

FINAL RESUME ON THE RESEARCH UNIT  
DBSC - Département de Biologie Structurale et Chimie

UNDER THE SUPERVISION OF THE  
FOLLOWING INSTITUTIONS AND RESEARCH  
BODIES:

Institut Pasteur Paris

Centre national de la recherche scientifique - CNRS

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**EVALUATION CAMPAIGN 2020-2021**  
GROUP B



In the name of Hcéres<sup>1</sup>:

Mr Thierry Coulhon, President

In the name of the experts committee<sup>2</sup>:

Ms Xiaodong Zhang, Chairwoman of the committee

Under the decree No.2014-1365 dated 14 November 2014,

<sup>1</sup> The president of Hcéres "countersigns the evaluation reports set up by the experts committees and signed by their chairman." (Article 8, paragraph 5);

<sup>2</sup> The evaluation reports "are signed by the chairman of the experts committee". (Article 11, paragraph 2).

Tables in this document were filled with certified data submitted by the supervising body on behalf of the unit.

## UNIT PRESENTATION

**Unit name:**

Département de Biologie Structurale et Chimie

**Unit acronym:**

DBSC

**Current label and N°:**

**ID RNSR:**

200621927M

**Application type:**

Renewal

**Head of the unit (2020-2021):**

Ms Paola B Arimondo

**Project leader (2021-2025):**

Ms Paola B Arimondo

**Number of teams and/or themes:**

19

## EXPERTS COMMITTEE MEMBERS

**Chair:**

Ms Xiaodong Zhang, Imperial College London, UK

**Experts:**

Mr Thomas Carell, Faculty of Chemistry, University of Munich, Germany

Ms Claire Eyers, University of Liverpool, UK

Mr Yves Gaudin, i2BC, Gif-sur-Yvette

Mr Christian Griesinger, MPI for Biophysical Chemistry, Germany

Mr François Guillonnet, Université de Paris, France,

Mr Juan A. Hermoso, Institute of Physical-Chemistry "Rocasolano" CSIC, Madrid, Spain

Ms Yvonne Jones, University of Oxford, UK

Mr Pepperkok Rainer, EMBL, Germany

Ms Maya Topf, CSSB Hamburg, Germany

Mr German Rivas, CIB - CSIC, Madrid, Spain

Mr Patrick Schultz, IGBMC, Illkirch

Mr Boris Vauzeilles, ICSN, Gif-sur-Yvette

Ms Rebecca Wade, Heidelberg university and HITS, Germany

## HCÉRES REPRESENTATIVE

Mr Hinrich Gronemeyer

## REPRESENTATIVES OF SUPERVISING INSTITUTIONS AND BODIES

Mr Frédéric Charbonnier, Université de Paris

Ms Melanie Etheve-Quellejeu, CNRS

Mr Hugues Lortat-Jacob, CNRS

Mr Charbel Massaad, Université de Paris

Mr Didier Mazel, Institut Pasteur

Mr Mariano Ostuni, Université de Paris

Ms Sandrine Sagan, CNRS

Ms Valerie Serre, Université de Paris  
Mr Patrick Trieu-Cuot, Institut Pasteur

## INTRODUCTION

### HISTORY AND GEOGRAPHICAL LOCATION OF THE UNIT

The Department of Structural Biology and Chemistry (DSBC) was established in 2001 and is one of the twelve current Departments within the Pasteur Institute. The DSBC comprises of nine research teams and one junior group (G5), one technology unit and 20 technological platforms.

The research teams and the junior group are associated with two CNRS UMR: UMR 3528 dedicated to Structural Biology, UMR 3523 dedicated to organic chemistry as well as USR 2000 dedicated to Mass Spectrometry for Biology. The entire Department will be associated to the University of Paris: UMR3528 to the *UFR Sciences du vivant* and UMR3523 and USR2000 to the *UFR Sciences fondamentales et biomédicales*.

The DSBC is located on the Pasteur Campus, spanning several buildings across both sides of the Rue du Docteur Roux, Paris 15.

### RESEARCH ECOSYSTEM

The members collaborate widely within the Pasteur Institute and worldwide, and play active roles in research, technology development, training and research service.

Technological platforms are key infrastructures in Pasteur Institute and are managed under the C2RT (Center for Technological Resources and Research), directed by the PI of Team 5 of DSBC. Significantly, eight of the fifteen technological platforms within the Pasteur Institute are hosted in the DSBC.

The DSBC continues to be highly successful in obtaining large infrastructure grants, with the CACSICE EquipEx grant enabling the purchase of cryo-electron microscopes and the establishment of the Nanoimaging Center, while NMRCHR from Region Ile de France allowing the purchase of a 800 MHz NMR instrument.

The DSBC plays major roles in several regional, national and international networks. For example, DSBC is a major player in the European Molecular-Scale Biophysics Research Infrastructure, which is coordinated by the PI of Team 14 (Molecular Biophysics platform). This international network has fifteen partners from eleven countries funded by the European Union Horizon 2020 INFRAIA scheme. In addition, the DSBC is also a major player in the "Scientific Pole of Experts in Paris" coordinated by the PL of Team 7 (Epigenetic chemical Biology) and dedicated to modified bases analysis in living organisms.

### HCÉRES NOMENCLATURE AND THEMATICS OF THE UNIT

SVE2 - Structural Biology and Chemistry

Further research collaborations and integrations, especially between teams that have shared and complementary interest and expertise, will significantly enhance the competitiveness of the Department, especially in studying highly challenging and complex biological systems and synthetic chemistry.

### MANAGEMENT TEAM

Director of the Department: Ms Paola B. Arimondo  
Deputy Director of the Department: Ms Nadia Izadi-Pruneyre

### UNIT WORKFORCE

Active staff	Number 06/01/2020	Number 01/01/2022
Full professors and similar positions	1	0
Assistant professors and similar positions		1
Full time research directors (Directeurs de recherche) and similar positions	20	19
Full time research associates (Chargés de recherche) and similar positions	25	22

Other scientists ("Conservateurs, cadres scientifiques des EPIC, fondations, industries, etc.")	0	3
High school teachers	0	0
Supporting personnel (ITAs, BIATSSs and others, notably of EPICs)	68	73
<b>Permanent staff</b>	<b>115</b>	<b>118</b>
Non-permanent professors and associate professors, including emeritus	1	
Non-permanent full time scientists, including emeritus, post-docs (except PhD students)	21	
PhD Students	25	
Non-permanent supporting personnel	13	
<b>Non-permanent staff</b>	<b>60</b>	
<b>Total</b>	<b>175</b>	<b>118</b>

## GLOBAL ASSESSMENT OF THE UNIT

The DSBC's research on the synthesis, assembly, structures and dynamics of biomolecules utilizes a highly integrative approach, supported by cutting-edge technological platforms.

The overall scientific output of the Department is excellent, judged by the quality and quantity of scientific publications (542 publications out of which a significant number is published in internationally leading interdisciplinary journals including *Nature*, *Cell*, *Science*, *Nature Biotechnology*, *Nature Chemical Biology*, *Nature Communications*, *Nature Methods*, *Nature Microbiology*, *Nature Structural Molecular Biology*, *NAR*, *PNAS*, *EMBO Journal*, *Angewandte Chemie*, *ACS Central Science*...), reputations in and contributions to the international scientific community, positioning them among the leading groups in structural biology and chemistry, with the Structural Bioinformatics team being considered to be outstanding, at the front rank in the international communities of Structural Biology and Chemistry. The funding portfolio is competitive, with external funding contributing to more than half of the total (external funding including large infrastructure/equipment grants such as the Equipex CACSICE and SESAME NMRCHR, several pan-European networks and grants, for example, MOSBRi funded by Horizon 2020, with Department members playing key roles). DBSC members have gained international recognition in the form of elected members of learned societies including *Academia Europaea* and invitations to major international meetings. However, there is a lack of active highly prestigious grants such as ERC and HFSP, and limited memberships of international learned societies. Members of DSBC collaborate widely, both with other members in the Pasteur Institute and other institutions worldwide.

The training through research is considered to be very good to excellent. The number of postdoctoral fellows and PhD students trained in the Department is modest (and heterogeneous between teams) but is in line with funding available. The quality of the PhD training is excellent. The Department has successfully organized several international training courses making significant contributions to training users in a range of highly specialized cutting-edge instrumentation and platform technologies, both within the Institute and more widely in Europe. The past and current directors of the Department are highly commended for their leadership and commitment, creating a democratic, collaborative and collegiate community. The committee noted that several senior members with large teams are going to retire after the next five years contract.

The five-year projects and strategy within DSBC largely build upon their current strengths in using integrative structural cell biology approaches to tackle complex macromolecules relevant to human health and/or developing and screening new chemical entities for basic science and translational applications. The proposed work and approaches are ambitious and cutting-edge, having the potential to break new grounds in several fields.

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