CBMN - Chimie et biologie des membranes et des nanoobjets

Rapport Hcéres

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

Section des Unités de recherche

Rapport de l'AERES sur l'unité :

CBMN « Chimie et Biologie des Membranes et des Nanoobjets »

sous tutelle des établissements et organismes :

Université Bordeaux 1

CNRS

IPB (Institut Polytechnique de Bordeaux)

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Le Président de l'AERES	Section des unités de recherche
	Le Directeur
Jean-François Dhainaut	**Pierre Glorieux**

Mai 2010

Unité

Nom de l'unité: CBMN « Chimie et Biologie des membranes et des Nanoobjets »

Label demandé: UMR

N° si renouvellement: UMR 5248

Nom du directeur: M. Erick DUFOURC

Membres du comité d'experts

Président:

M. Jay S. SIEGEL, University of Zurich, CH

Experts:

M. Olivier REISER ; University of Regensburg, GE

M. Horst VOGEL, EPF Lausanne, CH

M. Burkhard BECHINGER, Université de Strasbourg, FR

M. Felix GOÑI, University of Bilbao, SP

Mme Sophie CRIBIER, Université de Paris VI, FR

M. Patrik RORSMAN, University of Oxford, UK

M. Gaspar PEREZ-MARTINEZ, Valence, SP

M. Richard RETOUX, Université de Caen, FR

Expert(s) proposés par des comités d'évaluation des personnels (CNU, CoNRS, CSS INSERM, représentant INRA, INRIA, IRD…..) :

Mme Agnès DELMAS, Université d'Orléans (CoNRS)

Représentants présents lors de la visite

Délégué scientifique représentant de l'AERES :

M. Pascal DUMY

Représentant(s) des établissements et organismes tutelles de l'unité : Université Bordeaux 1 :

Jean-Rodolphe PUIGGALI, Vice Président du Conseil Scientifique

CNRS : Georges MASSIOT (DSA INC, CNRS), Bertrand FOURCADE (CM, INP, CNRS)

IPB (Institut Polytechnique de Bordeaux) : François CANSELL, Directeur Général

Rapport

1 • Introduction

- Date et déroulement de la visite :

23 November morning: meeting with Director/Students/Engineers/Laboratory Council/Trustees. In parallel meeting of CBMN engineers with AERES Engineers' Expert and visit of platforms

23 November afternoon: General presentation (director) & flash presentations of 14 team leaders. In parallel meeting of CBMN engineers with AERES Engineers' Expert and visit of platforms (cont.)

24 November morning: Visit on sites of 3 subcommittees, discussions with teams for all 3 departments

24 November noon: lunch with all members

24 November afternoon: committee deliberation

- Historique et localisation géographique de l'unité et description synthétique de son domaine et de ses activités :

The Institute has been funded in 2007 and comes from the fusion of the UMR MoBIOS (dir JM Schmitter), the UMR UBS (dir A Brisson), the ENITAB microbiology Lab (dir M Urdaci), the University Bordeaux 1 JE2390 (dir J Lang) and the Desbat's team from UMR LPTC. The UMR is organized into 4 departments :

Biomimetic and Medicinal Chemistry (Huc, Ghosez)

Biophysic and Structural Biochemistry (Schmitter, Gallois, Dufourc)

Physical-Chemistry of membranous systems (Desbat, Oda, Elezgaray/Laguerre)

Cellular biology, microbiology and membrane biochemistry (Brisson, Lambert, Lang, Urdaci)

whose 12 independent research teams (size ranging from 1 to 7 permanent people) are localized on 3500m2 on 3 locations (IECB, ENITAB et Bat B8) close within 100 to 1000m.

ICBMN's aim is to gain fundamental knowledge of complex Chemico-Biological phenomena by analysing them at several time and spatial scales, from the molecule to the cell and to the organism. Membranes both synthetic and natural, and chemical and physical nanoobjects are the main keywords. The institute also develops applied science towards cellular adhesion, nanochips, delivery of active molecules, valorisation of probiotic bacteria, curing diabetes and development of colloids in nutrition and health. Some of the CBMN's teams (Dufourc, Huc, Lang, Oda, Brisson, Laguerre, Ghosez, Schmitter) are also part of IECB (European Institute for Chemistry and Biology) which combines, under the umbrella of public institutions, research teams that carry out their research at the interfaces between organic chemistry, structural biology and molecular cell biology for a ten years period.

In June 2009, CBMN had 59 permanent people:

- 11 professeurs (8 Univ Bordeaux I, 1 ENITAB, 1 Univ Bordeaux II and 1 Univ Limoges)
- 13 Maîtres de conférences (9 Univ Bordeaux I, 2 ENITAB, 1 Univ Bordeaux IV and 1 Univ Limoges)
- 8 and 6 directeurs and chargé de recherche CNRS
- 20 IATOSS/ITA (4 Univ Bordeaux I, 5 ENITAB, 11 CNRS)

- Equipe de Direction : Erick Dufourc & Alain Brisson

- Effectifs de l'unité : (sur la base du dossier déposé à l'AERES) *(Institute Members)* :

	Dans le bilan	Dans le projet
N1 : Nombre d'enseignants-chercheurs (cf. Formulaire 2.1 du dossier de l'unité) (*Faculty Members)*	24	36
N2 : Nombre de chercheurs des EPST ou EPIC (cf. Formulaire 2.3 du dossier de l'unité) (*Researchers)*	14	19
N3 : Nombre d'autres enseignants-chercheurs et chercheurs (cf. Formulaire 2.2 et 2.4 du dossier de l'unité) *(Non Permanent scientists)*	16	20
N4 : Nombre d'ingénieurs, techniciens et de personnels administratifs titulaires (cf. Formulaire 2.5 du dossier de l'unité) *(Permanent Technical staff)*	20	25
N5 : Nombre d'ingénieurs, techniciens et de personnels administratifs non titulaires (cf. Formulaire 2.6 du dossier de l'unité) *(Non Permanent Technical staff)*	1	1
N6 : Nombre de doctorants (cf. Formulaire 2.7 du dossier de l'unité) (*PhD Students)*	34	52
N7 : Nombre de personnes habilitées à diriger des recherches ou assimilées (*PhD supervisors)*	27	41

2 • Appréciation sur l'unité

- Avis global *(Global appreciation)*:

The unit is very well organized at all levels (management, animation, hygiene & safety, training, web site…). A scientific advisory council (team leaders), which meets monthly, helps the director to define the scientific policy, a laboratory advisory council, which is composed of representative of all the personnel categories, advices the director for all matters concerning the UMR. From 2006 to 2009 the scientific production of the unit is very good in terms of quality and quantity. Teams are dynamic and produce in average 2 publications per year per Scientist & Faculty member, some of them having a very good international visibility. CBMN possesses international expertise in all structural techniques (NMR, X-rays, Mass spectrometry, IR&Raman, Electron microscopy) and top equipment. It takes a great part in the organization of teaching in chemistry and biology, including structural biology and microbiology in both Universities of Bordeaux (1&2). CBMN proves capable to attract high calibre young scientists thanks to its participation in IECB and annual IECB's calls. CBMN was very active and prolific to rise funding from competitive granting agencies (up to 40% of the CBMN budget).

- Points forts et opportunités (*Strengths*):

Interdisciplinary institute with well recognized scientists in chemistry, biophysics and biology. Patent policy and industrial development both at regional and national level. High level of publications, very high number of inter-team publications corroborating the complementarities of research and expertizes. Half of the people are PhDs and Postdocs, which is quite unusual in France. High level teaching participation for faculty members. Implicated in numerous networks where the lab heads are coordinators. Capable to generate a lot of grants for science and large scale equipments. A very great dynamism and a very great motivation emanate from the laboratory which show people happy to make research and capable to go beyond the frontiers.

- Points à améliorer et risques (*weaknesses*):

Institute is distributed over three geographical locations, which does not favor inter-team collaboration, despite the scientific animation. Administrative staff is too small for efficient managing of the Institute. Some teams must be reinforced with permanent researcher or engineer. Number of patents can be improved.

- Recommandations au directeur de l'unité *(advices to the director)* :

Look for dynamic group leaders (inside + outside Institute), efficient vice-directors and reinforce administration staff for better service to scientists. Look to increase the transfert of knowledge to industry (patent).

- Données de production (*Scientific Production*):

(cf. http://www.aeres-evaluation.fr/IMG/pdf/Criteres_Identification_Ensgts-Chercheurs.pdf)

A1 : Nombre de produisants parmi les chercheurs et enseignants chercheurs référencés en N1 et N2 dans la colonne projet (*Active Scientists & Faculty members in the project*)	55
A2 : Nombre de produisants parmi les autres personnels référencés en N3, N4 et N5 dans la colonne projet (*Active other Scientists in the project*)	30
A3 : Taux de produisants de l'unité [A1/(N1+N2)]	100%
Nombre d'HDR soutenues (*ability to supervise, defended*)	4
Nombre de thèses soutenues (*PhD theses, defended*)	30
Autre donnée pertinente pour le domaine (à préciser…) (*other data*) *Granting*	4 M€/ year

3 • Appréciations détaillées (*detailed comments*):

- Appréciation sur la qualité scientifique et la production (*scientific production*):

- Pertinence et originalité des recherches, qualité et impact des resultants (*originality and impact of research*) :

▪ Publications at the edge of disciplines in chemistry, biophysics and biology (high impact factors, average impact factor of 4.3).

▪ New concepts in nanoobjects.

▪ Original design of new nanoscale biomimetic architectures.

▪ Nice highlights, on supramolecular chemistry and membrane biophysics.

▪ New mechanisms for membrane active molecules.

▪ Discovery of new active molecules and processes in the field health & nutrition.

- Quantité et qualité des publications, communications, thèses et autres productions (figures):

Numbers corresponds from 12 existing teams (24 faculty members, 14 researchers, 9 engineers, 34 PhD, 30 PhD defended, 16 postdoc) and the 3 new teams (*i.e.,* Aimé, Guichard & Leal-Calderon):

✓	Publications, peer reviewed,		376 (293 without new teams)
✓	Invited conferences		145 (96 without new teams)
✓	Oral communications in congress	129	
✓	Poster communications in congress	169	
✓	Books or Book chapters	23	
✓	Edition of Books	3	
✓	Congress/Workshop organization	26	
✓	PhD defended (from 2006, report part)		30
✓	12 patents + 1 extension (7 patents + 1 extension without new teams))		

- Qualité et pérennité des relations contractuelles (Grants) :

Very high capacity to generate grants for science and equipment (4 M€/Year + 3 M€ for NMR & X-rays)

Very active and successful involvement in the management of technological platforms for inside and outside CBMN.

- Appréciation sur le rayonnement, l'attractivité, et l'intégration de l'unité de recherche dans son environnement (Institute Visibility):

Unit with ongoing increasing visibility. Fosters federation of chemical-biology in Bordeaux. Institute well recognized and strongly supported by University. High propensity to attract highly qualified researchers from outside.

- Nombre et renommée des prix et distinctions octroyés aux membres de l'unité, y compris les invitations à des manifestations internationales (Prizes & International visibility):

Lab heads and members have been invited 145 times in international conferences. Prizes for Huc and for Dufourc & Lang's students. Collaborations all over the world. Dufourc president of European Biophysical Society (EBSA), Leal-Calderon was awarded the Australian Commonwealth "Distinguished Visitor" status.

- Capacité à recruter des chercheurs, post-doctorants ou étudiants de haut niveau, en particulier étrangers (Recruitment capability):

Attraction of 50% additional permanent staff for the project. 30% of students are foreigners, and 60% of postdocs are from abroad. Nationalities: German, Spanish, Italian, English, Dutch, Russian, Chinese, Korean, Japanese, Indian, Brazilian, etc.

- Capacité à obtenir des financements externes, à répondre ou susciter des appels d'offres, et à participer à l'activité des pôles de compétitivité (Granting activity, networking):

In 2009 the Institute has generated 4 M€ grants, from Europe, national (ANR, etc.), industrial and charity granting agencies. This makes an average of 110 k€ per scientist and faculty member and per year. Additional 3 M€ have been obtained for high level equipment. Participation in French Competitiveness cluster "Prod'Innov".

- Participation à des programmes internationaux ou nationaux, existence de collaborations lourdes avec des laboratoires étrangers (International Collaboration):

Several European or international programs involving an average of 3-5 teams outside France. Program of PhD co-tutorship with UK, Sweden, Germany and Brazil (PhD delivered by two countries).

- Valorisation des recherches, et relations socio-économiques ou culturelles (Industrial and Economical output):

7 Patents have been deposited by CBMN during the last quadrennial and 1 international extension. Creation of small companies (start-ups). Programs with industrial companies (CIFRE) in collaboration with the French Ministry of Industry. Participation in Carnot Institute (Industry-Academic network).

- Appréciation sur la stratégie, la gouvernance et la vie de l'unité (Institute Organization & Strategy):

- Pertinence de l'organisation de l'unité, qualité de la gouvernance et de la communication interne et externe (Institute direction):

Organized in 4 departments and 12 teams. Each team has full scientific independence, within the institute scientific project, and full financial independence. Each group leader manages his own grants and receives in addition granting from recurrent money from CNRS and University on the basis of active people in the group. Several committees rule the institute life (Science, Organization, Hygiene & Safety, Communication, Formation, etc.). Ghosez's team will merge with Huc, 3 new teams are created (Aimé, Guichard, Calderon) to provide 14 teams for the 4 next years.

- Pertinence des initiatives visant à l'animation scientifique, à l'émergence, et à la prise de risques (Scientific animation & foreseen):

Regular invited conferences, organization of a yearly scientific day for the institute. Organization of several international & national conferences by lab members. Emergence of new group leaders when scientific independence has been reached. Attraction of new groups within the Institute main project. Implication in large scale equipment involving high level financing (several million Euros). Developing high level science with the tools of physics, chemistry and biology applied to health and nutrition.

- Implication des membres de l'unité dans les activités d'enseignement et dans la structuration de la recherche en région (Teaching & Regional implication):

Several Staff members are responsible for education programs at both Universities Bordeaux 1&2 and at Engineers Superior schools.

All CBMN faculty members are involved in very high load teaching in Chemistry, Biology and Physics.

- Appréciation sur le projet (Project evaluation) :

- Existence, pertinence et faisabilité d'un projet scientifique à moyen ou long terme (Project Feasibility):

Project involving an increase by 50% of scientists and faculty members to reach an institute of ca 160-180 people. Arrival of new teams in Chemistry, Biology and Physics to foster interdisciplinary research in health & nutrition. Move of 80% of CBMN in a new building in 2010. Prominent role in federating science and education at the interface between Biology, Chemistry and Physics on the Bordeaux campus. Policy for patenting and transfer science to regional and national industries. Startup creation. Leading role in networking chemico-biological knowledge at regional and national level. Managing of very high level technical platforms (NMR, X-rays, EM, SM, AFM, etc.) with opening to academy and industry.

- Existence et pertinence d'une politique d'affectation des moyens (Project Means):

Human means will increase by at least 50%. Budget is already very high per scientist or faculty member. Teams are fully responsible and independent for their budget which they administrate with the help of the Institute. The institute must be reinforced at the administrative level. Some teams need to be reinforced by the arrival of technical and scientific staff: already planned with Trustees. A good balance of administrative versus technical staff must be reached.

- Originalité et prise de risques (Originality & risk):

Unique Institute in the Bordeaux campus, with such an interdisciplinary composition, dedicated to excellence in health and nutrition science for topics that are on the cutting edge. Impressive Platform and networking capabilities. Already succeeded in the fusion of chemistry and biology laboratories in 2007. Very strongly supported by trustees. Good balance between secured projects and risky ventures.

4 • Analyse équipe par équipe et/ou par projet

Department: Cell biology, Microbiology & Membrane biochemistry

This department was initially constituted of 3 teams (January 2007). The direction of a new young team was given to Olivier Lambert in January 2008. This department deals with cell adhesion, vesicular transport and membrane fusion processes. More applied aspects are also developed in relation with human health (diabetes, cancer, etc.) nutrition and nano-biotechnologies.

Intitulé de l'équipe *(Team):* Molecular Imaging and NanoBioTechnology, LIMNT

Nom du responsable *(team Leader)*: Mr. Alain BRISSON, Université Bordeaux-1 (team supported by IECB)

- Effectifs de l'équipe ou affectés au projet (sur la base du dossier déposé à l'AERES) (Team Members):

	Dans le bilan	Dans le projet
N1 : Nombre d'enseignants-chercheurs (cf. Formulaire 2.1 du dossier de l'unité) *(Faculty Members)*	2	2
N2 : Nombre de chercheurs des EPST ou EPIC (cf. Formulaire 2.3 du dossier de l'unité) *(Researchers)*		
N3 : Nombre d'autres enseignants-chercheurs et chercheurs (cf. Formulaire 2.2 et 2.4 du dossier de l'unité) *(Non Permanent scientists)*	4	2
N4 : Nombre d'ingénieurs, techniciens et de personnels administratifs titulaires (cf. Formulaire 2.5 du dossier de l'unité) *(Permanent Technical staff)*	3	3
N5 : Nombre d'ingénieurs, techniciens et de personnels administratifs non titulaires (cf. Formulaire 2.6 du dossier de l'unité) *(Non Permanent Technical staff)*	1	1
N6 : Nombre de doctorants (cf. Formulaire 2.7 du dossier de l'unité), *(PhD Students)*	3	3
N7 : Nombre de personnes habilitées à diriger des recherches ou assimilées *(PhD Supervisors)*	1	2

- Appréciation sur la qualité scientifique et la production (Scientific production):

- Pertinence et originalité des recherches, qualité et impact des résultats (Importance of results):

The LIMNT group had 4 faculty members and 1 CNRS researcher in 2006. Since 2008, after the departure of 3 persons (1 CNRS, 2 faculty members) to create a new team, the group has 2 faculty members, 2 PhD, 2 PhD defended, 4 postdoc and 3 engineers. LIMNT is involved in 2 interactives research directions: basic studies of protein-membrane complexes (Anx5 role) and the corresponding application in biotechnologies (diagnosis and drug delivery). LIMNT has developed and pioneered novel methods and tools to immobilize lipid membranes and particularly annexins on micrometer-sized silica beads and at gold nanoparticles. These methods have a large potential for many different fields in nanobiotechnology both for basic research (membrane reorganization studies, developing biosensors, stem-cell research) and for practical applications in nanobiotechnologies. It resulted in the creation of start-up.

- Quantité et qualité des publications, communications, thèses et autres productions (Numbers):

- ✓ 23 publications in very good peer reviewed journals
- ✓ 1 chapter
- ✓ 24 invited conferences
- ✓ 2 PhDs, 2 PhD defended
- ✓ 1 patent

- Qualité et pérennité des relations contractuelles (Grants):

  - ✓ 1,050 k€ grants since 2006, including :
  - ✓ 4 EU contracts (2 on-going)
  - ✓ 3 ANR projects (A Brisson coordinator of one ANR project)

- Appréciation sur le rayonnement, l'attractivité, et l'intégration de l'équipe ou du projet dans son environnement (Team Visibility):

- Nombre et renommée des prix et distinctions octroyés aux membres de l'équipe ou à ceux qui participent au projet, y compris les invitations à des manifestations internationales (Prizes & International visibility):

Regular invitations to international congresses in the field of the research team. President of the French society of microscopy. Daily maintenance and management of the electron microscopy platform, scientific and engineering support for 2 microscopes.

- Capacité à recruter des chercheurs, post-doctorants ou étudiants de haut niveau, en particulier étrangers (Recruitment capability) :

The team welcomed 4 postdocs from 2006 to 2009.

- Capacité à obtenir des financements externes, à répondre ou susciter des appels d'offres, et à participer à l'activité des pôles de compétitivité (Granting activity, networking):

Very good capacity to raise grants (200K€/yrs, 4 EU contracts (2 on-going), 3 ANR contracts (A Brisson coordinator of one which has received a Prodinov label).

- Participation à des programmes internationaux ou nationaux, existence de collaborations lourdes avec des équipes étrangères (International collaborations):

  - ✓ Participation to 2 EU on-going projects.

Consolidated collaborations with international teams. Participation to 4 EU projects (FP6, FP7)

- Valorisation des recherches, et relations socio-économiques ou culturelles (Industrial & economical output):

  - ✓ 1 Patent
  - ✓ 1 project of creation of a start-up in the field of biotechnology, based on 2 patents from the team. This project is headed by a former PhD student. The company will be created beginning 2010.

- Appréciation sur la stratégie, la gouvernance et la vie de l'équipe ou du projet (Team Organization):

- Pertinence de l'organisation, qualité de la gouvernance et de la communication interne et externe (Team direction):

LIMNT were able to manage the leave of 2 persons to create a new team within CBMN. Very dynamic and mature team.

- Pertinence des initiatives visant à l'animation scientifique, à l'émergence, et à la prise de risques (Scientific foreseen):

LIMNT is well integrated within the national and international networks related to its research. It demonstrated very good balance from risky basic research to development.

- Implication des membres dans les activités d'enseignement et dans la structuration de la recherche en région (Teaching & Regional implication):

Both staff members of the team are teachers, in Cell Biology and Biochemistry and participate to modules in years 1 to 3 in the Licence of Life Sciences at the University of Bordeaux-1. The team leader is co-responsible of the Master of Structural Biochemistry at the Universities of Bordeaux-1 and Bordeaux-2, and in charge of the coordination and teaching at several modules in years 1 and 2 of this Master.

- Appréciation sur le projet (Project evaluation) :

- Existence, pertinence et faisabilité d'un projet scientifique à moyen ou long terme (Project Feasibility):

Due to their internationally recognized past track record in membrane processes imaging (EM, AFM), key contributions to Anx5 role in membrane reorganization and subsequent applications, the team's project will be going on basic research and cell biology-driven applications. The team has all the assets to be very successful at an international level.

- Existence et pertinence d'une politique d'affectation des moyens (Project means):

Not detailed but the management of financial supports raised from EU and ANR seems good given the results. LIMNT also manages at a very good level of expertise the microscopy platform.

- Originalité et prise de risques (Originality & risk):

The team's activities and resulting impacts were very original in the past. Albeit the project relies on past-experience, it remains challenging, innovative and presents risks beyond the edge of the state of the art in the field. These risks are worth to take since they are well balanced and adequate with the group's experience and the important results they may result in.

- Conclusion :

- Avis (Advice):

Very innovative group with well established recognition and maturity.

- Points forts et opportunités *(Strengths)*:

World leader in EM and AFM imaging of membrane proteins. Pioneers results in membrane immobilization on solid supports and the applications of such devices for biosensing and manipulating cells.

- Points à améliorer et risques (Weaknesses & possible improvement):

Need of innovative chemistry for the immobilization of functional biological elements and of compatible chemistry for modifications of biopolymers at living cells. Leave of the team leader within the next 4 years.

- Recommandations (Recommendation):

Maintain the size of the team and the level of equipment (acquisition of tomography EM) as well as complementary collaboration to remain competitive and leader. LMNT has also to prepare the leaving of its team leader within the next 4 years.

Intitulé de l'équipe *(Team):* Architecture of membrane complexe and cell process

Nom du responsable *(team Leader)* : Olivier LAMBERT, CNRS (created in 2008 from 3 leaving members of LIMNT team and merging with 5 people from IPB)

- Effectifs de l'équipe ou affectés au projet (sur la base du dossier déposé à l'AERES) (Team Members):

	Dans le bilan	Dans le projet
N1 : Nombre d'enseignants-chercheurs (cf. Formulaire 2.1 du dossier de l'unité) (*Faculty Members)*	2	5
N2 : Nombre de chercheurs des EPST ou EPIC (cf. Formulaire 2.3 du dossier de l'unité) (*Researchers)*	1	1
N3 : Nombre d'autres enseignants-chercheurs et chercheurs (cf. Formulaire 2.2 et 2.4 du dossier de l'unité) *(Non Permanent scientists)*	1	1
N4 : Nombre d'ingénieurs, techniciens et de personnels administratifs titulaires (cf. Formulaire 2.5 du dossier de l'unité) *(Permanent Technical staff)*	0	2
N5 : Nombre d'ingénieurs, techniciens et de personnels administratifs non titulaires (cf. Formulaire 2.6 du dossier de l'unité) *(Non Permanent Technical staff)*	1	
N6 : Nombre de doctorants (cf. Formulaire 2.7 du dossier de l'unité), (*PhD Students)*	3	4
N7 : Nombre de personnes habilitées à diriger des recherches ou assimilées (*PhD Supervisors)*	2	4

- Appréciation sur la qualité scientifique et la production (Scientific production):

- Pertinence et originalité des recherches, qualité et impact des résultats (Importance of results):

The team originating from LIMNT develops expertise in cryo-electron tomography approach including cryo-preparation sample (CEMOVIS) on membrane protein complexes. The arrival of three faculty members, a research engineer and a technician provides complementary expertises in biochemistry and cell biology. It allow to develop imaging structure-function approaches by combining light and electron microscopies complemented by proteomic approaches in two main areas related to cancer and muscle: the membrane proteins (bacterial efflux drug systems, cadherin and hepatitis virus) and intracellular trafficking (caveolae traffic, muscle aging).

- Quantité et qualité des publications, communications, thèses et autres productions (Numbers):

28 publications in peer reviewed journals, 4 invited conferences, 24 oral communications, 16 posters), 1 + (1 in 2009) + 3+(2 in 2009) PhDs, 1 patent. (This includes the production of the team and people joining the team).

- Qualité et pérennité des relations contractuelles (Grants):

Academic funding (ANR, ANRS), funding from charities, (AFM, VLM, LRC), funding from Region Aquitaine. Financial support from industrial

- Appréciation sur le rayonnement, l'attractivité, et l'intégration de l'équipe ou du projet dans son environnement (Team Visibility):

On going. Contributed to high visibility of the Brisson's group.

- Nombre et renommée des prix et distinctions octroyés aux membres de l'équipe ou à ceux qui participent au projet, y compris les invitations à des manifestations internationales (Prizes & International visibility):

Olivier Lambert : bronze medal award of the CNRS (2001). Pierre Bonnafous : CRCT (2009-2010 congés de recherche et conversion thématique CRCT provided by CNU) to develop the structural project on the early step of HCV entry (funded by ANRS).

- Capacité à recruter des chercheurs, post-doctorants ou étudiants de haut niveau, en particulier étrangers (Recruitment capability):

1 post-doctorant who has since been recruited MCF (assistant professor) in 2009. Since the creation of the team, 5 spontaneous requests for statutory researchers to join the team.

- Capacité à obtenir des financements externes, à répondre ou susciter des appels d'offres, et à participer à l'activité des pôles de compétitivité (Granting activity, networking):

Academic and industrial funding. A total of 50'000 Euro/year was granted. Creation of Aquitaine electron microscope network. The team know-how is displayed in "pôle de compétence imagerie 3D en Aquitaine" supported by the MIB Carnot institute. Work supported by pôle de compétitivité "nutrition-santé Prod'innov".

- Participation à des programmes internationaux ou nationaux, existence de collaborations lourdes avec des équipes étrangères (International collaborations):

Collaborations with french scientists supported by ANR (D. Gulino, Grenoble), ANRS (E-I Pécheur , F. Penin Lyon) and VLM-AFM (B Pitard, Nantes). Collaboration with Dr A. Frankagis (Univ. Frankfort) on cadherin project.

- Valorisation des recherches, et relations socio-économiques ou culturelles (Industrial & economical output):

Contract with Sanofi-Pasteur (2009-2011) : Characterization of membrane assemblies by cryo-electron microscopy. Setting up a partnership with DRT (Les dérivés résiniques et terpéniques) 1 SME in Aquitaine on aging and antioxidants (since 2007).

- Appréciation sur la stratégie, la gouvernance et la vie de l'équipe ou du projet (Team Organization):

- Pertinence de l'organisation, qualité de la gouvernance et de la communication interne et externe (Team direction):

The team is newly formed and gathered in the same location. It is very motivated. Scientific exchanges in the group are organized by regular meetings. All team members participate in national and international conferences.

- Pertinence des initiatives visant à l'animation scientifique, à l'émergence, et à la prise de risques (Scientific foreseen):

Creation of a new team is always a risky adventure, here it appears well though and must benefit of the high motivation of all the members. Project of development of a large cryo-tomography platform with the acquisition of high resolution 300 kV FEG electron microscope fully equipped to perform high throughput 3D tomography.

- Implication des membres dans les activités d'enseignement et dans la structuration de la recherche en région (Teaching & Regional implication):

Teaching of bioinformatics, biochemistry and bioimaging (license-master level). Responsibility in masters. Involvement in organization of NOIS-2007 "Ecole thématique CNRS Nano-objets aux interfaces). Creation and animation of network RESAME (Aquitaine electron microscope network). Implication with Brisson's team in EM Platform

- Appréciation sur le projet (Project evaluation) :

- Existence, pertinence et faisabilité d'un projet scientifique à moyen ou long terme (Project Feasibility):

Feasibility is good since all the competences are gathered (technical skills, organization) along the project which is based on complementary expertizes in the team.

- Existence et pertinence d'une politique d'affectation des moyens (Project means):

Allocation of human means and material costs based on competence of each member of the team. Optimization of the occupancy of the electron microscopes.

- Originalité et prise de risques (Originality & risk):

The originality relies in the methodological approach that combines multi-scale imaging methods and biochemical methods. Risk's project relies on the complexity inherent to central cellular processes but appear balanced with know-how of the group members.

- Conclusion :

- Avis (Advice):

New team with many interesting projects. Good competences in imaging techniques.

- Points forts et opportunités (Strengths):

Complementarities of expertise combining biochemistry and imaging at one place focused on the study of caveolae.

- Points à améliorer et risques (Weaknesses & possible improvement):

Although the group is new, the national and international visibility has to be improved. Need to define priority in the number of proposed orientations which appeared dispersed. Funding level appears limit to cover the need of the team.

- Recommandations (Recommendation):

Strategic planning and the responsibility thereof have to be with one person. This will also help in focusing on the most promising projects (calveolae) which is strongly recommended in particular in the phase of forming a new group. In order to remain competitive in the tomography field the group would need considerable financial support for the purchase of novel electron microscopic equipment.

Intitulé de l'équipe *(Team)*: MECHANISMS AND REGULATION OF VESICULAR TRANSPORT

Nom du responsable *(team Leader)* : Mr. J. LANG, UB1 (team supported by IECB)

- Effectifs de l'équipe ou affectés au projet (sur la base du dossier déposé à l'AERES) (Team Members):

	Dans le bilan	Dans le projet
N1 : Nombre d'enseignants-chercheurs (cf. Formulaire 2.1 du dossier de l'unité) (*Faculty Members)*	5 à 6*	7
N2 : Nombre de chercheurs des EPST ou EPIC (cf. Formulaire 2.3 du dossier de l'unité) (*Researchers)*	0	0
N3 : Nombre d'autres enseignants-chercheurs et chercheurs (cf. Formulaire 2.2 et 2.4 du dossier de l'unité) *(Non Permanent Scientists)*	1	1
N4 : Nombre d'ingénieurs, techniciens et de personnels administratifs titulaires (cf. Formulaire 2.5 du dossier de l'unité) *(Permanent Technical Staff)*	1 à 3*	2
N5 : Nombre d'ingénieurs, techniciens et de personnels administratifs non titulaires (cf. Formulaire 2.6 du dossier de l'unité) *(Non Permanent Technical Staff)*	0	0
N6 : Nombre de doctorants (cf. Formulaire 2.7 du dossier de l'unité), (*PhD Students)*	2	2
N7 : Nombre de personnes habilitées à diriger des recherches ou assimilées (*PhD Supervisors)*	2	3

** nominations dans la période d'évaluation/hired during evaluation period*

- Appréciation sur la qualité scientifique et la production (Scientific production):

- Pertinence et originalité des recherches, qualité et impact des résultats (Importance of results):

Research concerns a cellular model of vesicular transport and its regulation under physiological and pathological conditions (glucotoxicity, diabetes). This topic is important for fundamental biomedical research and is unique in France. The originality is given by the use of interdisciplinary approaches to address biological systems in collaboration with the expertise present in the CBMN (Biophysics, Physical Chemistry, and Modelling) or on the Campus (Microelectronics, Nanochemistry, Diabetology) and in conjunction with the means to study the molecular cell biology/electrochemistry/electrophysiology within the team itself.

- Quantité et qualité des publications, communications, thèses et autres productions :

8 papers (mean IF 4.8), 18 papers taking into account publications by group members since 2006 but before their arrival in the team (mean IF 5.4), 1 chapter in a clinical reference book, 3 conferences invited and 2 thesis defended.

The group publishes their papers in good/very good journals. The team also had to cope with 3 maternity leaves, part-time work by one assistant professor, absence of the engineer for 1 year and several changes in technicians. This explains why currently two assistant professors are classified as "non-publishing" but in each case a high quality manuscript has been submitted or is in preparation.

- Qualité et pérennité des relations contractuelles (Grants):

National grants (2 ANR, Exodynamics, Medecin 3 yrs; CNRS Longévité; ALFEDIAM), regional grants (FEDER, 3 yrs), from the Ministry (4 PhD positions) and the University (Equipment) as well as a small fixed amount (6% of total). The group seemed well funded and had a good blend of skills and areas of expertise. The collaboration with a clinical diabetologist is regarded as a major strength of the project and illustrates the clinical relevance of the project.

- Appréciation sur le rayonnement, l'attractivité, et l'intégration de l'équipe ou du projet dans son environnement (Team Visibility):

A number of good collaborations are ongoing within the institute as illustrated by published papers and data presented. 3 invited conferences.

- Nombre et renommée des prix et distinctions octroyés aux membres de l'équipe ou à ceux qui participent au projet, y compris les invitations à des manifestations internationales (Prizes & International visibility):

Invitation J. Lang EASD - Islet Study Group. 2007: Brussels, Belgium. J. Papin, Best presentation/work - EASD - Islet Study Group. 2008: Rome/Frascati. 3 invitations to the international meeting and conferences in the 2006-2009 periods have been issued.

- Capacité à recruter des chercheurs, post-doctorants ou étudiants de haut niveau, en particulier étrangers (Recruitment capability) :

During the evaluation period, externally recruited candidates include (1 PR, 1 Ass Pr, 1 postdoc) and one clinical professor. This is an international team – the team leader is German and trained in Switzerland. Some members of the group were also overseas (Canada).

- Capacité à obtenir des financements externes, à répondre ou susciter des appels d'offres, et à participer à l'activité des pôles de compétitivité (Granting activity, networking):

The team holds several national and regional grants and seems to be doing fine with regard to funding (National and regional grants (185 k€/280 k€), others (45 k€), participating in a " pôle de compétitivité » ANR/Prod'Innov). The lack of EU funding was commented on. This is presumably a reflection of the few recent calls that dealt with areas related to the research of this team.

- Participation à des programmes internationaux ou nationaux, existence de collaborations lourdes avec des équipes étrangères (International collaborations):

The team participates in several national networks and has set up several international collaborations Pr B. Ochoa, Bilbao, syt11/SND1 ; Pr N. Moussa/Fulbright Exchange, U Tenn, glucotoxicity ; Pr Y. Ushkaryov, ICL, latrotoxin). Participation to International Evaluations: Wellcome Trust Intermediate Level Fellowship; Wellcome Trust Project Grants; Marie Curie Training Networks, Brussels; SoMo; NSF; reviewer EMBO J, Langmuir, Endocrinology, JBC etc. The team's research clearly benefits from extensive local collaborations.

- Valorisation des recherches, et relations socio-économiques ou culturelles (Industrial & economical output):

The team has started the process of patenting (Biomicroloop, anteriority study under way; patent request at the INPI and EPA planned end 2009 via "Aquitaine Valo").

Diabetes is a major health problem with enormous socio-economic consequences. This project will contribute to the understanding of disease mechanisms and may lead to improved therapies.

- Appréciation sur la stratégie, la gouvernance et la vie de l'équipe ou du projet (Team Organization):

The team is directed by the team leader, who is well established in the field and with an extensive network in the field that will facilitate the research of the individual team members.

- Pertinence de l'organisation, qualité de la gouvernance et de la communication interne et externe (Team direction):

The team members are skilled in several complementary areas and collectively possess the core expertise required to carry out the projects. The team meets weekly for discussion of data, projects and a short presentation of a paper. In addition, all ongoing projects are discussed in detail during biannual meetings (half a day). These measures allow a strong interaction despite the dispersion within the building and the constraints imposed by teaching at different locations. The team participates actively in relevant national and international conferences (ALFEDIAM, EASD, EMBO workshops).

- Pertinence des initiatives visant à l'animation scientifique, à l'émergence, et à la prise de risques (Scientific foreseen):

Co-organizer of the annual meeting « Club Exocytose » (national, 120 participants); Co-organizer (Dir adjoint ED) Doctoral School Science Day (ca. 500 participants). Team members and especially PhD students participate in national/international work-shops, local and EMBO training courses.

The team has taken risks in engaging into new approaches (Biomicroloop) and by pursuing the topic "glucotoxicity" despite the absence of dedicated funding. For both, the results obtained suggest that risks were worthwhile and provide the base for new grant applications. During the evaluation period the implementation of new approaches or techniques has also been undertaken (amperometry; transcriptomics; islet preparations). There is an appropriate balance of risk/result.

- Implication des membres dans les activités d'enseignement et dans la structuration de la recherche en région (Teaching & Regional implication):

All team members have a full teaching load and are heading several courses (Vice-director of the Doctoral School and especially in charge for the labs at U. Bordeaux 1 (80 PhD students, 120 HDR)) in charge of 1 Master and elected member of the University Council and the CNRS national council, 1 member of the Interregional Office of Clinical Research.

- Appréciation sur le projet (Project evaluation) :

This is a very good project led by an accomplished investigator. The proposed project has a good mix of molecular biology, electrophysiology and imaging work. The proposal that cAMP may be an important coupling factor is provocative as it goes somewhat against the current dogma of cyclic AMP being a potentiator and not an initiator of insulin secretion (but is not entirely without precedence). The work on the transmembrane regions of the SNARE proteins and the demonstration that they may exist as alpha-helical and beta-sheet configurations depending on the lipid/protein environment is likewise novel, important and provocative. It builds on an excellent collaboration with other groups within the centre and has implications beyond the beta-cell field. The data emerging from this work should be equally applicable to exocytosis in other (neuro)endocrine cells and synaptic transmission, perhaps even membrane trafficking in general within the cell. Finally, the idea of using beta-cells as metabolic sensing devices to control insulin administration is intriguing. Although there are several obstacles (like encapsulation of the cells and making them grow on the multi-electrode device) that need to be overcome to make this clinically useful (if at all achievable) it is obvious that the beta-cell should be the ideal metabolic sensor (being the one that nature itself has perfected)

- Existence, pertinence et faisabilité d'un projet scientifique à moyen ou long terme (Project Feasibility):

Alternatives are given in the project (Targeting and endocytosis of TMDs; ADCY1 knock-down in ADCY8-/- mice; use of Biomicroloop for pharmacological/toxicological screens) and microfluidics may be addressed in the biomedical project at a later time point (specific expertise is present on the campus). The relevance is high of this project. Diabetes is a common and serious disease and the potential impact of the proposed studies can therefore not be overstated. The preliminary data suggest the feasibility of the ongoing studies. The scientific productivity is good with several papers being published in recent years and many more to appear in the near future. Clearly, the PI has succeeded in assembling a team of motivated young scientists.

- Existence et pertinence d'une politique d'affectation des moyens (Project means):

Current funding has permitted to acquire a number of new equipments (MEA amplifiers, UV flash etc). Financial support is currently granted for 2010 for all projects; the group is actively seeking for further support.

- Originalité et prise de risques (Originality & risk):

The Project is original in combining biological means with interdisciplinary collaborations within the unit (biophysics, chemistry, modeling) or the campus (microelectronics, nanochemistry) and in addressing fundamental issues starting from simple observations (ADCY8) and extending to transgenics. At least "Exodynamics" and "Biomicroloop" contain an element of risk but the preliminary data obtained indicate their feasibility.

This is an innovative and original project with interdisciplinary collaborations (within CBMN: biophysics, chemistry, modeling or within campus: microelectronics, nanochemistry) and in addressing fundamental issues and extending to transgenics. Published papers as well as the preliminary data presented in the project description and during the site visit make clear that the group masters the technologies and possesses the skills to accomplish most of the research objectives. Some of the projects are very difficult but some obtained data indicate feasibility to some extend. Indeed, there is a positive correlation between risk and reward.

- Conclusion :

- Avis (Advice):

A highly competitive project. This project has great potential and may result in insights with far-reaching implications.

- Points forts et opportunités (Strengths):

Strengths of the project include the PI's knowledge and standing in the field, the significance of the research question, the environment and the opportunities of interdisciplinary collaborations afforded by the institute.

- Points à améliorer et risques (Weaknesses & possible improvement):

Use of INS1 cells is a useful start for many of the experiments but whenever possible (and relevant), primary beta-cells should be used. The publication track record and the international visibility should also be enhanced but this is likely to improve now that the lab is in full operation.

- Recommandations (Recommendation):

Continue publishing in good journals; improve the publication track record and the international visibility by attending to international conferences. Maintain and enhance in-house collaborations, Expand international collaborations, Validate data obtained in insulinoma cells by repeating critical experiments in primary cells, if possible using human islet cells (obtained via collaboration).

Intitulé de l'équipe *(Team) :* Interactions between Probiotics and Host
Nom du responsable *(team Leader)* : Mrs Maria URDACI, ENITA

- Effectifs de l'équipe ou affectés au projet (sur la base du dossier déposé à l'AERES) (Team Members):

	Dans le bilan	Dans le projet
N1 : Nombre d'enseignants-chercheurs (cf. Formulaire 2.1 du dossier de l'unité) (*Faculty Members)*	6	8
N2 : Nombre de chercheurs des EPST ou EPIC (cf. Formulaire 2.3 du dossier de l'unité) (*Researchers)*	0	0
N3 : Nombre d'autres enseignants-chercheurs et chercheurs (cf. Formulaire 2.2 et 2.4 du dossier de l'unité) *(Non Permanent scientists)*	7	4
N4 : Nombre d'ingénieurs, techniciens et de personnels administratifs titulaires (cf. Formulaire 2.5 du dossier de l'unité) *(Permanent Technical staff)*	5 (some part time)	5 (some part time)
N5 : Nombre d'ingénieurs, techniciens et de personnels administratifs non titulaires (cf. Formulaire 2.6 du dossier de l'unité) *(Non Permanent Technical staff)*	0	0
N6 : Nombre de doctorants (cf. Formulaire 2.7 du dossier de l'unité), (*PhD Students)*	9	6
N7 : Nombre de personnes habilitées à diriger des recherches ou assimilées (*PhD Supervisors)*	2	3

- Appréciation sur la qualité scientifique et la production (Scientific production):

- Pertinence et originalité des recherches, qualité et impact des résultats (Importance of results):

The work developed by the team in the area of probiotics and gut bacteria can be considered of high quality at international level. Their relationship with industry is continuous and very productive. A probiotic developed by the group is commercially available in various countries. In summary this team provides with high quality research. Moreover, some of the recent data obtained lead for patent deposit. Due to the confidentiality agreement with the industrial partners, team was not able to provide all data obtained during these collaborative efforts. However, long date financial support with some of the industrials may prove of the good quality of those researches.

- Quantité et qualité des publications, communications, thèses et autres productions (Numbers):

The team composed of 5 faculty members, 9 PhD (5 defended), 7 postdoc, 1 engineer produced 30 publications in peer reviewed journals, 2 invited conferences, 4 oral communications and 16 posters), 1 patents. Good publications quality overall, some publications have been published in international journals within the impact index less then 2 (7 from 30 publications) due principally to the very applicable character of the data in those articles. Published work is at a high international level compared to the average of other groups working in the field. It was noted that productivity in terms of published papers is curtailed by confidentiality agreements with industrial partners.

- Qualité et pérennité des relations contractuelles (Grants):

During the evaluation period team obtained several financial supports (175K€). The group has continuous sources of public funding, and in addition, regular incomes from industrial contracts.

- Appréciation sur le rayonnement, l'attractivité, et l'intégration de l'équipe ou du projet dans son environnement (Team Visibility):

- Nombre et renommée des prix et distinctions octroyés aux membres de l'équipe ou à ceux qui participent au projet, y compris les invitations à des manifestations internationales (Prizes & International visibility):

2 invitations to the international meeting and conferences in the 2006-2009 periods have been issued. The team needs to achieve in the near future "more high" international visibility.

- Capacité à recruter des chercheurs, post-doctorants ou étudiants de haut niveau, en particulier étrangers (Recruitment capability) :

high international recruitment capability. Over the evaluation period PhD student and, Postdoctoral fellow from different countries (Spain, Croatia, UK, Tunis, Argentina, Thailand and Vietnam). Regular visiting scientists and foreign PhD students.

- Capacité à obtenir des financements externes, à répondre ou susciter des appels d'offres, et à participer à l'activité des pôles de compétitivité (Granting activity, networking):

One of the strongest positive points of the team: multiple financial supports from different science supportive external agencies (e.g. ALLIANCE, CMCU, Navarre-Aquitaine, Thai-DUO) and several industrial contractors. One of the major team project has been labelled by the "Pôle de Competivité" Prod'Innov and received high financial support from the French government ("Direction General de l'Entreprise").

- Participation à des programmes internationaux ou nationaux, existence de collaborations lourdes avec des équipes étrangères (International collaborations):

At present the team participates in one EU project but apart from that, the group appears to have a few others international collaborations.

- Valorisation des recherches, et relations socio-économiques ou culturelles (Industrial & economical output):

The team has a strong collaboration with several industrial partners in the frame of a research-development axe. Some of these collaborative efforts resulted or will be result in the development of new biopreparations, including probiotic and functional foods. Research developed in the team tends to be very applied and related to animal feed and well-being and human probiotics.

- Appréciation sur la stratégie, la gouvernance et la vie de l'équipe ou du projet (Team Organization):

- Pertinence de l'organisation, qualité de la gouvernance et de la communication interne et externe (Team direction):

The team is well organized, has a strong leadership and demonstrated sufficient level of communication as between the team members, as well on the level of external collaborators, financial sponsors. The group is very dependent on a strong group leader but efficient means of communications between team members appears to be in place.

- Implication des membres dans les activités d'enseignement et dans la structuration de la recherche en région (Teaching & Regional implication):

The team members have very high involvement in teaching. Although this is commendable, it can also be perceived as a weakness/risk since it necessarily restricts the time that can be devoted to research. Some of the team members have been invited to participate in teaching programs in different countries and, currently, are implicated in the EEC or international university teaching programs. Permanent staffs are subject to the teaching load that corresponds to their position (more than 200 h/year). This also includes teaching in international courses.

The team leader is implicated in the future Pôle development and strongly involved in a regional "Pôle de Compétitivité" together with regional and national industries and two other laboratories.

- Appréciation sur le projet (Project evaluation) :

- Existence, pertinence et faisabilité d'un projet scientifique à moyen ou long terme (Project Feasibility) :

Scientific project is consistent, feasible, but slightly ambitious. In the same time, since the team has a strong industrial commitment and, because, of a high scientific international competition, and in order to be the "top of the top", the team project need to be ambitious and required to succeed.

Although the main topic of the team has always been research on probiotics, the team has also been involved in a number of additional projects. This is a reflection of the technical skills of the team, with inevitable loss of momentum in the group's own research project. However, the project for the coming 4 years seems to be centered in the mechanisms of action of probiotics. This field is a "top of the wave" subject at international level.

The mechanisms of action of functional foods and functional components is a research field of high relevance in the context of the new EC regulations (EC 2006/1924), that covers the use of "Health and nutritional Claims" in Europe from 2010. Furthermore, the laboratory has the means, skills and pertinent contacts to develop collaborations to ensure best outcome of it.

- Existence et pertinence d'une politique d'affectation des moyens (Project means):

Means are allocated according the needs.

- Originalité et prise de risques (Originality & risk):

Overall the scientific projects proposed by the team are original. The level of the risk is moderate. The project is very original and methodological approaches proposed are the most appropriate to obtain the goal.

- Conclusion :

- Avis (Advice):

The team has a very good scientific level; the project is well developed and relevant to European society (due to commercial success of functional foods). Interactions with industry provide the group good financial resource.

- Points forts et opportunités (Strengths):

The team is implicated in very promising research project « Probiotics and functional foods », which fit well in the frame of a research-development axe. This presages the possibility of a favourable team development in the future 4 years. Technological and scientific knowledge on microbiology. Strong relationships with industry. Excellent opportunity in the field of probiotics, especially through collaborations within the CBMN.

- Points à améliorer et risques (Weaknesses & possible improvement):

Too heavy involvement of the team members in the teaching activity with detrimental consequences of research output. Implication in fundamental research not optimal. Tendency to spread in too different topics which weakness competition with other research groups.

- Recommandations (Recommendation):

The team should keep the project much focused and decides priority to invest in. Links with industry are very positive as long as they do not distract the team from publishing. Industry collaboration is important but it is mandatory to maintain a clear line of basic research at least to fertilize the future.

Intitulé de l'équipe *(Team)*: Colloids and Lipids for Industry and Nutrition (CLIP'IN)

Nom du responsible *(team Leader)* : Mr. Fernando LEAL-CALDERON, (Team from UMR8508, Bordeaux asking to join the unit)

- Effectifs de l'équipe ou affectés au projet (sur la base du dossier déposé à l'AERES) (Team Members):

	Dans le bilan	Dans le projet
N1 : Nombre d'enseignants-chercheurs (cf. Formulaire 2.1 du dossier de l'unité) (*Faculty Members)*	5	5
N2 : Nombre de chercheurs des EPST ou EPIC (cf. Formulaire 2.3 du dossier de l'unité) (*Researchers)*	1	1
N3 : Nombre d'autres enseignants-chercheurs et chercheurs (cf. Formulaire 2.2 et 2.4 du dossier de l'unité) *(Non Permanent scientists)*	0	
N4 : Nombre d'ingénieurs, techniciens et de personnels administratifs titulaires (cf. Formulaire 2.5 du dossier de l'unité) *(Permanent Technical staff)*	1	1
N5 : Nombre d'ingénieurs, techniciens et de personnels administratifs non titulaires (cf. Formulaire 2.6 du dossier de l'unité) *(Non Permanent Technical staff)*	0	0
N6 : Nombre de doctorants (cf. Formulaire 2.7 du dossier de l'unité), (*PhD Students)*	10	5
N7 : Nombre de personnes habilitées à diriger des recherches ou assimilées (*PhD Supervisors)*	5	5

- Appréciation sur la qualité scientifique et la production (Scientific production):

  - Pertinence et originalité des recherches, qualité et impact des résultats (Importance of results):

The team has 5 faculty members, 1 researcher, 1 technical staff, 7 PhD (3 defended). This team was recently established and was a part of the «Fluides, Interfaces et Particules, resp P Subra" in UMR8508 which has had a separate AERES evaluation. However, the individuals constituting the team have fairly interesting and original research portfolios on emulsion, encapsulation w/o/w emulsions and "onions". In particular, the use of CO2 under supercritical conditions to achieve crystallisation and extraction of biologically active compounds seems highly relevant to the aims of the new team.

- Appréciation sur le projet (Project evaluation) :

  - Existence, pertinence et faisabilité d'un projet scientifique à moyen ou long terme (Project Feasibility):

The proposed research has three main themes. The development of processes using compressed CO2 as a solvent, crystallisation solvent and a precipitation agent appears novel. This also applies to the use of lipid colloidal systems for improved delivery/bioavailability of relevant compounds. A large part of the team members were together within the UMR 8580 (good to very good level of publication, good funding level, good visibility and very good interaction with industry).

  - Originalité et prise de risques (Originality & risk):

Many of the projects are original. There is an appropriate balance between feasibility (as indicated by preliminary data) and risk.

- Conclusion :

  - Avis (Advice):

Outlook is positive. This is a new team which has yet to prove its ability to deliver and to collaborate. "Team spirit" appears to be good and there were signs of dynamic interactions between the team members as witnessed by the presented projects. The multidisciplinary nature of the research enhanced by the recruitment of team members with different skills bodes well for the future.

  - Points forts et opportunités (Strengths):

The team is working at the interface of physical-chemistry and food/nutritional sciences. Team members cover a very wide field of scientific skills. They have developed a national and/or international reputation, based on extensive academic publication. The work is also of recognised value in its approach and application, and this is demonstrated through the engagement in collaborative research projects with a number of companies.

This is a team of young and motivated scientists working at the interface between physical-chemistry and food/nutritional sciences. It has a good coverage of scientific skills and well set complementary collaborations. This is an unusual combination but it was evident that they had identified many areas where this approach may become fruitful. Potentially, this work may be highly relevant to the controlled delivery of bioactive compounds including drugs, nutrients, minerals (Mg2+, Fe2+) etc. -The move to the new building in 2011 will increase space and facilitate collaborations with colleagues in other units of the institute. The latter is greatly encouraged and represents a major strength of the proposed program of research.

  - Points à améliorer et risques (Weaknesses & possible improvement):

They have yet to prove that they can collaborate. Also, a "threat" of unknown significance is the competition from other groups working in this (or related areas). It is possible that the team will rise to the challenge. Given the obvious applications, we were somewhat surprised to see so little evidence of direct industrial contacts but this is likely to improve once the group has been consolidated.

- Recommandations *(Recommendation)*:

Reinforce collaboration within the team, strengthen links to other units within the institute, Pursue better interactions with industry, Continued involvement in international and national programs, Keep publishing work in good (or even better) journals.

Department: Physical-Chemistry of Membranous Systems

The department comprises 3 teams and deals with physical-chemistry properties and computing of assemblies of lipids, peptides and proteins.

Intitulé de l'équipe *(Team):* Vibrational Spectroscopies and Optical properties of Biochemicals Systems

Nom du responsable *(team Leader)* : Mr. Bernard DESBAT

- Effectifs de l'équipe ou affectés au projet (sur la base du dossier déposé à l'AERES) (Team Members):

	Dans le bilan	Dans le projet
N1 : Nombre d'enseignants-chercheurs (cf. Formulaire 2.1 du dossier de l'unité) (*Faculty Members)*	2	4
N2 : Nombre de chercheurs des EPST ou EPIC (cf. Formulaire 2.3 du dossier de l'unité) (*Researchers)*	2	3
N3 : Nombre d'autres enseignants-chercheurs et chercheurs (cf. Formulaire 2.2 et 2.4 du dossier de l'unité) *(Non Permanent scientists)*	0	
N4 : Nombre d'ingénieurs, techniciens et de personnels administratifs titulaires (cf. Formulaire 2.5 du dossier de l'unité) *(Permanent Technical staff)*	0	1
N5 : Nombre d'ingénieurs, techniciens et de personnels administratifs non titulaires (cf. Formulaire 2.6 du dossier de l'unité) *(Non Permanent Technical staff)*	1	0
N6 : Nombre de doctorants (cf. Formulaire 2.7 du dossier de l'unité), (*PhD Students)*	3	8
N7 : Nombre de personnes habilitées à diriger des recherches ou assimilées (*PhD Supervisors)*	3	5

- Appréciation sur la qualité scientifique et la production (Scientific production):

  - Pertinence et originalité des recherches, qualité et impact des résultats (Importance of results):

The team is composed of 2 faculty members, 2 researchers, 3 PhD (1 defended), 1 engineer and is involved in vibrational spectroscopy and optical methods The team obtained higly valuable results in the PM-IRRAS method on the Langmuir films, stabilization of phospholipids bilayers and multi layers at the air/water interface, it demonstrated a fast reversible transition between hélice alpha and beta sheet of one amphipatic peptide and studied relationship between transfection capacities and DNA interaction.

  - Quantité et qualité des publications, communications, thèses et autres productions (Numbers):

Both, the amount and the quality of the publications are very good with a certain extend not as corresponding author. 40 publications in peer reviewed journals, 7 invited conferences, 10 oral communications & 14 posters, 1 PhD defended, 1 patent.

  - Qualité et pérennité des relations contractuelles (Grants):

Partner in 2 ANR, 2 région grants + participation in 1 project Region, 1 contract with Sanofi (30K€/yrs).

- Appréciation sur le rayonnement, l'attractivité, et l'intégration de l'équipe ou du projet dans son environnement (Team Visibility):

Very high number of collaborations with respect to the team size. All of them are pertinents in terms of complementarity and demonstrated the expertise of the team (CBMN, University of Bordeaux, French Universities and international universities). However the number of collaborations in which the team is leader is difficult to assess.

  - Nombre et renommée des prix et distinctions octroyés aux membres de l'équipe ou à ceux qui participent au projet, y compris les invitations à des manifestations internationales (Prizes & International visibility):

Invitation to write a chapter in an Elsevier book. Participations to international congresses.

  - Capacité à recruter des chercheurs, post-doctorants ou étudiants de haut niveau, en particulier étrangers (Recruitment capability):

The group is attractive thanks to its background and knowledge (visiting researchers from other groups to build a unique biovibrationnal group).

  - Capacité à obtenir des financements externes, à répondre ou susciter des appels d'offres, et à participer à l'activité des pôles de compétitivité (Granting activity, networking):

Grants from ANR, region and private society (30K€/yrs)

  - Participation à des programmes internationaux ou nationaux, existence de collaborations lourdes avec des équipes étrangères (International collaborations):

High number of international collaborations (8 counted) Long term international collaboration Univ Laval, Canada (Prof. C Salesse).

- Valorisation des recherches, et relations socio-économiques ou culturelles (Industrial & economical output):

The group expertise and know-how is internationally recognized in the field of vibrational spectroscopy. One patent and collaboration with Sanofi, collaboration in project with the society Gemac.

- Appréciation sur la stratégie, la gouvernance et la vie de l'équipe ou du projet (Team Organization):

- Pertinence de l'organisation, qualité de la gouvernance et de la communication interne et externe (Team direction):

Despite the team leader's efforts to organize the group after his retirement, the future of the team is not clear for lack of a visible successor.

- Pertinence des initiatives visant à l'animation scientifique, à l'émergence, et à la prise de risques (Scientific foreseen):

Good to very good since the team initiatives and taken risks relies on the number of orientation and problematic addressed. It was very successful since its contribution was essential (in particular in biochemical systems) and provided key informations to make advances.

- Implication des membres dans les activités d'enseignement et dans la structuration de la recherche en région (Teaching & Regional implication):

Teaching of Raman and SERS licence and master level, teaching within the framework of CNRS formation.

- Appréciation sur le projet (Project evaluation) :

- Existence, pertinence et faisabilité d'un projet scientifique à moyen ou long terme (Project Feasibility):

On the one hand, a part of the project is the continuation of peptide(protein)/membrane and DNA/biological molecules interactions studies as before. On the second hand, the team plans to invest more in multiple Imaging techniques (vibrational and optical) for biological system studies. For this purpose the development of new methods such asvibrational spectroscopy coupled with microfluidic systems, Imaging ATR spectroscopy on new membrane model and on real living tissues, Cross possibilities of nanometallic particles in Raman and infrared spectroscopies will be addressed.

- Existence et pertinence d'une politique d'affectation des moyens (Project means):

A new member will join the team. Money from grant is used when needed according project and collaboration.

- Originalité et prise de risques (Originality & risk):

Most of the projects are unique. It is an interesting and original project overall that has been enriched by the contribution of a new member joining the team. The main risk is related to the principal investigator's retirement.

- Conclusion :

- Points forts et opportunités (Strengths):

Clever and efficient unique use of the vibrational spectroscopy to answer relevant biosystem problems, complementarities of the members' competences. The involvement in collaborative projects.

- Points à améliorer et risques (Weaknesses & possible improvement):

The localisation of the group is not yet final. The number of collaboration in relation of the team'leader retirement which is clearly not addressed in the project.

- Recommandations *(Recommendation)*:

The team did well in the past and demonstrated its propensity to be involved in numerous important topics. However, there is a considerable risk if the replacement of the team leader is not rapidly addressed and corroborated in the project. It is recommended to find out a solution within the year, there is probably possibility of merging with other CBMN's team without lost of visibility.

Intitulé de l'équipe (Team) : Molecular Modeling of Biomolecules & numeric imaging

Nom du responsable (team Leader) : MM.Juan ELEZGARAY/Michel LAGUERRE, CNRS

- Effectifs de l'équipe ou affectés au projet (sur la base du dossier déposé à l'AERES) (Team Members):

	Dans le bilan	Dans le projet
N1 : Nombre d'enseignants-chercheurs (cf. Formulaire 2.1 du dossier de l'unité) (*Faculty Members)*	0	0
N2 : Nombre de chercheurs des EPST ou EPIC (cf. Formulaire 2.3 du dossier de l'unité) (*Researchers)*	3	3
N3 : Nombre d'autres enseignants-chercheurs et chercheurs (cf. Formulaire 2.2 et 2.4 du dossier de l'unité) *(Non Permanent scientists)*	3	4
N4 : Nombre d'ingénieurs, techniciens et de personnels administratifs titulaires (cf. Formulaire 2.5 du dossier de l'unité) *(Permanent Technical staff)*	0	0
N5 : Nombre d'ingénieurs, techniciens et de personnels administratifs non titulaires (cf. Formulaire 2.6 du dossier de l'unité) *(Non Permanent Technical staff)*	0	0
N6 : Nombre de doctorants (cf. Formulaire 2.7 du dossier de l'unité), (*PhD Students)*	5,5	5
N7 : Nombre de personnes habilitées à diriger des recherches ou assimilées (*PhD Supervisors)*	3	3

- Appréciation sur la qualité scientifique et la production (Scientific production):

  - Pertinence et originalité des recherches, qualité et impact des résultats (Importance of results):

Two main competences lead the activity of that team (3 researchers, 5PhD, 3 postdoc) which is strongly implicated in different topics addressed by CBMN institute and with external, national and international research groups. Their expertise and background of computer simulations and the modeling of biological molecules lead them to collaborate and being really involved in the different group activities. These modeling techniques are adaptable to many fields of research and are here mainly dedicated to collaborative research. Virtual screening activity is a second important topic of that team. That research has been concretized by the deposit of patents. It particularly takes place in the field of drug design axis with a view to synthesize new anticancer drugs but also in the field of the identification of protein ligands. The first concepts and results obtained on the studies of on DNA origami design are original and have to be developed to find its place in the activities of that group. The quality of some papers produced by the team during the past 4 years demonstrate relevance of the research through collaboration. The diversity of the projects and their implication in various disciplines make the group complementary to biology, biophysics or physics.

  - Quantité et qualité des publications, communications, thèses et autres productions (Numbers):

26 publications in peer reviewed journals most of them resulting from collaborations and not as main author, 4 invited conferences, 17 communications (oral & posters), 1 PhD defended, 1 patent. Among the four highest impact publications of the Lab, 3 are originating from the group: 2 PLOs Biology and 1 PLOs Medecine. However, the number of publication as main autor has to be improved.

  - Qualité et pérennité des relations contractuelles (Grants):

The team has since several years an almost continuous support from ARC and "La Ligue contre le Cancer" and participation to versatile ANR grants.

- Appréciation sur le rayonnement, l'attractivité, et l'intégration de l'équipe ou du projet dans son environnement (Team Visibility):

  - Capacité à recruter des chercheurs, post-doctorants ou étudiants de haut niveau, en particulier étrangers (Recruitment capability):

Good level of recruitment 5 PhD running (1 industry, 1 BDI-CNRs), 3 Post-Docs.

  - Capacité à obtenir des financements externes, à répondre ou susciter des appels d'offres, et à participer à l'activité des pôles de compétitivité (Granting activity, networking):

The recurrent income from trustees being very low, almost the entire budget relies on external grants (ANR, ARC, Ligue, EDF, industries, …).

- Participation à des programmes internationaux ou nationaux, existence de collaborations lourdes avec des équipes étrangères (International collaborations):

Several fruitful collaborations at international (UK, USA), national (Marseilles, Lyon) and local with academic and private groups most of them resulting in very good publication or contract. Very good connection with scientific network, which emphasizes the recognition of the team. The level of invited conferences or participation to international congresses in the area of research can be improved.

- Valorisation des recherches, et relations socio-économiques ou culturelles (Industrial & economical output):

1 patent with the society Fluofarma & 1 international extension PCT. Creation of the society Fluofarma. 1 PhD funded by CNRS and Fluofarma. Good level of funding through contracts (ANR, ARC, Ligue, EDF, industries).

- Appréciation sur la stratégie, la gouvernance et la vie de l'équipe ou du projet (Team Organization):

- Pertinence de l'organisation, qualité de la gouvernance et de la communication interne et externe (Team direction):

As the team members are involved in many collaborations, the organization and direction is fine and balanced.

- Pertinence des initiatives visant à l'animation scientifique, à l'émergence, et à la prise de risques (Scientific foreseen):

Organizer of the Scientific day of CBMN and also the animator of Organic Chemistry Workshop at the Institute level. Much involved in numerous projects in CBMN.

- Implication des membres dans les activités d'enseignement et dans la structuration de la recherche en région (Teaching & Regional implication):

Participations in knowledge transfer and in regional events like "Fête de la Science" or various public events. Teaching at master level in Bordeaux. Member of scientific committees locally.

- Appréciation sur le projet (Project evaluation) :

- Existence, pertinence et faisabilité d'un projet scientifique à moyen ou long terme (Project Feasibility) :

Project concerns molecular modeling (new vectors for antisense ODNs vectorization, amyloid protein, DNA origamis), numerical imaging (model of SSPM apparatus and SERS sensor) and drug design (highthrouput in-silico screening, anti-cancer drugs…). As before, it registers within solids and complementary in-house and external collaborations. Most of the targets are very relevant.

- Existence et pertinence d'une politique d'affectation des moyens (Project means):

Most of the resources (human or computational) are shared which is efficient. Good computing facilities are available locally to support the research. Most of the projects are supported or are subjects to financial requests.

- Originalité et prise de risques (Originality & risk):

Most of the subjects are original and well balanced due to pertinent collaborations. There are risks since problematics are various and correspond to calculation of complex systems. Indeed, most of the research initiatives are applied to highly diversified fields, ranging from structure determination and/or refinement of protein (peptide) structure to the solution of Maxwell equations or the development of new tools for drug design. However, this team did well in the past and there is a clear balance between risks and expected results.

- Conclusion :

- Points forts et opportunités (Strengths):

High propensity to collaborate in varied original and important topics. Most of the collaboration resulted in good to very good publications. High involvement in the laboratory's life. Essential wheel in the unit.

- Points à améliorer et risques (Weaknesses & possible improvement):

The number of paper as main author. The participation in international congresses and invitation.

Lack of faculty member in the team and computing ingineer.

- Recommandations *(Recommendation)*:

It is important for that group to continue good participation in collaborative projects. It is also mandatory that the group can be able to develop more clearly its own research to become more visible. Supporting the team with an engineer can be a way to balance both directions for doing it.

Intitulé de l'équipe *(Team) :* Self-assemblies of amphiphilic molecules

Nom du responsable *(team Leader)* : Mr Reiko ODA, CNRS (team supported by IECB)

- Effectifs de l'équipe ou affectés au projet (sur la base du dossier déposé à l'AERES) (Team Members):

	Dans le bilan	Dans le projet
N1 : Nombre d'enseignants-chercheurs (cf. Formulaire 2.1 du dossier de l'unité) (*Faculty Members)*	0	1
N2 : Nombre de chercheurs des EPST ou EPIC (cf. Formulaire 2.3 du dossier de l'unité) (*Researchers)*	1	2
N3 : Nombre d'autres enseignants-chercheurs et chercheurs (cf. Formulaire 2.2 et 2.4 du dossier de l'unité) *(Non Permanent scientists)*	4	3
N4 : Nombre d'ingénieurs, techniciens et de personnels administratifs titulaires (cf. Formulaire 2.5 du dossier de l'unité) *(Permanent Technical staff)*	0	0
N5 : Nombre d'ingénieurs, techniciens et de personnels administratifs non titulaires (cf. Formulaire 2.6 du dossier de l'unité) *(Non Permanent Technical staff)*		
N6 : Nombre de doctorants (cf. Formulaire 2.7 du dossier de l'unité), (*PhD Students)*	6	3
N7 : Nombre de personnes habilitées à diriger des recherches ou assimilées (*PhD Supervisors)*	1	1

- Appréciation sur la qualité scientifique et la production (Scientific production):

  - Pertinence et originalité des recherches, qualité et impact des résultats (Importance of results):

The group is very small (1 researcher) but its work is internationally recognized in the field of self-assemblies of amphiphilic molecules for contributions to the understanding of mechanisms and the control of morphology and dynamics at different levels (molecular, mesoscopic up to macroscopic scale). An original approach developed on the effect of counterions on the assembly properties associated with original molecular structure, i.e., gemini surfactants is particularly important.

  - Quantité et qualité des publications, communications, thèses et autres productions (Numbers):

18 publications in high IF journals, most of them as main author, 10 invited talks in conferences, 7 oral communications & 8 posters, 6 PhD defended, 2 PhD running, 4 postdoc.

- Qualité et pérennité des relations contractuelles (Grants):

Most of the projects are funded (106K€/yrs) and are coordinated by the team leader (ANR, JSPS, cNano, BQR)

- Appréciation sur le rayonnement, l'attractivité, et l'intégration de l'équipe ou du projet dans son environnement (Team Visibility):

- Nombre et renommée des prix et distinctions octroyés aux membres de l'équipe ou à ceux qui participent au projet, y compris les invitations à des manifestations internationales (Prizes & International visibility):

10 invited conferences among which 6 are international conferences. Manangement and functioning of small angle scattering, CD, peptide synthesizer facilities in CBMN and IECB.

- Capacité à recruter des chercheurs, post-doctorants ou étudiants de haut niveau, en particulier étrangers (Recruitment capability):

Only 1 CNRS researcher, very good level of attractivity for postdoc and PhD with more than 50% foreigners. Participation to exchange program.

- Capacité à obtenir des financements externes, à répondre ou susciter des appels d'offres, et à participer à l'activité des pôles de compétitivité (Granting activity, networking):

The group leader is the principal investigator of most of the grants obtained.

- Participation à des programmes internationaux ou nationaux, existence de collaborations lourdes avec des équipes étrangères (International collaborations):

Participates in the proposal to create a Cost Network on « Design and control of hybrid organic-inorganic interfaces ». Strong collaborative linkage with Japan (foreign senior visiting researcher of RIKEN institute). Member of JSPS (Japan Society for Promotion of Science) association French office in Strasbourg, organization of JSPS-CNRS forum once a year.

- Valorisation des recherches, et relations socio-économiques ou culturelles (Industrial & economical output):

Active participation to promotion of exchange with Japan.

- Appréciation sur la stratégie, la gouvernance et la vie de l'équipe ou du projet (Team Organization):

- Pertinence de l'organisation, qualité de la gouvernance et de la communication interne et externe (Team direction):

Due to the small size of the group, there is no need for formal organization. All the PhD and postdoc have publications along their stay.

- Pertinence des initiatives visant à l'animation scientifique, à l'émergence, et à la prise de risques (Scientific foreseen):

The team is engaged in several high risk programs but for which it obtained important contributions. Deciphering the parameters involved in the mechanism of controlling self assembly is particularly relevant and will provide new breakthrough tools for the bottom-design of nano or microstructures with useful applications (electronics, life sciences).

- Implication des membres dans es activités d'enseignement et dans la structuration de la recherche en région (Teaching & Regional implication):

Teaching participation at master level in Chemistry as well as Biology. Implication since 10 years to "Science en Fête" for IECB once a year (ateliers for high school students)

- Appréciation sur le projet (Project evaluation) :

- Existence, pertinence et faisabilité d'un projet scientifique à moyen ou long terme (Project Feasibility) :

The project, based on the acquired results and experience of the team, is directed by a rational bottom-up construction approach to the design of self-assembled nanoobjects which will serve to provide new functional materials with controllable morphologies and recognition features. The project is well balanced between basic research (understanding of assembly processes, chirality, anisotropy, ionic complexation) and potential applications (electronics, nano-devices, cell biology…) they may result and will involve key reliable collaborations (CBMN, USA).

- Existence et pertinence d'une politique d'affectation des moyens (Project means):

Most of the proposed orientations are supported by human means as well as funds.

- Originalité et prise de risques (Originality & risk):

The way the researches are undertaken is original, the introduction of biological systems will make this group even more prominent. In addition to that, the first class basic physico-chemical research carried out by the group should be adequately financed.

- Conclusion :

- Avis (Advice):

The wide gap between chemistry and biology or materials science and life science in the field of molecular assemblies has to be bridged from both sides. In an attempt to do this from the physicalchemistry side, the projects proposed by the group of Reiko Oda play crucial roles.

Their very original approaches and activities in the field of molecular organization of amphiphiles in self-assembled aggregates, their results about supramolecular chirality of chiral amphiphile aggregates and the interaction of model membranes with peptides and oligo-nucleotides have gained them high international respect as demonstrated by her remarkable large number of very recent international invitations. The projects are based on logical continuity of their strong expertise, along with a strong ambition to open themselves towards new fields.

- Points forts et opportunités (Strengths):

Results about ionic-driven interactions, supramolecular chirality of chiral amphiphile aggregates and the interaction of model membranes with peptides and oligo-nucleotides are very important in the field of surfactant chemistry. Participation and leader role to efficiently active collaborative networks with for most of them results.

- Points à améliorer et risques (Weaknesses & possible improvement):

The size of the group is limited albeit the team worked fine so far.

- Recommandations (Recommendation):

A faculty member or another researcher would improve the stability of the team and probably allow more prominent breakthrough. May also envision to merge with another team whose area is complementary.

Department: Biophysics & Structural Biochemistry

This department is involved with structure, dynamics and mode of action of peptides, proteins and lipids. Molecules are isolated or under the form of complex membrane assemblies: model and natural membranes, colloidal and non covalent complexes. Systems under study are under the form of crystals, powders, soft matter, in solution or in the gas state.

Intitulé de l'équipe *(Team):* Biophysics of Membrane Assemblies

Nom du responsable *(team Leader)*: Erick DUFOURC, CNRS (team supported by IECB)

- Effectifs de l'équipe ou affectés au projet (sur la base du dossier déposé à l'AERES) (Team Members):

	Dans le bilan	Dans le projet
N1 : Nombre d'enseignants-chercheurs (cf. Formulaire 2.1 du dossier de l'unité) (*Faculty Members)*	0	0
N2 : Nombre de chercheurs des EPST ou EPIC (cf. Formulaire 2.3 du dossier de l'unité) (*Researchers)*	3	2
N3 : Nombre d'autres enseignants-chercheurs et chercheurs (cf. Formulaire 2.2 et 2.4 du dossier de l'unité) *(Non Permanent scientists)*	1	
N4 : Nombre d'ingénieurs, techniciens et de personnels administratifs titulaires (cf. Formulaire 2.5 du dossier de l'unité) *(Permanent Technical staff)*	2	2
N5 : Nombre d'ingénieurs, techniciens et de personnels administratifs non titulaires (cf. Formulaire 2.6 du dossier de l'unité) *(Non Permanent Technical staff)*		
N6 : Nombre de doctorants (cf. Formulaire 2.7 du dossier de l'unité), *(PhD Students)*	12 (7 defended)	10
N7 : Nombre de personnes habilitées à diriger des recherches ou assimilées (*PhD Supervisors)*	2	2

- Appréciation sur la qualité scientifique et la production (Scientific production):

  - Pertinence et originalité des recherches, qualité et impact des résultats (Importance of results):

The team is composed of 3 researchers, 13PhD (7 defended), 1 postdoc and 2 engineers which in addition to research manages the NMR platform (national label). The team is involved and recognized in the biophysic of membranes and colloids (lipids and peptides in membranes and colloids in health and nutrition). Leading role in the development and application of magnetically orientable biomembranes (bicelles) for membrane structural biology in particular for solid-state NMR spectroscopy. Based on 2H NMR data proposing new concepts for the biological role of membrane micro-domains (rafts) emphasizing the evolutionary role of sterols for membrane dynamics. New models for the mode of action of some membrane-active antimicrobial peptides. New approaches to study the colloidal interactions between tannins and saliva proteins. Breakthrough in the construction of magnetically orientable biomembrane nanoobjects (bicelles) and their application in membrane structural biology. Pionnering work for "in cell" NMR of nuclear membrane dynamics. Bringing new concepts, in particular the role of dynamics, in the raft (membrane micro-domain) field and on the evolutionary role of sterols.

  - Quantité et qualité des publications, communications, thèses et autres productions (Numbers):

Very good level of publication in terms of quality and quantity (high impact factors Faseb, PLOS, Anal.Chem, Prog. Lip Res.) with the most cited of them as corresponding authors. All the team's members have good extend of publications independently.

59 publications, 15 invited conferences, 24 oral communications in congress, 29 posters, 4 books or Book chapters, 1 edition of Books, 8 congress/Workshop organization, 7 PhD defended.

  - Qualité et pérennité des relations contractuelles (Grants):

50 k€/year granting from Industry, regional consortia, and national agencies. Additional special granting of 65k€/year to participate in management of the NMR platform as part of the Large Scale National NMR facility (TGIR RMN HC, FR3050).

- Appréciation sur le rayonnement, l'attractivité, et l'intégration de l'équipe ou du projet dans son environnement (Team Visibility):

  - Nombre et renommée des prix et distinctions octroyés aux membres de l'équipe ou à ceux qui participent au projet, y compris les invitations à des manifestations internationales (Prizes & International visibility):

Lab head and members have been invited 15 times in international conferences. Prizes for Dufourc's student. Collaborations with teams in UK, Sweden, Germany, USA, Brazil, Canada. Dufourc president of European Biophysical Society (EBSA).

  - Capacité à recruter des chercheurs, post-doctorants ou étudiants de haut niveau, en particulier étrangers (Recruitment capability):

20% of foreigners students, and 50% of postdocs are from abroad (German, English, Spanish, Brazilian, etc)

- Capacité à obtenir des financements externes, à répondre ou susciter des appels d'offres, et à participer à l'activité des pôles de compétitivité (Granting activity, networking):

External granting agencies or industry, 90% coverage of its running budget. 3 M€ to install 600, 700 and 800 MHz NMR machines in the past 3 years. The team coordinates the NMR Aquitaine network and is part of the large scale national NMR facility network (TGIR RMN HC), the Bordeaux site being identified as "Membrane Science".

- Participation à des programmes internationaux ou nationaux, existence de collaborations lourdes avec des équipes étrangères (International collaborations):

Program of PhD co tutorship and collaboration with UK, Sweden, and Brazil (PhD delivered by two countries). Collaborations with Netherlands and Poland.

- Valorisation des recherches, et relations socio-économiques ou culturelles (Industrial & economical output):

Programs with industrial companies (CIFRE) in collaboration with the French Ministry of Industry. Participation in Carnot Institute (Industry-Academic network).

- Appréciation sur la stratégie, la gouvernance et la vie de l'équipe ou du projet (Team Organization):

- Pertinence de l'organisation, qualité de la gouvernance et de la communication interne et externe (Team direction):

Whereas the main research directions are determined by the experienced PI, the laboratory organisation is more horizontal: One Permanent scientist is responsible for the group finances, three researchers or engineers are responsible for the individual projects on Lipids, Peptides and Proteins, and Colloids for health & Nutrition. The students are also implied into the organisation by being responsible for collective duties (Nitrogen & Helium gazes, Lipids, Peptide synthesizer, HPLC, etc.)

- Pertinence des initiatives visant à l'animation scientifique, à l'émergence, et à la prise de risques (Scientific foreseen):

Regular group seminars. Organization of several international & national conferences (in 2010: one European school in Biophysics (80 part.) and one international meeting in lipids (within Eurofed Lipids, 150 part.). Developing high level science using NMR tools for membrane and nanoobject dynamics applied to health and nutrition. Very good balance between risks and output as emphasized by the success in the different topics developed as well as NMR management.

- Implication des membres dans les activités d'enseignement et dans la structuration de la recherche en région (Teaching & Regional implication):

Although all team members are CNRS scientists there are nonetheless involved in teaching, NMR, Biophysics, and practical course on NMR machines.

E Dufourc is director of the Master "Biochemistry and Chemical Biology", Universities Bordeaux 1&2 and responsible of the Aquitaine NMR network (13 laboratories).

- Appréciation sur le projet (Project evaluation) :

  - Existence, pertinence et faisabilité d'un projet scientifique à moyen ou long terme (Project Feasibility):

Unique approach to investigate membrane nanoobjects orientable/deformable in magnetic fields as well as the biological role of lipids lipids and sterols and their physico-chemical effects on membrane structure and dynamics. The structural investigation of antimicrobial peptides can have important implications for the development of new pharmaceuticals that are desperately needed in times where more and more resistant pathogens appear. Whereas the structural investigations of large membrane proteins within bilayers remains a major challenge also for solid-state NMR spectroscopy the investigation of colloids for health and nutrition in relation with industry remains a more routine approach. The team clearly has a leading role in the networking of NMR platforms at the regional and national levels. In particular they manage a high level technical platform with up-to date solid & liquid state NMRspectrometers which is open to academy and industry.

  - Existence et pertinence d'une politique d'affectation des moyens (Project means):

All scientists that are productive, including PhD and technicians, are considered equally within the unit when the annual funds are distributed, which to this committee appears a very modern way to approach to hand on these funds. Within the team there seems no specific distribution as the team works in unison on accomplishing a number of tasks. Major funding concerns the specific installation of new NMR spectrometers (rather than consumables or personnel).

  - Originalité et prise de risques (Originality & risk):

The team specializes in the subject of investigating the structure and dynamics of membranes and nanoobjects thereby modernizing and advancing a field that had attracted considerable interest in the past and re-emerged recently as an important issue to understand the functioning of membrane polypeptides. Of particular interest is the development of "in cell" NMR using high NMR fields including techniques for labelling lipids and proteins. The future projects presented constitute a fine balance between projects with a high probability to succeed (lipids, colloids) and risky ventures ("in cell" NMR, membrane proteins). Team specialized in structure & dynamics of membranes and nanoobjects. Will to develop "in cell" NMR using high NMR fields, including means for labelling lipids and proteins.

- Conclusion :

  - Avis (Advice):

This is a very dynamic and active group with many young scientists contributing at all levels of research and organisation. The laboratory promises to further develop several new and innovative lines of research of considerably academic and socio-economic interest. Several lines of research are unique.

  - Points forts et opportunités (Strengths):

The team is well equipped and has a great potential to exploit the concurrent possibilities with innovative lines of research. The research plan encompasses well-established technologies but also the development of novel approaches for membrane polypeptide structure determination (e.g. bicelles). Of particular interest will be the development of in vivo NMR, a research direction which had attracted interest already in the 1980s, but has never been followed up systematically. This line of research will really profit from higher sensitivity offered by the new NMR equipment.

- Points à améliorer et risques (Weaknesses & possible improvement):

The PI is heavily involved in managerial tasks (head of a relatively large research unit, active member of a great number of national and international societies, financing the next generation of high-field NMR instruments) and there is a certain risk that time is lacking to manage the team. Although this was not a major problem so far it could become an issue if particular problems arise within the team.

- Recommandations (Recommendation):

It is recommended to the group to pursue the work they have started successfully. The group has worked for an extensive time period in establishing the laboratory in its present condition (from being involved in the founding of the IECB and the CBMN up to the recent arrival of the 800 MHz NMR spectrometer), the team has now to take benefit of it to remain competitive and it merits the best possible support by the funding agencies.

Intitulé de l'équipe *(Team):* Structure and Activity of Biological Macromolecules

Nom du responsable *(team Leader)* : Bernard GALLOIS, CNRS

- Effectifs de l'équipe ou affectés au projet (sur la base du dossier déposé à l'AERES) (Team Members):

	Dans le bilan	Dans le projet
N1 : Nombre d'enseignants-chercheurs (cf. Formulaire 2.1 du dossier de l'unité) (*Faculty Members)*	1	1
N2 : Nombre de chercheurs des EPST ou EPIC (cf. Formulaire 2.3 du dossier de l'unité) (*Researchers)*	3	3
N3 : Nombre d'autres enseignants-chercheurs et chercheurs (cf. Formulaire 2.2 et 2.4 du dossier de l'unité) *(Non Permanent scientists)*	0	
N4 : Nombre d'ingénieurs, techniciens et de personnels administratifs titulaires (cf. Formulaire 2.5 du dossier de l'unité) *(Permanent Technical staff)*	2	2
N5 : Nombre d'ingénieurs, techniciens et de personnels administratifs non titulaires (cf. Formulaire 2.6 du dossier de l'unité) *(Non Permanent Technical staff)*		
N6 : Nombre de doctorants (cf. Formulaire 2.7 du dossier de l'unité), (*PhD Students)*	4	4
N7 : Nombre de personnes habilitées à diriger des recherches ou assimilées (*PhD Supervisors)*	3	3

- Appréciation sur la qualité scientifique et la production (Scientific production):

  - Pertinence et originalité des recherches, qualité et impact des résultats (Importance of results):

The team (3 researchers, 1 faculty member, 4PhD, 2 engineers) is involved in the investigation of enzyme mechanisms in the flavonoid biosynthetic pathway with application in plant protection and growth, as well as in human health. To address this question, the team has extended its field of competence using mechanistic enzymatic studies and X-rays structure and relevant analytical methods (chiral chromatography, method of Hümmel and Dryer) and production of recombinant unstable enzymes. The three proteins studied are of major interest in the biochemical point of view as unstable proteins in solution and in the plant point of view to understand the driven forces of the phenolic composition in plants. First structural and mechanistic informations obtained on 3 key enzymes involved in phenolic composition in plants whose mechanism of one of them produces a phytotoxic unexpected compound.

  - Quantité et qualité des publications, communications, thèses et autres productions (Numbers):

12 publications in peer reviewed journals (mean impact factor: 3.4), 1 invited conferences, 5 oral communications, 12 posters, 2 PhD defended. The number of publication is average given the team composition, it has been increased during the last year and two papers have already been accepted in a high impact journal.

  - Qualité et pérennité des relations contractuelles (Grants):

Research has been strongly supported by local industry (2 ongoing PhD) and by an active collaborative action with the Tunisian government (2 ongoing PhD). One invited conference was given by the team leader in this context. There is a new project, initiated only since 4 years. If the number of publications is still low, it has been increased during the last year and two papers have already been accepted in a high impact journal. 2 consecutive research grants (3 year long), and 15 k€ of functioning/year over 6 consecutive years allocated by the same private organism.3 year grants allocated by the Tunisian government for 2 Ph D students.1 co-financing ANR for 3 years.

- Appréciation sur le rayonnement, l'attractivité, et l'intégration de l'équipe ou du projet dans son environnement (Team Visibility):

  - Nombre et renommée des prix et distinctions octroyés aux membres de l'équipe ou à ceux qui participent au projet, y compris les invitations à des manifestations internationales (Prizes & International visibility):

1 conference invitation

  - Capacité à recruter des chercheurs, post-doctorants ou étudiants de haut niveau, en particulier étrangers (Recruitment capability):

2006 – 2009: 2 foreign PhD students in 4 years. In 2009 – 2010: 1 financed PhD student (3 years) and 1 post-doc researcher granted by a Pierre-Marie Curie IAPP (FP7) program will be recruited

  - Capacité à obtenir des financements externes, à répondre ou susciter des appels d'offres, et à participer à l'activité des pôles de compétitivité (Granting activity, networking):

70 % of the group funding is from external sources. 1 ANR, grant recognition by "Région Aquitaine" and local industry (CIVB).

- Participation à des programmes internationaux ou nationaux, existence de collaborations lourdes avec des équipes étrangères (International collaborations):

Foldappi program with I Huc (Marie Curie IAPP FP7) with international collaborations : Würzburg University (RFA) , UCB Pharma (Belgian pharmaceutical group). Project accepted : 22/07/2008. Project N° 230622.

- Valorisation des recherches, et relations socio-économiques ou culturelles (Industrial & economical output):

A PhD and a post-doc will join the team in late 2010 to start a new european collaborative project leading by an other CBMN team. A collaboration is ongoing with local industry, the "Conseil Interprofessionnel du Vin de Bordeaux, CIVB" to improve wine quality. Constant scientific exchange with the "Conseil Interprofessionnel du Vin de Bordeaux, CIVB" organism which promotes the commercialisation of Bordeaux wine and funds research projects to improve wine quality.

- Appréciation sur la stratégie, la gouvernance et la vie de l'équipe ou du projet (Team Organization):

- Pertinence de l'organisation, qualité de la gouvernance et de la communication interne et externe (Team direction):

The team is well organized and managed in terms of expertise complementarities and concern of the team to widen its expertise (integration of a professor expert in biochemistry and enzymology; formation of one permanent member to molecular biology techniques).

- Pertinence des initiatives visant à l'animation scientifique, à l'émergence, et à la prise de risques (Scientific foreseen):

The team has started a new project since four years only, taking the risk of studying instable proteins in solution. It is strongly supported by the local industry and an international collaboration which enables four PhD theses supported by their grants, two being ongoing. This evolution is associated with a constant concern of the team to widen its field of expertise to address more complex questions. The subject on the flavonoid biosynthesis is an example of risk-taking. The enzymes whose structural and enzymatic studies have been investigated were described in the literature as unstable in solution. Few results were published hitherto in this field.

- Implication des membres dans les activités d'enseignement et dans la structuration de la recherche en région (Teaching & Regional implication):

Members of the team are strongly implicated in teaching biochemistry, enzymology, protein structure and function at the undergraduate and graduate levels.

Lectures are given at undergraduate and graduate levels and to prepare for the highest-level of college teaching of biology (french Agrégation).

- Appréciation sur le projet (Project evaluation) :

  - Existence, pertinence et faisabilité d'un projet scientifique à moyen ou long terme (Project Feasibility):

Adequacy between the project and the group expertise. Based on recent significant results, the project of the team will focused on continuing understanding the mechanisms by which several classes of flavonoids of relevant importance for human diet and plants are synthesized. Considering the great role of the flavonoids in the development of the wine organoleptic properties, these research are strongly supported by the Bordeaux local industry. Two PhD theses are ongoing. In parallel, the team is part of a project leaded by an other CBMN team and supported by the E.U. The team will bring its expertise in the X-ray crystallography of proteins to help establishing that aromatic amide foldamers are appropriate scaffolds for recognition of proteins, and then, after having been properly decorated, that these aromatic amide foldamers are able to inhibit protein-protein interaction.

  - Existence et pertinence d'une politique d'affectation des moyens (Project means):

IAPP FP7 European network funding for the next 4 years. Research is strongly supported by the Bordeaux local industry.

  - Originalité et prise de risques (Originality & risk):

Study of stilbene oxidase from Botrytis, is a risk since a successful purification of the native protein is a prerequisite of its expression as a recombinant enzyme. Participation in an interdisciplinary project (Foldappi, I Huc) to study a new concept of drug.

- Conclusion :

  - Points forts et opportunités (Strengths):

In the last four years, this team has developed a set of complementary approaches included X-ray structure and biochemical and mechanistic enzymology to develop a project aiming at understanding the role of key enzymes involved in the biosynthesis of flavonoids. Its expertise in protein crystallography is recognized by the local industry and through international collaborations including its involvement in a new and ambitious European project. Coherence and complementarities of the team. Adequacy between the announced project and the group expertise. Close link between research and regional economy. Public/industry interdisciplinary collaboration.

  - Points à améliorer et risques (Weaknesses & possible improvement):

Young member recruitment needed. Publication record track. International visibility.

  - Recommandations (Recommendation):

The team is encouraged to continue improving scientific production and developing new collaborations inside and outside of CBMN.

Intitulé de l'équipe : Biological Mass Spectrometry

Nom du responsable : Mr Jean-Marie SCHMITTER, University Bordeaux 1 (team supported by IECB)

- Effectifs de l'équipe ou affectés au projet (sur la base du dossier déposé à l'AERES) :

	Dans le bilan	Dans le projet
N1 : Nombre d'enseignants-chercheurs (cf. Formulaire 2.1 du dossier de l'unité)	1	1
N2 : Nombre de chercheurs des EPST ou EPIC (cf. Formulaire 2.3 du dossier de l'unité)		
N3 : Nombre d'autres enseignants-chercheurs et chercheurs (cf. Formulaire 2.2 et 2.4 du dossier de l'unité) *(Non Permanent scientists)*	1	
N4 : Nombre d'ingénieurs, techniciens et de personnels administratifs titulaires (cf. Formulaire 2.5 du dossier de l'unité)	3,5	3,5
N5 : Nombre d'ingénieurs, techniciens et de personnels administratifs non titulaires (cf. Formulaire 2.6 du dossier de l'unité)		
N6 : Nombre de doctorants (cf. Formulaire 2.7 du dossier de l'unité)	6.5	2
N7 : Nombre de personnes habilitées à diriger des recherches ou assimilées	1	1

- Appréciation sur la qualité scientifique et la production :

- Pertinence et originalité des recherches, qualité et impact des résultats :

This team (1 faculty member, 7 PhD, 1 postdoc,1,5 engineers up to sept 2007 and then 2.5) is well recognized at the national level as proved by a great number of collaborative works due to its high level in methodology covering a large spectrum of mass spectrometry aspects, including isotopic H/D exchange analyzed by MALDI/TOF, focalized proteomics (protein-protein interaction, probiotic proteomics), development of a new method for increasing the sensitivity of therapeutic proteins quantification, lipidomics. Main results concern isotopic H/D exchange (a review has been published in Methods in enzymology), characterization of a new lantibiotic which is a real challenge (a patent), an improvement in terms of sensitivity down to 50 attomoles for the quantification of therapeutic proteins (which has to be published). The team is strongly involved in management of technical platform of mass spectrometry.

- Quantité et qualité des publications, communications, thèses et autres productions :

26 publications in peer reviewed journals, but no paper as principal author for the group leader; 2 PhD defended; 1 patent. However, it represents a very high level of publication for only one professor with a heavy teaching charge and only 1.5 engineer from 2006 up to 2007, another one joined the group in sept 2007, for running the mass spectrometry platform with 5 instruments. The attractivity of this team is highlighted by the recent venue (sept 2009) of a fourth engineer.

- Qualité et pérennité des relations contractuelles :

Regular fundings from academic agency (ANR), from charities, and from local industry (25K€/yrs).

- Appréciation sur le rayonnement, l'attractivité, et l'intégration de l'équipe ou du projet dans son environnement :

- Nombre et renommée des prix et distinctions octroyés aux membres de l'équipe ou à ceux qui participent au projet, y compris les invitations à des manifestations internationales :

One invitation in an international meeting.

- Capacité à recruter des chercheurs, post-doctorants ou étudiants de haut niveau, en particulier étrangers :

The team has managed to merge a complementary set of six tandem mass spectrometers on a unique location (plateforme de génomique fonctionnelle). Two research engineers (permanent have joined the team, one in sept 2007, one in sept 2009.

- Capacité à obtenir des financements externes, à répondre ou susciter des appels d'offres, et à participer à l'activité des pôles de compétitivité :

Regular fundings from academic agencies, charities and local industry.

- Participation à des programmes internationaux ou nationaux, existence de collaborations lourdes avec des équipes étrangères :

Very good level of collaboration locally, 1 collaboration with Germany.

- Valorisation des recherches, et relations socio-économiques ou culturelles :

High level since very high local interaction with industry (tannins)

- Appréciation sur la stratégie, la gouvernance et la vie de l'équipe ou du projet :

- Pertinence de l'organisation, qualité de la gouvernance et de la communication interne et externe :

Exceptionnal since there is only 1 faculty member involved in all aspects of research life that the "team" participates in. The "team" has brought scientific and engineering competence for running 5 mass spectrometers and managed the mass spectrometry platform for UMS 2033 for teams from inside and outside CBMN and IECB.

- Pertinence des initiatives visant à l'animation scientifique, à l'émergence, et à la prise de risques :

The team had taken the risk to move and join the plateforme de génomique fonctionnelle in another building to merge scientific competence and complementary tandem mass spectrometers. This risk is largely compensated with the need to increase the team size.

- Implication des membres dans les activités d'enseignement et dans la structuration de la recherche en région :

Strong implication of the group leader in teaching activities. Several important ongoing collaborations with research groups in the region outside of the CBMN for example leading to academic grant (ANR – PANACEA) with the "laboratoire de biogénèse membranaire" or to charities grants (ARC, ANRS) on proteomics of hepatocarcinoma.

- Appréciation sur le projet :

- Existence, pertinence et faisabilité d'un projet scientifique à moyen ou long terme :

The feasibility of the different projects has been greatly improved by the merging of scientific and engineered competences on a same location along to gain access to six mass spectrometers of up to date capabilities. Medium term (10 years) feasibility improved by access to platform top level equipment

- Existence et pertinence d'une politique d'affectation des moyens :

All the main projects are supported by grants.

- Originalité et prise de risques :

Moving to a new project dedicated to the quantitative analysis of lipids. Development of lipidomics and movement to a new site are two major features.

- Conclusion :

- Points forts et opportunités :

The team has developed a high level of methodology covering a large spectrum of mass spectrometry aspects from focalized proteomics to quantification of therapeutic proteins and lipidomics. It has developed strong collaboration at the regional level and has managed to merge the mass spectrometers facilities of up to date capabilies in a unique platform to strengthen this potential. The attractivity of this team is reinforced by the venue of two research engineers in the last two years. Very good level of collaborative work within UMR and outside.

- Points à améliorer et risques :

Increase the number of publications as main author, participation to international congresses. Only 1 permanent faculty member as researcher who albeit his exceptional involvement and commitment cannot do more.

- Recommandations :

It is recommended that the team continue to develop strong collaborations at the national and international levels and it is encouraged to publish its own methodological development as principal investigator in high ranked journals to improve its international visibility. For doing such and given the importance of mass spectrometry, it appears mandatory to support this team with the recruitment of another permanent researcher.

Intitulé de l'équipe: Carbon Nanotube Probe and NanoBioTechnology

Nom du responsable: Jean-Pierre AIMÉ, CNRS (Team from UMR5798, Bordeaux which asks to join the unit).

- Effectifs de l'équipe ou affectés au projet (sur la base du dossier déposé à l'AERES) (Team Members):

Results from all the members including the 2 of this new team were assessed within the scope of UMR-5789 (team Nano-physique sur matériaux mous et nano-systèmes, JP Aimé). Research of the team relates to: AFM Nanosonde, Nanomecanics at interfaces and dynamic AFM in liquid medium. The team is higly qualified in its field with original approaches, makes high research quality, good track record, has grant ressources (100K€/yrs, 3 ANR, 1 PICS, 1 EEC) and has an international recognition. The new team is composed of 1 faculty member and 1 researcher (new team leader, former team leader).

	Dans le bilan	Dans le projet
N1 : Nombre d'enseignants-chercheurs (cf. Formulaire 2.1 du dossier de l'unité) (*Faculty Members)*	3	1
N2 : Nombre de chercheurs des EPST ou EPIC (cf. Formulaire 2.3 du dossier de l'unité) (*Researchers)*	1	1
N3 : Nombre d'autres enseignants-chercheurs et chercheurs (cf. Formulaire 2.2 et 2.4 du dossier de l'unité) *(Non Permanent scientists)*		
N4 : Nombre d'ingénieurs, techniciens et de personnels administratifs titulaires (cf. Formulaire 2.5 du dossier de l'unité) *(Permanent Technical staff)*	0	1
N5 : Nombre d'ingénieurs, techniciens et de personnels administratifs non titulaires (cf. Formulaire 2.6 du dossier de l'unité) *(Non Permanent Technical staff)*	0	0
N6 : Nombre de doctorants (cf. Formulaire 2.7 du dossier de l'unité), (*PhD Students)*	2	2
N7 : Nombre de personnes habilitées à diriger des recherches ou assimilées (*PhD Supervisors)*	1	2

Small team. The leader proved in the past his capacity to handle the team. Definite need to grow or merge with related team.

Additional resource needed through growth or merger.

There is a clear scientific project, linked to the recent relocation of the team. The resources policy has been clearly stated. There is a good balance between risk and possibilities of success.

- Conclusion :

  - Points forts et opportunités (Strengths):

Good grant and publication record.

  - Points à améliorer et risques (Weaknesses & possible improvement)

The research has to be focused on a limited number of targets; that should allow an improved quality.

  - Recommandations (Recommendation):

The team has to be supported; nevertheless, they should make an effort to improve the quality and impact of the scientific publication to attract young researchers.

Department: Biomimetic and Medicinal Chemistry

The department develops the organic synthesis of biologically active molecules and biomimetic supramolecular scaffolds. One of the main objectives is to produce new drugs or new biomimetic scaffolds to deliver molecules.

From what we learned we got the impression that there is some imbalance between groups in bioorganic chemistry, biology and biophysics. One should consider to increase the number of bioorganic groups, e.g. by one or two additional appointments on the junior or intermediate level, in order to be able to fill certain gaps of expertise that are currently lacking (e.g. carbohydrate chemistry, combinatorial chemistry), and also to not run the risk of seriously weakening the expertise in chemistry in case one of the current excellent researcher should leave because of an outside offer.

Name of the team: Organic & Medicinal Chemistry,

Name of team leader: Leon GHOSEZ (Team will merge with Y HUC) (team supported by IECB)

- Team staff or staff allocated to the project (according to the dossier submitted to AERES):

	In the report	In the project
N1: Number of professors (see Form 2.1 of the unit's dossier)	1 emeritus	
N2: Number of EPST, *Établissement public à caractère scientifique et technologique* (Public scientific and technological institution) or EPIC, *Établissement public à caractère industriel et commercial* (Public industrial and commercial institution) researchers (see Form 2.3 of the unit's dossier)		
N3 : Nombre d'autres enseignants-chercheurs et chercheurs (cf. Formulaire 2.2 et 2.4 du dossier de l'unité) *(Non Permanent scientists)*	12	
N4: Number of engineers, technicians and tenured administrative staff members (see Form 2.5 of the unit's dossier)		
N5: Number of engineers, technicians and non-tenured administrative staff members (see Form 2.6 of the unit's dossier)		
N6: Number of doctoral students (see Form 2.7 of the unit's dossier)	2	
N7: Number of persons accredited to supervise research and similar	1	

- Assessment of work produced and scientific quality:

- Relevance and originality of the research conducted, quality and impact of the results:

Work is on the cutting edge of synthetic methods development worldwide. Leading lab, the results of which are used and cited by many labs globally. Hudge contribution to visibility of CBMN and IECB in organic synthesis.

- Quantity and quality of publications, papers, theses and other work:

7 publications, 15 invited conferences, 14 oral communications, 15 congress/workshop organization, 2 PhD defended.

- Quality and solidity of contractual relations over time:

Long standing grant support, which of late is primarily through industry contracts. Funding is ample for the size of the group and stage of the PIs career.

- Assessment of the influence, appeal and integration of the team or the project in its environment:

Creation of a start-up FluoFarma.

- Number and reputation of the prizes and distinctions awarded to the members of the team or to the participants in the project, including invitations to international events:

Academy member and internationally recognized expert in Organic Chemistry.

- Ability to recruit top-level researchers, post-doctoral and other students, especially foreigners:

The PI has global recognition and recruits students well from an international pool.

- Ability to obtain external financing, to respond to or launch calls for tenders and to participate in the activities of competitiveness clusters:

Emeritus PI who must focus on grants form private foundations and industry. He is very successful at raising such funds.

- Participation in international or national programmes, existence of important collaborations with foreign teams:

Previously extremely active, since reaching emeritus status he has decreased such activities.

- Valuation of research and socio-economic or cultural relations:

Research projects have strong impact to general health and medicinal issues.

- Assessment of the strategy, governance and life of the team or project:

- Relevance of its organisation, quality of its governance and internal and external communication:

Group is well run and efficient.

- Relevance of initiatives aimed at scientific coordination and the emergence and taking of risks:

Project balances well risks and benefits of the research.

- Involvement of the members in teaching activities and in organising research in the region:

Has history as Director of major collective research units like IECB. Personal mentoring of younger PIs is a strength in this group.

- Project assessment:

- Existence, relevance and feasibility of a medium- or long-term scientific project:

The long-term goals are focused on the development of new drug targets through chemical synthetic methods. The present lead discoveries are opening up avenues for long term pursuit of medicinally active compounds. These activities will merge with Huc which is relevant and may provide prolific results for both.

- Existence and relevance of a resource allocation policy:

Resources are well managed within the group on a personal level.

- Originality and risk-taking:

Research is cutting edge. Definitely risk taking in methodological development leads to new leads in medicinal chemistry models.

- Conclusion:

- Opinion:

One of the best labs in synthetic organic chemistry worldwide.

- Strengths and opportunities:

The reputation and long accumulated experiences of the PI make these key resources for expertise in organic chemistry.

- Weaknesses and threats:

Career is coming to an end. Long term perspective of PI as group leader is not secure.

- Recommendations:

Support as long as possible. Recruit replacement in similar area and level of expertise.

Intitulé de l'équipe : Biomimetic Supramolecular Chemistry

Nom du responsable : Mr Ivan HUC, CNRS (team supported by IECB)

- Effectifs de l'équipe ou affectés au projet (sur la base du dossier déposé à l'AERES) (Team Members):

	Dans le bilan	Dans le projet
N1 : Nombre d'enseignants-chercheurs (cf. Formulaire 2.1 du dossier de l'unité) (*Faculty Members)*	1	1
N2 : Nombre de chercheurs des EPST ou EPIC (cf. Formulaire 2.3 du dossier de l'unité) (*Researchers)*	2	3
N3 : Nombre d'autres enseignants-chercheurs et chercheurs (cf. Formulaire 2.2 et 2.4 du dossier de l'unité) *(Non Permanent scientists)*	10	10
N4 : Nombre d'ingénieurs, techniciens et de personnels administratifs titulaires (cf. Formulaire 2.5 du dossier de l'unité) *(Permanent Technical staff)*	0	0
N5 : Nombre d'ingénieurs, techniciens et de personnels administratifs non titulaires (cf. Formulaire 2.6 du dossier de l'unité) *(Non Permanent Technical staff)*		
N6 : Nombre de doctorants (cf. Formulaire 2.7 du dossier de l'unité), (*PhD Students)*	5	4
N7 : Nombre de personnes habilitées à diriger des recherches ou assimilées (*PhD Supervisors)*	1	1

- Appréciation sur la qualité scientifique et la production (Scientific production):

- Pertinence et originalité des recherches, qualité et impact des résultats (Importance of results):

The team is involved in the emerging field of foldamer and has an international leadership position (edition of the first book in the domain, invitation, grants, citation number..). It focuses on a class of aromatic foldamers produced by step-wise synthetic organic chemistry which were demonstrated to exhibit remarkable folding properties such as artificial triple and quadruple helices. In parallel to extensive efforts in synthetic organic chemistry, some modeling studies, extensive spectroscopic and crystallographic characterization, investigation of reactivity, photophysics, as well as hostguest and biological properties were addressed successfully on these objects.

- Quantité et qualité des publications, communications, thèses et autres productions (Numbers):

38 publications in peer reviewed journals (8 JACS, 8 Angew Chem…), 21 conferences, 36 seminars, 28 communications (oral & poster), and 3 PhD Theses. This is an excellent track record.

- Qualité et pérennité des relations contractuelles (Grants):

2 running ANR (contracts), Marie Curie program (FP7-people, 4 running contracts). Each of these grants serves usually to supports one co-worker at a time. ESF COST action on foldamers (as member of management committee). Overall 300K€/yrs.

- Appréciation sur le rayonnement, l'attractivité, et l'intégration de l'équipe ou du projet dans son environnement (Team Visibility):

- Nombre et renommée des prix et distinctions octroyés aux membres de l'équipe ou à ceux qui participent au projet, y compris les invitations à des manifestations internationales (Prizes & International visibility):

The French Academy of Sciences (Prix Jecker) to Ivan Huc in 2008. High number of invitations to international conferences or seminars.

- Capacité à recruter des chercheurs, post-doctorants ou étudiants de haut niveau, en particulier étrangers (Recruitment capability) :

The group was able to recruit top students and post-docs, many of these former foreign co-workers now occupy academic positions in their home country (4 in China, 2 in India, 1 in Spain, 1 in Canada, and 2 in France).

- Capacité à obtenir des financements externes, à répondre ou susciter des appels d'offres, et à participer à l'activité des pôles de compétitivité (Granting activity, networking):

The Huc group is highly interactive and willing to collaborate or work on team projects. Its participation in management of IECB shows a clear ability to participate in multi-group activities. It is well funded through several European initiatives.

- Participation à des programmes internationaux ou nationaux, existence de collaborations lourdes avec des équipes étrangères (International collaborations): I

Very good level of international collaborations as demonstrated by up to 13 joint papers with foreign teams over 2006-2009, in China, Japan, USA, UK, and Germany.

- Valorisation des recherches, et relations socio-économiques ou culturelles (Industrial & economical output):

Limited Industry contacts until now.

- Appréciation sur la stratégie, la gouvernance et la vie de l'équipe ou du projet (Team Organization):

- Pertinence de l'organisation, qualité de la gouvernance et de la communication interne et externe (Team direction):

Team direction is conducted on a personal level, focusing on strong mentoring of individual team members by the PI. Postdocs are also recruited as mentors for younger students in the group.

- Pertinence des initiatives visant à l'animation scientifique, à l'émergence, et à la prise de risques (Scientific foreseen):

The relevance of initiatives and the good balanced risks are demonstrated by the quality of the production, grants and invitation from abroad. In addition very good propensity to enlarge the scope of investigations (recently in crystallography or biological studies).

- Implication des membres dans les activités d'enseignement et dans la structuration de la recherche en région (Teaching & Regional implication):

One group member is a University teacher (Maître de conference) and thus has a traditional heavy teaching load.

- Appréciation sur le projet (Project evaluation) :

- Existence, pertinence et faisabilité d'un projet scientifique à moyen ou long terme (Project Feasibility) :

The project relies on a strong leadership and know-how acquired in the last five years, and on a large and solid network of collaborations. The research lines of the project are well-defined and are directed on foldamers and their applications to life and material sciences as well as on total synthesis of natural product and new non-genotoxic alkylating reagents.

- Existence et pertinence d'une politique d'affectation des moyens (Project means):

The project much depends on grants. The next 2-3 years are secured in terms of funding. A new researcher on arrival will strengthen and consolidate the team. The organic synthesis part will benefit of the neighboring of Ghosez. Overall good balance of means and targets.

- Originalité et prise de risques (Originality & risk):

The project's high originality stems from the originality of the molecular objects targeted themselves and from their unusual properties. Risks are higher for the sections of the project involving biocrystallography. The PI and team show high creativity in the design and synthesis of new foldamer based systems. The organic synthesis and medicinal chemistry part is also original in terms of scaffold device for drug discovery as well as for new green reagent development.

- Conclusion :

- Avis (Advice):

This team showed its capacities to be at top-level in an emergent research field evolving fast. The developed approaches are very original and new. It is obvious that more important recognition of this team in the next future is expected.

- Points forts et opportunités (Strengths):

The concepts and the approaches are new and original. The studies undertaken are relevant, high level and cover all the aspects (basic research and application). They are ambitious but remain balanced as for their feasibility. They profit from collaborations, when necessary, which are very adequate and fertile. They are prolific in scientific terms of results and obtaining financial supports. The team benefits, through its leader, of an excellent recognition which can only grow.

- Points à améliorer et risques (Weaknesses & possible improvement):

The only point of concern is the involvement of team leader in many aspects. This was fine in the past and very successful but care must be taken. The arrival of Guichard's team must enforce the overall topic if well managed and agreed by all the actors.

- Recommandations (Recommendation):

It is obviously recommended to continue doing so well, taking into account the arrival of Ghosez and Guichard and make it prolific. It may also be wise, since the number of permanent increased, to start to think to a different management and spread the task to help the leader.

Intitulé de l'équipe : Peptidomimetic chemistry

Nom du responsable : Mr. Gilles GUICHARD, CNRS (New team created, supported by IECB, previously located in UPR-9021, Strasbourg)

- Effectifs de l'équipe ou affectés au projet (sur la base du dossier déposé à l'AERES) (Team Members):

	Dans le bilan	Dans le projet
N1 : Nombre d'enseignants-chercheurs (cf. Formulaire 2.1 du dossier de l'unité) (*Faculty Members)*	0	1
N2 : Nombre de chercheurs des EPST ou EPIC (cf. Formulaire 2.3 du dossier de l'unité) (*Researchers)*	1	≥2
N3 : Nombre d'autres enseignants-chercheurs et chercheurs (cf. Formulaire 2.2 et 2.4 du dossier de l'unité) *(Non Permanent scientists)*	2	>5
N4 : Nombre d'ingénieurs, techniciens et de personnels administratifs titulaires (cf. Formulaire 2.5 du dossier de l'unité) *(Permanent Technical staff)*	0	-
N5 : Nombre d'ingénieurs, techniciens et de personnels administratifs non titulaires (cf. Formulaire 2.6 du dossier de l'unité) *(Non Permanent Technical staff)*	1	-
N6 : Nombre de doctorants (cf. Formulaire 2.7 du dossier de l'unité), (*PhD Students)*	9	≥8
N7 : Nombre de personnes habilitées à diriger des recherches ou assimilées (*PhD Supervisors)*	1	2

- Appréciation sur la qualité scientifique et la production (Scientific production):

  - Pertinence et originalité des recherches, qualité et impact des résultats (Importance of results):

Dr. Guichard's team was assessed by AERES within the frame of UPR 9021 CNRS, Immunologie et Chimie Therapeutiques Institut de Biologie Moleculaire et Cellulaire (IBMC) in Strasbourg in 2007. It has set up a research program at the interface of chemistry and biology, designing and synthesizing in an original way new foldamers and applying them to problems relevant in medicinal chemistry. Their research has resulted in a number of both academically as well as industrially relevant results that hold great promise for future developments. Over the last 4 years, the team has significantly strengthened its expertise in the area of peptidomimetics by integrating and combining multiple concepts such as: multivalency, biomimetic helices and combinatorial chemistry.

  - Quantité et qualité des publications, communications, thèses et autres productions (Numbers):

Dr. Guichard's team could document their research results in an impressive number of publications in scientifically highly reputed, many of them in the top journals in the field. In parallel, their research efforts also resulted in a number of patents that are further pursued in pharmaceutical industry, demonstrating the relevance of their research for applications in the field of drug development. 26 publications in peer reviewed journals (2006-2009), 6 invited conferences in congresses, 15 invited lectures (7 international), 16 communications in congresses (oral & poster), 6 PhD Theses, 4 patents, 1 book chapter

  - Qualité et pérennité des relations contractuelles (Grants):

The research team of Dr. Guichard has just relocated from Strasbourg to Bordeaux being backed up by a number of national and local programs (CNRS, Regional Council of Aquitaine, University of Bordeaux, CBMN, IECB) that provide excellent possibilities to further build the research program of foldamers related to natural amino acid building blocks. The interaction with the Huc group being involved in complementary foldamer research (aromatic amino acid building blocks) should turn out to be very beneficial, opening up the possibility to become a leading institute for artificially folding peptidomimetics in the world. The move of the team from Strasbourg to Bordeaux and its installation in CBMN has been planned in the framework of (i) the CNRS ATIP program (Institut de Chimie), (ii) a "Chaire d'excellence" of the Regional Council of Aquitaine as well as (iii) support from University Bordeaux 1, CBMN and IECB. This concerted multi-partner support has been instrumental in providing the necessary resources for installation in term of both laboratory equipment and necessary manpower

- Appréciation sur le rayonnement, l'attractivité, et l'intégration de l'équipe ou du projet dans son environnement (Team Visibility):

The team visibility is on going, integration is very good especially in the context of foldamer topic.

  - Nombre et renommée des prix et distinctions octroyés aux membres de l'équipe ou à ceux qui participent au projet, y compris les invitations à des manifestations internationales (Prizes & International visibility):

Given the young age of the research group and its leader, prizes and other distinctions cannot be expected. 3 invited lectures at international congresses.

- Capacité à recruter des chercheurs, post-doctorants ou étudiants de haut niveau, en particulier étrangers (Recruitment capability) :

Good number of top-level postdocs from France and abroad (India and Canada). 1 Indian post-doc from the Indian Institute of Chemical Technology (CSIR), Hyderabad and 1 post-doc from University of Montreal.

- Capacité à obtenir des financements externes, à répondre ou susciter des appels d'offres, et à participer à l'activité des pôles de compétitivité (Granting activity, networking):

The group leader has an impressive track record to obtain research funding from ANR, both as a coordinator as well as PI. Involvement in international funding schemes, e.g. through the EU, seems to have started (COST) and should be intensified in the future. National programs and networks: 2 ANR programs are ongoing: GG is the project coordinator of SYMULI an ANR research program (2009-2012) aimed at probing molecular dynamics of TNFR family members upon stimulation with ligands and mimetics. He was a principle investigator in a very successful ANR program on Foldamers (SYNTHEFOLD) (coordinator, ENSIC Nancy) which just ended in 2009. He currently participates also as PI to another ANR program on "Foldamers for Gene Transfection" (TRANSPEP, 2008-2011). He is also involved in an ANR on "TRAIL Mimetics" (ApoMultiLib, 2008-2011).

- Participation à des programmes internationaux ou nationaux, existence de collaborations lourdes avec des équipes étrangères (International collaborations):

The group leader has started to get involved in programs on the European level, moreover, he has also started to engage in a number of international collaboration. The latter have not resulted in documented outputs yet. European networks: GG was recently nominated MC (management committee) Substitute Member in COST Action CM0803 Functional peptidomimetic foldamers: from unnatural amino acids to self-assembling nanomaterials (End date: November 2012). International Collaborators : Profs J.D. Hirst (School of Chemistry, Univ. Nottingham, UK) W. Maison (Dept Chemistry, Justus-Liebig University, Giessen, Germany), S. Matile (Dept. Chemistry, Univ. Geneva,Switzerland) ; P. Schneider (Dept.Biochemistry, Univ. Lausanne, Switzerland).

- Valorisation des recherches, et relations socio-économiques ou culturelles (Industrial & economical output):

The group is well connected to Immupharma, being cofounded by the group leader. The company is supporting some applications of the foldamer work as well as on dipeptide mimetics and will continue to do so in the forthcoming years.

- Appréciation sur la stratégie, la gouvernance et la vie de l'équipe ou du projet (Team Organization):

- Pertinence de l'organisation, qualité de la gouvernance et de la communication interne et externe (Team direction):

The group is currently in the process of being established at Bordeaux. The planned organizational structure of the research group appears to be well balanced in accordance to the research goals, and a new researcher could be hired that will complement well the current expertise of the group. The venue of Karine Gionnet (CR INSERM) in January 2010 is timely at both organizational and scientific levels. On one hand, she will assist GG for practical laboratory organization issues and on the other hand, with her expertise in the synthesis and design of bioactive peptides targeting protein-protein interactions, she will be an asset in the group to develop the research program on protein mimetics.

- Pertinence des initiatives visant à l'animation scientifique, à l'émergence, et à la prise de risques (Scientific foreseen):

The planned research program combines a good mix of academic and industrial goals, with a good balance of topics that will almost certainly lead to high quality results publishable in highly reputed journals as well as more unpredictable, therefore higher risk projects aiming at drug development in combination with pharmaceutical industry.

- Implication des membres dans les activités d'enseignement et dans la structuration de la recherche en région (Teaching & Regional implication):

The group is just being established, so far there seems to be little to no involvement in teaching. To our understanding, the group can and is ready to get involved in teaching activities in the near future, which seems to be important in order to attrach PhD student to the group. During his Strasbourg period, GG has been involved in the teaching program of the Strasbourg University (2005-2009) at the master level (master 2 recherche Chimie –Biologie) with a total amount of 24h lectures + 3h lecture per/year in the master of Immunology.The group will be happy to participate in the teaching program of University of Bordeaux if there is an opportunity.

- Appréciation sur le projet (Project evaluation) :

- Existence, pertinence et faisabilité d'un projet scientifique à moyen ou long terme (Project Feasibility):

The group is involved in a highly competitive research area holding great promise for the understanding of mechanisms at the interface between chemistry and biology as well as for drug development. Being complementary in its approach, but being related to the overall goals of the Huc group being also part of the unit, synergistic effects towards long-term scientific goals to design functional foldamers can be expected. Although the long term goal is associated to (biomedical) applications and developments of the molecules designed in the group, the mechanistic issues and structural knowledge of the molecular recognition processes at work are clearly essential aspects of the future work. Generating and mastering complexity in term of object size and structures also represent important directions for the next years

- Existence et pertinence d'une politique d'affectation des moyens (Project means):

The allocation of resources seems to be well organized for the individual group, however, to achieve the greater goals with respect to medicinal chemistry, strengthening of the overall chemistry groups (e.g. by adding on the junior level a carbohydrate or combinatorial chemist) would be beneficial. Most of the resources which have been granted to the team by CNRS (ATIP) and University Bordeaux I in 2009 have been already affected to installation and laboratory equipment. Additional required equipment such as preparative HPLC for example is planned for 2010 with partial funding from Region Aquitaine. Dedicated resources and contracts from ANR, University of Bordeaux I, Region Aquitaine and ImmuPharma has allowed us to rapidly hire the necessary human power for the projects.

- Originalité et prise de risques (Originality & risk):

The group is engaging in very original research holding promise to make significant impact in several areas of chemistry and biology (e.g. drug development, understanding of protein protein interactions) with a good balance of feasibility and risk. There is a fair balance between risk and feasibility in the different projects proposed for the next 4 years. Most of these projects benefit from the expertise (i) developed by the group in the field of peptidomimetics and more specifically in the design and applications of folding oligomers and (ii) of a series of internationally renown collaborators in the field of biology (TNFR, sPLA2, …)

- Conclusion :

- Avis (Advice):

This is an excellent research group with great promise for the future in areas like medicinal and bioorganic chemistry.

- Points forts et opportunités (Strengths):

The group has an excellent track record in the area of foldamers, both from an academic (publication, grants from ANR) as well as from an applied point of view (well connected to industry). In combination with the Huc group, a very strong center for foldamer research can be build up.

The installation of the team at CBMN will undoubtedly strengthen the group with opportunities for new directions and collaborations in the forthcoming months.

Strong focuss on peptidomimetic foldamers and application in molecular recognition

Strong collaborations with biologists in the field of TNFR

- Points à améliorer et risques (Weaknesses & possible improvement):

The overall possibility for interaction with other groups in bioorganic chemistry within the unit (e.g. it seems to be desirable to have expertise in combinatorial or carbohydrate chemistry) should be increased.

Group management

Add additional value to the group and increase attractivity by recruiting young researchers at the “Chargé de Recherche” or assistant professor level

>Develop internal (CBMN, IECB), local collaborations (Bordeaux I and II) and more regional collaborations (Toulouse, Spain)

Need to participate in local teaching programs (e.g. master level)

Science :

-Need to generate in a more systematic manner high structural data of peptidomimetics binding to their targets (small molecules, macromolecules)

-Strengthen the expertise of the group in library screening processes.

- Recommandations (Recommendation):

The group of Dr. Guichard will make an excellent contribution in the field of bioorganic chemistry as well as to the greater goals in chemistry and biology of the unit.

Chimie et Biologie des Membranes et des Nanoobjets UMR 5248 (CBMN)

Note de l'équipe	Qualité scientifique et production	Rayonnement et attractivité, intégration dans l'environnement	Stratégie, gouvernance et vie du laboratoire	Appréciation du projet
A+	A+	A	A	A+

Nom de l'équipe : Biomimetic Supramolecular Chemistry

Note de l'équipe	Qualité scientifique et production	Rayonnement et attractivité, intégration dans l'environnement	Stratégie, gouvernance et vie du laboratoire	Appréciation du projet
A+	A+	A+	A	A+

Nom de l'équipe : Medicinal Chemistry

Note de l'équipe	Qualité scientifique et production	Rayonnement et attractivité, intégration dans l'environnement	Stratégie, gouvernance et vie du laboratoire	Appréciation du projet
non noté	A+	non noté	non noté	non noté

Nom de l'équipe : Modeling of biomolecules and numeric imaging

Note de l'équipe	Qualité scientifique et production	Rayonnement et attractivité, intégration dans l'environnement	Stratégie, gouvernance et vie du laboratoire	Appréciation du projet
A	A	B	A	A

Nom de l'équipe : Morphology, Dynamic and function of self-assemblies of amphiphilic molecules

Note de l'équipe	Qualité scientifique et production	Rayonnement et attractivité, intégration dans l'environnement	Stratégie, gouvernance et vie du laboratoire	Appréciation du projet
A+	A+	A+	A	A+

Nom de l'équipe : Vibrational spectroscopies and optical properties of Biochemicals Systems

Note de l'équipe	Qualité scientifique et production	Rayonnement et attractivité, intégration dans l'environnement	Stratégie, gouvernance et vie du laboratoire	Appréciation du projet
A	A	A	B	B

Nom de l'équipe : Mass Spectrometry of Biological Molécules

Note de l'équipe	Qualité scientifique et production	Rayonnement et attractivité, intégration dans l'environnement	Stratégie, gouvernance et vie du laboratoire	Appréciation du projet
A	A	A	A	A

Nom de l'équipe : Structure and Activity of biological of Macromolécules

Note de l'équipe	Qualité scientifique et production	Rayonnement et attractivité, intégration dans l'environnement	Stratégie, gouvernance et vie du laboratoire	Appréciation du projet
A	B	B	A	A

Nom de l'équipe : Structure & dynamics of membrane assemblies

Note de l'équipe	Qualité scientifique et production	Rayonnement et attractivité, intégration dans l'environnement	Stratégie, gouvernance et vie du laboratoire	Appréciation du projet
A+	A+	A+	A	A+

Nom de l'équipe : Molecular imaging and nanobiotechnology

Note de l'équipe	Qualité scientifique et production	Rayonnement et attractivité, intégration dans l'environnement	Stratégie, gouvernance et vie du laboratoire	Appréciation du projet
A+	A+	A+	A	A

Nom de l'équipe : Architecture of membrane complexes & cell process

Note de l'équipe	Qualité scientifique et production	Rayonnement et attractivité, intégration dans l'environnement	Stratégie, gouvernance et vie du laboratoire	Appréciation du projet
A	A	B	A	A

Nom de l'équipe : Mechanisms and Regulation of Vesicular Transport

Note de l'équipe	Qualité scientifique et production	Rayonnement et attractivité, intégration dans l'environnement	Stratégie, gouvernance et vie du laboratoire	Appréciation du projet
A	B	B	A	A

Nom de l'équipe : Interactions between probiotic bacteria and hosts

Note de l'équipe	Qualité scientifique et production	Rayonnement et attractivité, intégration dans l'environnement	Stratégie, gouvernance et vie du laboratoire	Appréciation du projet
A	B	A	B	A

Nom de l'équipe : Peptidomimetic chemistry

Note de l'équipe	Qualité scientifique et production	Rayonnement et attractivité, intégration dans l'environnement	Stratégie, gouvernance et vie du laboratoire	Appréciation du projet
non noté	non noté	non noté	non noté	A+

Nom de l'équipe : Carbon Nanotube Probe and NanoBioTechnology

Note de l'équipe	Qualité scientifique et production	Rayonnement et attractivité, intégration dans l'environnement	Stratégie, gouvernance et vie du laboratoire	Appréciation du projet
non noté	non noté	non noté	non noté	A

Nom de l'équipe : Organized Systems for Nutrition and Industry

Note de l'équipe	Qualité scientifique et production	Rayonnement et attractivité, intégration dans l'environnement	Stratégie, gouvernance et vie du laboratoire	Appréciation du projet
non noté	non noté	non noté	non noté	A

Le Directeur et l'ensemble des membres du Laboratoire tiennent tout d'abord à remercier le comité d'évaluation international et en particulier son président le Pr. Jay SIEGEL de l'Université de Zurich pour son travail impressionnant et exhaustif de radiographie de notre unité.

Le rapport est très élogieux, à la fois pour l'unité dans son ensemble et pour chacune des quatorze équipes, ce qui bien évidement nous conforte dans notre projet d'unité pour le prochain quadriennal. Les recommandations données pour chaque équipe seront très utiles et prises en compte par la gouvernance de l'Unité et les recommandations de renforcement de la structure en potentiel administratif pour un meilleur service aux chercheurs seront l'une de nos priorités lors des prochaines discussions avec les tutelles.

Nous tennons également à remercier le directeur scientifique adjoint pour la chimie de l'AERES, le Pr. Pascal DUMY, pour la mise en place d'un tel comité international, regroupant des spécialistes éminents dans des domaines très divers en Physique, Chimie et Biologie. Leur expertise internationalement reconnue renforce remarquablement le rapport d'évaluation en le replaçant dans le contexte mondial. L'action de coordination du professeur DUMY permettant à des experts en Physique, Chimie et Biologie d'évaluer avec des critères communs notre unité est à saluer.

Le Directeur de CBMN
Docteur Erick DUFOURC

Erick Dufourc

Le Président de l'Université Bordeaux 1
Professeur Alain BOUDOU

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