BIOC - Bases moléculaires et régulation de la biosynthèse protéique

Rapport Hcéres

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

Department for the evaluation of research units

AERES report on the interdisciplinary research unit:

Bases moléculaires et régulation de la biosynthèse protéique

BIOC

Under the supervision of the following institutions and research bodies:

École Polytechnique

Centre National de la Recherche Scientifique - CNRS

January 2014

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

Department for the evaluation of research units

On behalf of AERES, pursuant to the Decree of 3 november 2006[1],

- Mr. Didier HOUSSIN, president
- Mr. Pierre GLAUDES, head of the evaluation of research units department

On behalf of the expert committee,

- Mr. Dino MORAS, chair of the committee

[1] The AERES President "signs [...], the evaluation reports, [...] countersigned for each department by the director concerned" (Article 9, paragraph 3 of the Decree n ° 2006-1334 of 3 November 2006, as amended).

Evaluation report

This report is the result of the evaluation by the experts committee, the composition of which is specified below.
The assessments contained herein are the expression of an independent and collegial deliberation of the committee.

Unit name:	Bases moléculaires et régulation de la biosynthèse protéique
Unit acronym:	BIOC
Label requested:	UMR
Present no.:	UMR 7654
Name of Director (2013-2014):	Mr Yves MECHULAM
Name of Project Leader (2015-2019):	Mr Yves MECHULAM

Expert committee members

Chair:	Mr Dino MORAS, Université de Strasbourg
Experts:	Mr Mikael BJORNSTEDT, Karolinska Institutet – Stockholm, SWEDEN
	Mr John Mc CARTHY, University of Warwick - UK
	Ms Catherine ETCHEBEST, Université Paris Diderot
	Mr Patrice GOUET (representative of CoNRS)
	Ms Marina RODNINA, Max Planck Institute for Biophysical Chemistry – Göttingen, GERMANY

Scientific delegate representing the AERES:

Mr Jacques BARATTI

Representatives of the unit's supervising institutions and bodies:

Mr Pierre LEGRAIN (representative of Doctoral School)

Mr Patrick LE QUERE, École Polytechnique

Mr Jean-Claude MICHALSKI, CNRS

1 • Introduction

History and geographical location of the unit

The laboratory of Biochemistry of the École Polytechnique was created in 1975 to study the molecular bases and mechanisms of translation of the genetic message into proteins, using and developing the techniques and methods of biochemistry, molecular biology, analytical chemistry, structural analysis and bioinformatics. Beside bacteria, yeast and mammals, in the past ten years archaea also became an important model organism. The importance of bacteria remains essentially as targets for antibacterial action. Now the studies of translation mechanisms in eukaryotes constitute the major project. Beyond their interest for basic research, these central processes have in the past few years been clearly identified as important therapeutic targets. New directions of research have been explored, notably toward fields corresponding to patent social requests (ie. selenium toxicity). Following the recruitment in 2003 of a new investigator the "Structural bioinformatics" theme has been initiated. In 2012 the translation related project has been reinforced by to the recruitment of a young investigator who is in charge of the 5th theme concerning translation termination and mRNA decay.

The laboratory is part of the research section of École Polytechnique in Palaiseau (plateau de Saclay) near other prestigious research centers (Orsay University, CNRS campus of Gif, CEA-Saclay…). The ongoing process of integration of these institutions within a single campus is a unique opportunity. The proximity of the synchrotron Soleil and the associated developments is an additional asset.

Management team

Mr Yves MECHULAM, the director of the laboratory, is assisted by a referent for Communication and Training (formation), and a person in charge of "Safety and working conditions" and PCR (competent person for radioprotection).

The scientists responsible for research themes are systematically consulted before any important decision

AERES nomenclature

SVE1_LS1

Unit workforce

Unit workforce (full time equivalents)	Number as at 30/06/2013	Number as at 01/01/2015
N1: Permanent professors and similar positions	3	3
N2: Permanent researchers from Institutions and similar positions	7	7
N3: Other permanent staff (without research duties)	10.6	9.6
N4: Other professors (Emeritus Professor, on-contract Professor, etc.)	1	1
N5: Other researchers from Institutions (Emeritus Research Director, Postdoctoral students, visitors, etc.)	4	1
N6: Other contractual staff (without research duties)		
TOTAL N1 to N6	**25.6**	**21.6**

Unit workforce	Number as at 30/06/2013	Number as at 01/01/2015
Doctoral students	6	
Theses defended	8	
Postdoctoral students having spent at least 12 months in the unit*	4	
Number of Research Supervisor Qualifications (HDR) taken	1	
Qualified research supervisors (with an HDR) or similar positions	5	5

2 • Overall assessment of the interdisciplinary unit

Strengths and opportunities related to the context

The projects on the archaeal translation machinery and on the relationship between translation and mRNA decay in eukaryotes are of very high quality with a promising future. The related publications have long-lasting impact and high visibility.The highlight of the last period is the structure of the ternary initiation complex aIF2-GDPNP-Met-tRNA. The work is highly original; the results were unexpected and led the field towards new concepts. The work on selenium cytotoxicity has had a great impact in the field. Over the last period the "Computational studies" theme was highly productive. The team must be commended for the quality of the atmosphere. Recent strategic movements towards hybrid structural approaches in combination with biophysics are very promising and will further increase the drawing power of the unit.

Weaknesses and threats related to the context

"Selenium toxicity" does not fit in the general issues studied by the unit.

The CRISPR project starts in a highly competitive field without visible advantages.

Recommendations

More focus and a better integration between computational and experimental approaches would strengthten the unit research capability and revigorate the applied aspects of the research.

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3 • Detailed assessments

Assessment of scientific quality and outputs

The unit has a particular strength in structural studies in translation initiation. The publications coming from the group have long-lasting impact and high visibility. The recruitment of a successful young PI in the related topic "Coupling between translation termination and mRNA decay in eukaryotes" strengthens this research domain. Recent strategic movement towards hybrid structural approaches in combination with biophysics is very promising and will further increase the drawing power of the theme and the unit.

The team has produced some really good work in the field of selenium cytotoxicity, work that has a great impact in the field. If the group expands the model systems beyond yeast and create networks with complementary expertise outside of the unit, the team may be very successful.

The bioinformatics group is well recognized in the field (invitations in international meetings and reviews) and was highly productive during the past period.

Assessment of the unit's academic reputation and appeal

The unit has established numerous collaborations with other academic laboratories as well as companies.

The laboratory is involved in FRISBI (south-Paris node), the french infrastructure for integrated structural biology, as well as in the national research program GDR "Archées".

The unit's head, chair of the Biology department at EP, is a member of Soleil SAB.

Several BIOC members have international recognition.

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

The laboratory is active in the social and cultural area. It participates on a regular basis to actions aimed at raising awareness to Science (i.e., « Journée Portes Ouvertes »).

The members of the unit are evidently highly focused on basic research. However, in a few areas interactions with other (commercial) partners could potentially lead to the development of novel antibacterials and should be considered.

Two collaborative studies with industrial partners show the unit's potential (NANOBIOSENSORS ANR project with THALES Research and ANR project PROTICAD with Kineo-CAM, a company developing computer-aided motion tools, recently bought by SIEMENS).

Assessment of the unit's organisation and life

The unit works as a single team/laboratory with 4/5 themes of research. The operating mode is by "Assemblée Générale" (general assembly) rather than with an elected "Conseil de laboratoire". All unit members can therefore express their opinion on important questions, such as for instance the role of the laboratory in the construction of a biology institute at École Polytechnique. This assembly votes the modifications of the "Règlement Intérieur" and meets at least once a year, for information and discussions around safety issues. All equipment is made available to all laboratory members.

The scientists responsible for research themes are systematically consulted before any important decision.

The themes could easily overlap with the concept of teams but the committee could observe a general agreement with the present organisation and, thanks to the management, a good atmosphere within the unit.

The laboratory has 11 ITAs (engineers, technicians, administrators), 9 from École Polytechnique and 2 from CNRS. During the meeting with the committee members, the ITAs expressed their satisfaction with the mode of operation of the laboratory, which promotes their polyvalence and implication in research projects. Working conditions and relationships with the direction are appreciated. Concerns were expressed regarding career

developments (limited opportunities to change job level) and the creation of platforms in the X-Bio project, which will decrease the involvement of ITAs in research projects. The distribution of work between platforms and projects should be discussed with the direction.

Assessment of the unit's involvement in training through research

The unit is strongly involved in teaching at École Polytechnique (EP).

Three CNRS researchers are part-time teachers of EP. The unit hosts three EP lecturers in Bioinformatics (teaching and experimental training). The laboratory plays also a key role in biology experimental training by providing teachers and giving students access to the lab equipment. A unit member is in charge (with a member of the Informatics department) of the third year program on “Bioinformatics”. The unit’s head is in charge of the third year program “Biology”. Three courses, “Computational Biology”, “Experimental training in genetical engineering” and “Project in computational biology”, are taught by members of BIOC. BIOC is also deeply involved in an experimental teaching program for second-year students.

The unit contributes to two Master 2 programs anchored to the Saclay campus: “Engineering of Biomolecules” and “Bioinformatics and Biostatistics”.

BIOC is involved in a recently launched national network for teaching Integrative Structural Biology to PhD students and young researchers. This network constitutes the teaching part of the French Initiative for Integrated Structural Biology.

In the 2008-2013 period, the laboratory has hosted a total of 31 students for research internships.

The important development of biology in the academic cursus of EP should favor the recruitment of more PhD students from EP in BIOC. In view of the quality of the EP students this opportunity is of strategic importance for both the unit and the school.

Students are members of ED n°447, a Doctoral School hosted by both École Polytechnique and ENSTA Paris Tech (École Nationale Supérieure de Techniques Avancées). This school is multidisciplinary and Biology is an active part of it.

Assessment of the strategy and the five-year plan

The research of the laboratory is deeply anchored in biological questions, with strong interfaces with informatics. The fusion of bioinformatics and experimental biology projects goes in the right direction. The combination of hybrid structural approaches with biophysical and computational methods is another extremely valuable development.

An important challenge arises from the planned expansion of biology at EP with the operation "Biology and Interfaces" which will result in the creation of the X-Bio (for cross-disciplinary biology) Institute. This institute will federate the facilities and the programs of the BIOC and the LOB (Laboratory of Optics and Biosciences from the Physics department). New teams will be recruited in the field of Cell Biology in order to reinforce the biology core and reach a critical mass in integrated biology. The institute aims at giving EP an international visibility in biology. It is integrated in the development of the Saclay campus where other biology institutes are being set up.

The project is appealing and deserves a high priority. The BIOC is rightfully at the heart of the program but there appears to be significant uncertainty regarding the impact of the LOB on the BIOC research priorities. It is imperative that the mode of working and the areas of collaboration between the two units are clarified.

4 • Theme-by-theme analysis

Theme 1: Structure-function relationships of proteins involved in the translation of the genetic message

Manager's name: Mr Yves MECHULAM and Mr Pierre PLATEAU

Workforce

Theme workforce in Full Time Equivalents	As at 30/06/2013	As at 01/01/2015
FTE for permanent professors	1	
FTE for permanent EPST or EPIC researchers	1.5	
FTE of other permanent staff without research duties (IR, IE, PRAG, etc.)	2.4	
FTE for other professors (PREM, ECC, etc.)	0.5	
FTE for postdoctoral students having spent at least 12 months in the unit		
FTE for other EPST or EPIC researchers (DREM, etc.) excluding postdoctoral students		
FTE for other contractual staff without research duties		
FTE for doctoral students		
TOTAL	**5.4**	

This theme will be fused with bioinformatics from 1/1/15.

- *Strengths and opportunities:*

A number of interesting and promising lines of research have been pursued in this area. However, there is a feeling of incoherence about this theme. The projects on D-aminoacyl-tRNA deacylase in blue algae and the one on 16S-rRNA methylases were effectively abandoned because there was apparently no interest in exploring the potential for these lines of work to serve as platforms for the development of antibacterials. Section 1.5 of the scientific report indicates that there was a short-term commitment to research on potential biosensors. This area of work has also been terminated.

The potential for exploitation of the methionyl-tRNA synthetase mutants to enable *in vivo* incorporation of non-canonical amino acids into proteins is apparently not a priority. Although the research collaborators in California may have been the initial drivers for this project, this does not rule out further development of this area by BIOC. Given that the Director indicated that synthetic biology is a developing interest within the unit, the team might want to revisit the discussion of this area. Section 1.5 indicates that there was a short-term commitment to research on potential biosensors. This area of work has also been terminated with two publications in Biosens Bioelectron (2009) and Opt express (2010).

- *Weaknesses and threats:*

Potential applications of the theme's results have not been further investigated due to a lack of interest.

- *Recommendations:*

Two promising projects could potentially form the basis for novel drug targeting work, peptidyl-tRNA hydrolase and methionyl-tRNA synthetase. Research that has practical uses can also be intellectually challenging and exciting, and therefore the decision to deprioritize these projects should be reconsidered. The fusion with theme 3 provides such an opportunity.

Theme 2: Toxicity of selenium

Manager's name: Mr Pierre PLATEAU

Workforce

Theme workforce in Full Time Equivalents	As at 30/06/2013	As at 01/01/2015
FTE for permanent professors		
FTE for permanent EPST or EPIC researchers	1.5	1.5
FTE of other permanent staff without research duties (IR, IE, PRAG, etc.)	1	1
FTE for other professors (PREM, ECC, etc.)	0.5	0.5
FTE for postdoctoral students having spent at least 12 months in the unit		
FTE for other EPST or EPIC researchers (DREM, etc.) excluding postdoctoral students		
FTE for other contractual staff without research duties		
FTE for doctoral students		
TOTAL	**3**	**3**

- *Overall opinion of the theme :*

The theme was established in 2007. The quality of the work is excellent and, despite a limited production (5 published papers in JBC, FEBS J, Plos One), the constellations work has had a major impact on the field.

The reputation of the team is good, based on the good but limited production. However the focus of the theme does not fit in the general issues studied by the unit. The team is isolated in the present environment and this isolation may harm the ability to progress. There are no natural points of connection between this theme and the rest of the unit.

The drawing power would increase drastically if the team broadens the field of research by creating network and expanding the models under study beyond solely yeast.

- *Strengths and opportunities :*

The team has produced some really good work in the field of selenium cytotoxicity, work that has a great impact in the field. The team may be very successful if they continue this work and expand the model systems beyond yeast and create networks with complementary expertise outside of the unit.

- *Weaknesses and threats :*

The group is isolated in the unit and there seems to be no really firm ideas of how to proceed and develop the successful work that has been produced so far. The presentation did not give any vision for how to expand the research in models beyond yeast and no networks or collaborations were mentioned. The risk is that the lack of a strategy will severely prevent a successful continuation of the selenium research.

- *Recommendations :*

The drawing power would increase drastically if the team broadens the field of research by creating network and expanding the models beyond solely yeast.

Theme 3: Computational studies

Manager's name: Mr Thomas SIMONSON

Workforce

Theme workforce in Full Time Equivalents	As at 30/06/2013	As at 01/01/2015
FTE for permanent professors	1	
FTE for permanent EPST or EPIC researchers	2	
FTE of other permanent staff without research duties (IR, IE, PRAG, etc.)	1	
FTE for other professors (PREM, ECC, etc.)		
FTE for postdoctoral students having spent at least 12 months in the unit		
FTE for other EPST or EPIC researchers (DREM, etc.) excluding postdoctoral students		
FTE for other contractual staff without research duties		
FTE for doctoral students	1	
TOTAL	**5**	

From 1/1/15, this theme will be fused with "engineering" and become: "Macromolecular engineering: computational and experimental studies". Manager: Mr Thomas SIMONSON; co-managers: Mr Yves MECHULAM and Mr Pierre PLATEAU.

Workforce

Theme workforce in Full Time Equivalents	As at 30/06/2013	As at 01/01/2015
FTE for permanent professors		1
FTE for permanent EPST or EPIC researchers		2.5
FTE of other permanent staff without research duties (IR, IE, PRAG, etc.)		1.5
FTE for other professors (PREM, ECC, etc.)		
FTE for postdoctoral students having spent at least 12 months in the unit		
FTE for other EPST or EPIC researchers (DREM, etc.) excluding postdoctoral students		
FTE for other contractual staff without research duties		
FTE for doctoral students		
TOTAL		**5**

The theme focus is on the development and refinement of computational methods for the design of proteins (sequence-space exploration). The sophisticated procedure, based on the accurate evaluation of free energies of binding, allows sequences that fit for a given feature to be generated and ranked. The method is made freely available to the community as the Proteus software. Applications dealt with problems related to drug design or enzyme-substrate recognition in amino-acyl-t-RNA synthetases.

The bioinformatics project for the next period will consist mainly of pursuing the present developments. The applications on the elucidation of allosteric mechanisms of translational GTPases and the design of aminoacyl/tRNA-synthetases specificity will be continued.

- *Overall opinion of the theme :*

During the past period, the theme was highly productive (~30 papers, ie. J Mol Biol, JACS, J Compt Chem, Biochemistry, Plos One ...). However the degree of integration between computational and experimental work was found to be lower than expected. The team appeared not to be collaborating with colleagues within the unit on a number of projects where such collaboration might be advantageous. A stronger alignment of this team with the research objectives of the other parts of the unit would bring dividends for all concerned. The fusion of the theme with the previous protein engineering project provides such an opportunity.

- *Strengths and opportunities :*

The theme leader is well recognized in the field (invitations in international meetings and reviews). Two young researchers were recently recruited and the theme benefits from a strong support from EP which provides PhD and post-doc fellowships. The theme is also implicated in teaching and looks attractive for master students.

- *Weaknesses and threats :*

The spectrum of applications is rather large and not much connected to the topics and experimental studies conducted in the unit.

- *Recommendations :*

A focus on fewer projects driven by the data provided by the experimental groups will be beneficial to both sides. It would also help to further assess the methodology. The fusion of the theme with the protein engineering theme is a move in the good direction. The availability and the visibility of the methods would be greatly improved by the development of web services.

Theme 4: Supramolecular assemblies in initiation of translation

Manager's name: Ms Emmanuelle SCHMITT and Mr Yves MECHULAM

Workforce

Theme workforce in Full Time Equivalents	As at 30/06/2013	As at 01/01/2015
FTE for permanent professors	1	1
FTE for permanent EPST or EPIC researchers	1	1
FTE of other permanent staff without research duties (IR, IE, PRAG, etc.)	0.9	1.3
FTE for other professors (PREM, ECC, etc.)		
FTE for postdoctoral students having spent at least 12 months in the unit		
FTE for other EPST or EPIC researchers (DREM, etc.) excluding postdoctoral students		
FTE for other contractual staff without research duties		
FTE for doctoral students	1	
TOTAL	**3.9**	**3.3**

The topic is timely and internationally highly competitive. In recent years, the team has made a number of important steps towards solving the structures of macromolecular complexes in translation initiation and understanding their function. The highlight of the last period is the paper in Nature Structural and Molecular Biology, which reports the structure of the ternary initiation complex aIF2-GDPNP-Met-tRNA. The work is highly original; the results were unexpected and led the field towards new concepts for the mechanisms of recognition in initiation complexes.

While crystallography remains a strong focus, the team continues to develop hybrid approaches towards large macromolecular complexes. In particular, they have established a very valuable collaboration on cryo-electron microscopy with a group in Strasbourg who belongs to the outstanding specialists in that field, which opens a new exciting route towards solving the structures of the ribosome complexes in translation initiation. This is a very challenging goal at the forefront of the field. Furthermore, the translation initiation team has joint interests with the computational studies group on the GTPase mechanisms of translation factors, which is another very exciting direction. Finally, the team has invested a considerable effort in establishing a toolbox of biochemical and biophysical approaches to study translation initiation in archaea, which brings them in a worldwide unique position to probe the function-structural relationships. In summary, the productivity and the scientific quality of the team in the field of translation initiation is excellent with a strong position for further innovative work in the next period.

The focus of the team on structure and function of translation initiation is at the core of the unit. The theme provides a focal point for a number of other projects and developments. It has a strong record in studies of gene expression and outstanding expertise which can be used as a platform for all members of the unit. The theme provides natural collaborations with computational studies, translation termination and mRNA stability and diverse protein biosynthesis and engineering projects.

- *Overall opinion of the theme:*

For this theme the unit has a well-established reputation as a leader in the field. The publications coming from the group have long-lasting impact and high visibility. Recent strategic movement towards hybrid structural approaches in combination with biophysics is very promising and will further increase the drawing power of the theme.

- *Strengths and opportunities:*

The group solved some of the most challenging problems in establishing the biochemical and biophysical approaches in archaeal translation initiation. These methods, in combination with the hybrid structural approaches established in the lab, provide a strong basis for the future success of the theme. The theme is and will remain the core of the unit, providing numerous possibilities for collaboration and exchange in know-how and human resources. The position of the group within the unit and its international standing are very strong.

- *Weaknesses and threats:*

The only potential weakness lies in the absence of in-house cryo-EM facility for analysis of biological samples (presently this work is done in collaboration with Strasbourg). The group would have the necessary expertise. Here, a stronger commitment of the school to the focus on Biology would be desirable.

- *Recommendations:*

The theme should be strongly supported and further strengthened. In particular, the combination of hybrid structural approaches with biophysical and computational methods is extremely valuable in the context of the unit and the school as a whole and should be strongly supported.

Theme 5: Coupling between translation termination and mRNA decay in eukaryotes

Manager's name: Mr Marc GRAILLE

Workforce

Theme workforce in Full Time Equivalents	As at 30/06/2013	As at 01/01/2015
FTE for permanent professors		
FTE for permanent EPST or EPIC researchers	1	1
FTE of other permanent staff without research duties (IR, IE, PRAG, etc.)		
FTE for other professors (PREM, ECC, etc.)		
FTE for postdoctoral students having spent at least 12 months in the unit		
FTE for other EPST or EPIC researchers (DREM, etc.) excluding postdoctoral students		
FTE for other contractual staff without research duties		
FTE for doctoral students	2	
TOTAL	**3**	**1**

• Detailed assessments

- *Overall opinion of the theme:*

This research theme is new to the unit. It is headed by a young CNRS research director who joined the unit in 2012 with an ATIP-Avenir support. The recruitment strategy was recommended by the previous visiting AERES Committee. The committee feels that this new theme is excellent and fits well into the global strategy of research of the laboratory. The PI has a strong background in biocrystallography and a recognized expertise in mRNA decay studies, as testified by his recent publication co-signed with a team leader at IGBMC (Strasbourg) in the top ranked Nat. Rev. Mol. Cell Biol. Ongoing research projects include molecular and structural studies of macromolecular complexes related to ribosome activity, such as the methyltransferase adaptor protein Trm112 in complex with its targets, and the regulation of mRNA decay at the level of decaping.

- *Strengths and opportunities:*

This research theme focuses on macromolecular complexes for which multiple structural approaches are needed. Locally, it benefits from the human and technical potential of the laboratory in protein expression, purification and crystal growth. The proximity of the French synchrotron SOLEIL ensures a privileged access to high quality SAXS and macromolecular crystallography beamlines. The presence within the laboratory of bioinformatics can be an asset to synergistically decipher specific protein-protein interactions, especially in the case of the adaptor Trm112. At the national and international level, the PI has developed tight collaborations with teams at the forefront of mRNA decay studies.

- *Weaknesses and threats:*

The PI has so far been successful in raising funds and postdoctoral grants but the limited size of the group could be a threat in this highly challenging field of research.

- *Recommendations:*

To seek reinforcing and stabilizing this promising research theme with the recruitment of another permanent staff member (“Chargé de recherche” or “Maître de Conférences” or an engineer as one will reach retirement age).

Newly created theme: CRISPR-dependent immunity of bacteria.

Manager's name: Mr Pierre PLATEAU

Workforce

Theme workforce in Full Time Equivalents	As at 30/06/2013	As at 01/01/2015
FTE for permanent professors		1
FTE for permanent EPST or EPIC researchers		1.5
FTE of other permanent staff without research duties (IR, IE, PRAG, etc.)		1
FTE for other professors (PREM, ECC, etc.)		1
FTE for postdoctoral students having spent at least 12 months in the unit		
FTE for other EPST or EPIC researchers (DREM, etc.) excluding postdoctoral students		
FTE for other contractual staff without research duties		
FTE for doctoral students		
TOTAL		**4.5**

The CRISPR project has just started and the quality cannot be assessed. This is a highly competitive field.

5 • Conduct of the visit

Dates of the visit : January 30 th and 31st, 2014

Sites for the visit: Route de Palaiseau Saclay (January 30th), AERES, Paris (January 31th)

Programme of the visit:

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

Bases moléculaires et régulation de la biosynthèse protéique (BIOC)

Ecole Polytechnique and CNRS

Director Yves Mechulam

Program of the visiting committee

Date of the visit: January 30-31, 2014

Sites for the visit: Route de Saclay, Palaiseau (Jan 30)
AERES, Paris (Jan 31)

January 30, 2014 (Palaiseau)

09:00	*00:15*	Welcome to the committee (15 min)

1. Scientific part

9:15	*00:10*	Presentation of AERES evaluation and of committee members *(J. BARATTI and Dino MORAS) (10 min)*
9:25	*00:40*	Presentation of the unit and of the project: Yves MECHULAM (20 min + 20 min discussion) *Attending: Committee members, AERES scientific delegate, representatives of Institutions and unit members*
10:05	*00:40*	Scientific Presentation Toxicity of Selenium + CRISPR - Pierre PLATEAU (20 min + 20 min discussion) *Attending: Committee members, AERES scientific delegate, representatives of Institutions and unit members*
10:45	*00:15*	Break (15 min)
11:00	*00:40*	Scientific Presentation Translation initiation - Emmanuelle SCHMITT (20 min + 20 min discussion) *Attending: Committee members, AERES scientific delegate, representatives of Institutions and unit members*
11:40	*00:40*	Scientific Presentation Translation termination and mRNA stability - Marc GRAILLE (20 min + 20 min discussion) *Attending: Committee members, AERES scientific delegate, representatives of Institutions and unit members*
12:20	*01:30*	*Lunch - buffet / discussion (90 min)*
13:50	*00:50*	Scientific Presentation Computational studies - Thomas SIMONSON (25 min + 25 min discussion)

Attending: Committee members, AERES scientific delegate, representatives of Institutions and unit members

14:40 *00:40* **Scientific Presentation Protein biosynthesis - Pierre PLATEAU- Yves MECHULAM (20 min + 20 min discussion)**

Attending: Committee members, AERES scientific delegate, representatives of Institutions and unit members

3. Meeting with researchers, technicians, doctoral students and post doctoral fellows

15:20 *00:30* *in parallel the committee splits into three groups.*

Meeting with researchers
Meeting with technicians
Meeting doctoral students and post doctoral fellows

Attending: Committee members, AERES scientific delegate, without the leaders, representative of institution, without the direction of the unit and without Theme leader

15:50 *00:15* **Break (15 min)**

4. Meeting with representatives of Institutions

16:05 *00:30* ***(30 min discussion with committee members)***

Attending : Committee members, AERES scientific delegate, representatives of Ecole Polytechnique (Patrick LE QUERE) and of CNRS (Jean-Claude MICHALSKI)

5. Meeting with the director of the Doctoral School - Pierre LEGRAIN

16:35 *00:15* ***(15 min discussion)***

Attending : Committee members, AERES scientific delegate

6. Meeting with the unit Director

16:50 *00:30* ***(30 min discussion with the committee)***

Attending : Committee members, AERES scientific delegate

7. First debriefing of the committee

17:20 *01:00* **Deliberation of the committee (closed hearing)** *(60 min)*

Attending : Committee members, AERES scientific delegate

18:20 *00:10* ***Thanks and leave of the committee***
18:30 ***End***

January 31, 2014 (AERES, Paris)

7. Debriefing of the committee

8:30 *03:00* **Deliberation of the committee (closed hearing)** *(120 min)*

Attending : Committee members, AERES scientific delegate

11:30 *00:10* ***Thanks and leave of the committee***
11:40 ***End***

6 • Supervising bodies general comments

Patrick Le Quéré
Directeur adjoint de l'Enseignement et de la Recherche

Madame Nathalie Dospital
Déléguée Administrative
Section des unités
AERES
20 rue Vivienne
75002 PARIS

Objet : Evaluation AERES du BIOC
Référence : DAER /LL/14 – n° 112
PJ : Réponse au rapport d'évaluation du BIOC - E2015-EV-0911568K-S2PUR150008480-005937-RT

Palaiseau, le 19 mai 2014

Chère Madame,

Le BIOC (UMR 7654) n'a pas de remarque particulière à formuler sur le rapport AERES.

En tant que co-tutelle du BIOC, nous n'avons pas de commentaire particulier à faire, autre que vous faire savoir que nous avons été très sensibles à la qualité du rapport, et vous prions de remercier en notre nom l'ensemble des membres du comité et son président pour le temps qu'ils ont consacré à cette évaluation.

En vous souhaitant bonne réception de la présente, je vous prie de croire, Chère Madame, à l'assurance de mes meilleures salutations.

Patrick Le Quéré
Directeur adjoint de l'Enseignement et de la Recherche

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