both in quantity and quality. It includes regular publications including in top journals in Molecular and Cellular Biology such as Nature Cell Biology or Molecular Cell. The team published in total 15 (+3 from a member of the team) primary research papers in international journals with high/very high impact factor (including Nat Cell Biol, Molecular Cell, Genes and Dev, Nature Structural and Mol Biology, J Cell Biol, PNAS, PLoS Genetics), 4 reviews and comments. These publications reflect the scientific quality of the team production as assessed by their peers. These publications contributed to the visibility of the Institut Jacques Monod where the team was located.

Presentation at conferences is good. The PI was obviously invited as speaker in many occasions.

## Assessment of the team's academic reputation and appeal

The team has a good visibility and appears to be attractive. This is in part reflected by its move to a new location, demonstrating interest for its work outside of the institute where it was previously located. Its visibility/attractiveness is also demonstrated by the participation of the team in networks, both national and international. Some permanent lab members left the group, at least for one of them to take a group leader position elsewhere. The team « Ubiquitin and Dynamics of Nuclear Scaffold » has numerous interactions with other teams in the Paris area supported by appropriate funds: LabEx, ANR and FP7 grants... These occured mostly with teams outside the Institut Jacques Monod where the team was located. It will be important to establish working interactions with teams present in the new unit. Collaborations extend to the national and international levels. The PI is coordinating a Labex of 11 000 000 Euros. The team leader has been elected at EMBO and received the Grand Prix JP Lecocq from the French Academy of Sciences. A junior scientist obtained the Prize H. Starck from the French Association against Cancer. The group leader was invited to 17 international conferences (EMBO, FASEB..). Research programs are supported by national and international agencies (Equipe labellisée LNCC, ANR, Labex, ARC, EU).

## Assessment of the team's interaction with the social, economic and cultural environment

The team « Ubiquitin and Dynamics of Nuclear Scaffold » has participated to several actions that differ from the usual path of scientific production and that had an impact on the society (education, ecology…). It also hosted two young students (from "collège"). If it wishes so, this team will probably have opportunities to strengthen interaction with the social environment by joining the "Arbre des Connaissances" action of the new unit.

There is no specific impact on the economic environment but this is not unexpected given the basic research program of this team.

## Assessment of the team's organisation and life

The life in the team is organized as in most teams with similar size and activities: the group main objectives are defined by the PI and developed by permanent researchers, students or postdocs with some technical support. (It is noteworthy that some of the permanent researchers moved to form independent groups during the last 4 years.) Internal life is supported by lab meeting discussions, organization of seminars, and lab retreats. The PI is responsible to foster synergy between the various sub-projects of the group, and with the host institute. (The latter will be critical after moving to a new environment). When necessary, collaborations with internationally recognized experts are organized allowing the team to effectively implement new strategies and/or investigate new areas. At the Institute level, members of the team invested their time in common unit activities (e.g., radioactivity follow-up). This underlines the involvement of this team in the local organization and life.

## Assessment of the team's involvement in training through research

The team is implicated in training both in the lab (2 M2 students, 5 PhD students (3 completed), 7 post-doc (2 on-going), 2 others (L2 and engineer school)) and through lectures by the permanent staff of the unit. This includes the organization of a M2 cursus. This is an important activity and implication given the team size.

## Assessment of the five-year plan and strategy

The five-year scientific plan and strategy addresses 3 different topics related to nuclear export and postranslational modifications. Collaborations are expected to arise through a move of the « Ubiquitin and Dynamics of Nuclear Scaffold » team in the field of cancer/sumoylation/ubiquitination in cells of higher organisms. Also, analysis of the spatiotemporal organization of mRNP will involve an important technological collaboration outside of the "Molecular Pathology and Virology" unit. With time, it could be of interest to implement these leading microscopy strategies in the unit for the benefit of everyone.

## Conclusion

- Strengths and opportunities:

A team with a strong expertise, a high visibility, and a very good scientific production.

The relocation of the team provides an opportunity to move to higher eukaryotes and establish synergies with local teams.

Access to new technology will favour one of the proposed research line.

- Weaknesses and threats:

Need to integrate into a unit with more clinical orientated questions, implying refocusing part of their project with more emphasis on mammalian cells.

- Recommendations:

The team should quickly integrate the unit once the new research building will be finished (end of 2013) and and establish collaboration with its new (clinical) colleagues.

# 5 • Conduct of the visit

## Visit dates

Start: Thursday, 14, February, 2013 at 9:00

End: Friday, 15, february 2013 at 2:00 pm

Visit site: Hopital Saint Louis

Address : Rue de La Grange aux Belles, Paris

## Specific premises visited:

Conduct or programme of visit: The visit had been carefully prepared and members of the committee liked the scientific quality of the oral presentations. During the visit, the comittee members were able to discover the information essential to the understanding of the life of the unit.

**Day one - February, 14th**

**9:00** (closed-door) Visiting committee with the AERES Scientific advisor
**9:15 AERES representative**: the role and procedures of AERES
**9:30 Director of the unit (30' presentation, 30' discussion):** Presentation of the past activities and project

*10:30-11:00 Coffee break*

**11:00 Team 1 - BIOLOGY OF EMERGING VIRUSES** (20' Talk + 25' discussion, including 5' only with the team leader)
*Mr Ali AMARA*

**11:45 Team 2 - DYNAMICS OF RETROVIRUSES AND RETROTRANSPOSONS** (20' Talk + 25' discussion, including 5' only with the team leader)
*Mr Ali SAIB*

*12:30 Lunch*

**14:00 meetings with personnel:**
Discussions with engineers, technicians, administrative
Discussions with staff scientists
Discussions with students and post-docs

**15:00 Team 3 - UBIQUITIN AND DYNAMICS OF MOLECULAR SCAFFOLDS** (20' Talk + 25' discussion, including 5' only with the team leader)
*Ms Catherine DARGEMONT*

*15:45-16H15 Coffee break*

**16:15 Team4 - GENOME AND CANCER** (20' Talk + 25' discussion, including 5' only with the team leader)
*Mr Jean SOULIER*

**17:00 Team 5 - TRANSLATIONAL CANCER STUDIES** (20' Talk + 25' discussion, including 5' only with the team leader)
*Ms Patricia de CREMOUX/ Ms Jacqueline LEHMANN-CHE*

**17:45** Debriefing on the team presentations

## Day two - February, 15th

**8:30 Team 6 - MOLECULAR PATHOLOGY**(20' Talk + 25' discussion, including 5' only with the team leader)
*Mr Hugues DE THÉ*

**9:15 :** Discussion with the representatives of the managing bodies

*10:15-10:45 coffee break*

**10:45 - 14:00** : Discussion with the head of the unit

**Private meeting of the visiting committee (in presence of the AERES scientific advisor)**

**14:00** End of the visit

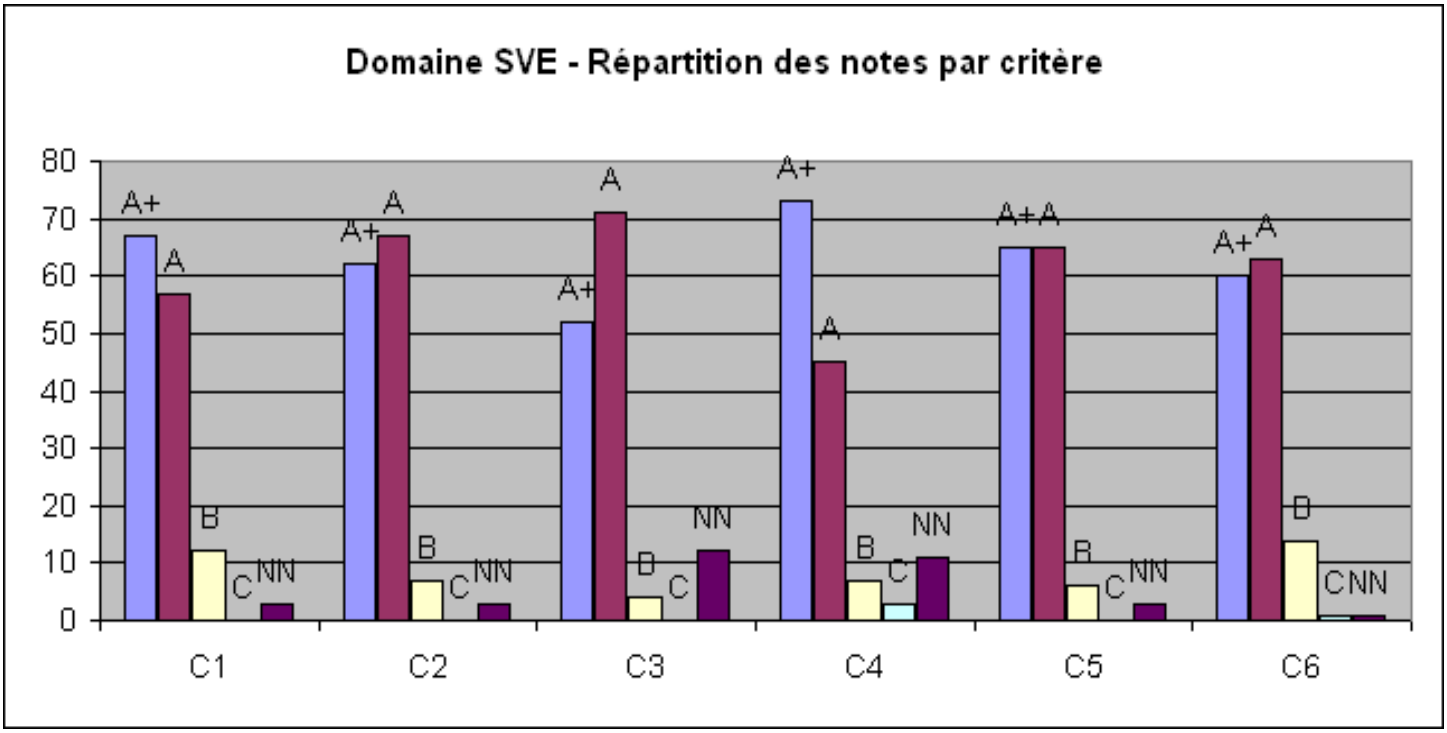
# 6 • Statistiques par domaine : SVE au 10/06/2013

## Notes

| Critères | C1 Qualité scientifique et production | C2 Rayonnement et attractivité académiques | C3 Relations avec l'environnement social, économique et culturel | C4 Organisation et vie de l'entité | C5 Implication dans la formation par la recherche | C6 Stratégie et projet à cinq ans |
|---|---|---|---|---|---|---|
| A+ | 67 | 62 | 52 | 73 | 65 | 60 |
| A | 57 | 67 | 71 | 45 | 65 | 63 |
| B | 12 | 7 | 4 | 7 | 6 | 14 |
| C | 0 | 0 | 0 | 3 | 0 | 1 |
| Non Noté | 3 | 3 | 12 | 11 | 3 | 1 |

## Pourcentages

| Critères | C1 Qualité scientifique et production | C2 Rayonnement et attractivité académiques | C3 Relations avec l'environnement social, économique et culturel | C4 Organisation et vie de l'entité | C5 Implication dans la formation par la recherche | C6 Stratégie et projet à cinq ans |
|---|---|---|---|---|---|---|
| A+ | 48% | 45% | 37% | 53% | 47% | 43% |
| A | 41% | 48% | 51% | 32% | 47% | 45% |
| B | 9% | 5% | 3% | 5% | 4% | 10% |
| C | 0% | 0% | 0% | 2% | 0% | 1% |
| Non Noté | 2% | 2% | 9% | 8% | 2% | 1% |



## 7 • Supervising bodies' general comments

Le Président

P/VB/RL/NC/YM – 2013 - 107
Paris, le 23 avril 2013

M. Pierre Glaudes
Directeur de la section des unités de l'AERES
20 rue Vivienne
75002 PARIS

**S2PUR140006351 - PATHOLOGIE ET VIROLOGIE MOLECULAIRE - 0751723R**

Monsieur le Directeur,

Je tiens en premier lieu à remercier les membres du comité de visite de l'AERES pour la production du rapport sur la situation du Laboratoire « Pathologie et virologie moléculaire », rapport très élogieux qui souligne l'excellente qualité de la recherche qui y est produite, attestée par le haut niveau qualitatif et quantitatif des publications, tant au niveau national qu'international.

Je me réjouis également des commentaires élogieux sur la participation de l'équipe à différents projets internationaux et nationaux, et sur la liste remarquable des prix internationaux obtenus par le laboratoire.

L'université fera, à la mesure de ses moyens, les efforts nécessaires pour maintenir ce niveau d'excellence et assurer le développement des projets à venir portés par les membres de cette unité.

Je vous prie d'agréer, Monsieur le Directeur, l'expression de toute ma considération.

Vincent Berger

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INSERM U944, CNRS UMR 7212
Pathologie cellulaire : aspects moléculaires et viraux

We would first like to gratefully acknowledge the members of the AERES committee, not only for their work, but also for their very positive comments concerning the activity of the laboratory.

Concerning team 6 (**Ubiquitin and Dynamics of Molecular Scaffolds**) and in order to homogenize its report with those of the other teams of the unit, it is important to precise that:

*Assessment of scientific quality and outputs:*
The team published in total 15 (+3 from a member of the team) primary research papers in international journals with high/very high impact factor (including *Nat Cell Biol, Molecular Cell, Genes and Dev, Nature Structural and Mol Biology, J Cell Biol, PNAS, PLoS Genetics*), 4 reviews and comments.

*Assessment of the team's academic reputation and appeal*
The team leader has been elected at EMBO and received the Grand Prix JP Lecocq from the French Academy of Sciences. A junior scientist obtained the Prize H. Starck from the French Association against Cancer.

The group leader was invited to 17 international conferences (EMBO, FASEB..). Research programs are supported by national and international agencies (Equipe labellisée LNCC, ANR, Labex, ARC, EU).

With our best regards,

Hugues de Thé

Head, INSERM U944/CNRS UMR 7212, University Paris Diderot
Member, the French Academy of Sciences