



## LST- Laboratoire du stress traumatique

### Rapport Hcéres

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

Section des Unités de recherche

AERES report on the research unit

Traumatic Stress Laboratory

From the

University Toulouse 3

May 2010



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Section des Unités de recherche

# AERES report on the research unit

Traumatic Stress Laboratory

From the

University Toulouse 3

Le Président  
de l'AERES

Jean-François Dhainaut

Section des unités  
de recherche

Le Directeur

Pierre Glorieux

May 2010



## Research Unit

Name of the research unit: Traumatic Stress Laboratory

Requested label: EA

N° in the case of renewal: JE 2511

Name of the director: M. Laurent Schmitt

## Members of the review committee

### Committee Chairman

M. G. VAIVA, Université de Lille, France

### Other committee members:

M. MC PARDON, Institute of Neurosciences, Birmingham, UK

M. C.T. WOTJAK, Max Planck Institute of Psychiatry, Munich, Germany

## Observers

### AERES scientific advisor:

M. Jean-Pol TASSIN



# Report

## 1 • Introduction

- Date and execution of the visit :

The visit to the Laboratory of Traumatic Stress (LST -JE 2511) was held on the December 18th, 2009. Because of the weather conditions in France, two committee members coming from Paris were not able to make their way to Toulouse. However, three committee members, including two from UK and Germany, being present, the scientific delegate decided that the AERES visit could occur. This visit included an overview of the structure of the unit, past projects and activities by Prof. Schmitt, followed by a more detailed presentation of the two main research axis by Prof. Birmes and Dr Bui. Members of the committee met with the academic members, technical assistants and PhD students.

- History and geographical localization of the research unit, and brief presentation of its field and scientific activities

The LST was created in 2007. The unit is located in Toulouse within the University of Toulouse 3 - Paul Sabatier and the University Hospital of Toulouse, and is part of research department "Comportements, Langues, Education, Socialisation, Cognition" (CLESCO - ED 326) (Behavior, language, Education, and Cognition) and the Institut Fédératif de Recherche (IFR 96): Institut des Sciences du Cerveau (Institute of Brain Sciences) of Toulouse.

The LST is one of the rare research teams (the unique in France) specifically dedicated, and certified in the area of Traumatic Stress. Research conducted in the LST mostly focus on the identification of peritraumatic risks factors and the development of novel therapeutic strategies through a unique access to three cohorts that they followed up for more than 5 years: (i) the victims of the AZF industrial disaster, (ii) children involved in road accidents and their parents and (iii) elderly victims of traumas.

- Management team

The LST is directed by Laurent SCHMITT, M.D., PUPH1, professor of psychiatry, adult psychiatry, and co-directed by Philippe BIRMES, M.D., Ph.D., PUPH2, professor of psychiatry, adult psychiatry.



- Staff members (on the basis of the application file submitted to the AERES)

	Past	Future
N1: Number of researchers with teaching duties (Form 2.1 of the application file)	2	3
N2: Number of full time researchers from research organizations (Form 2.3 of the application file)	0	0
N3: Number of other researchers (Form 2.2 and 2.4 of the application file)		
N4: Number engineers, technicians and administrative staff with a tenured position (Form 2.5 of the application file)	2	2
N5: Number engineers, technicians and administrative staff without a tenured position (Form 2.6 of the application file)	2	2
N6: Number of Ph.D. students (Form 2.7 of the application file)	8	
N7: Number of staff members with a HDR or a similar grade	2	4

## 2 • Overall appreciation on the research unit

- Summary

Post-Traumatic Stress Disorder (PTSD) is the fifth mental illness in terms of lifetime prevalence, affecting 2 to 7% of the general population. Chronic PTSD, lasting from 3 months to several years is a very invalidating illness and current therapeutic strategies have limited efficacy. The LST has established a number of peritraumatic risk factors to the development of PTSD and replicated their findings in several distinct cohorts that they follow for a number of years. There are some outstanding aspects to their current research on the development of novel therapeutic strategies. Altogether, the clinical work performed in the LST can significantly improve the understanding and treatment of PTSD. The team is dynamic, highly motivated and shows good evidence of successful integration of their clinical and research practice. They have a clear view of their research and where it will lead to. The LST secured significant funding to perform their studies and collaborate with a number of French clinical units, a Canadian research team and a French preclinical group. They also widely disseminate their findings to the scientific and professional communities as well as to the general public.

- Strengths and opportunities

The academic members are all clinicians and have a privileged, immediate access to trauma victims through their involvement in the Emergency Rooms.

The LST established three exceptional cohorts of trauma victims and coordinates a prospective multicentre study.

Very good opportunity for translational research through collaboration with a senior scientist in the Centre de Recherches sur la Cognition Animale.

Cutting-edge projet on the development of a novel therapeutic intervention with secured funding for a clinical trial.



- Weaknesses and threats

All academic members are clinically active and, though this is a major advantage in terms of recruitment of patients, they can only devote between 33 and 50% of their time to research.

There is scope for improvement in number of publications in high ranking journals.

- Recommendations to the head of the research unit

The LST should invest more into studies of physiological and biological correlates of PTSD (e.g. ECG, startle measurements, imaging studies).

The LST should increase its international visibility and aim to publish some of their work in journals leading in the field, such as Biological Psychiatry, American Journal of Psychiatry or Archives of General Psychiatry.

- Production results

The LST has a good publication record with 32 papers in peer-reviewed journals listed by the AERES since its creation in 2007 and a significant number of invited seminars and lectures in national and international conferences.

A1: Number of lab members among permanent researchers with or without teaching duties who are active in research (recorded in N1 and N2)	4
A2: Number of lab members among permanent researchers with or without teaching duties who are active in research (recorded in N3, N4 and N5)	4
A3: Ratio of members who are active in research among staff members $[A1/(N1+N2)]$	1
A4: Number of HDR granted during the past 4 years	N/A
A5: Number of PhD granted during the past 4 years	N/A

### 3 • Specific comments

- Appreciation on the scientific quality and output:

PTSD is a relatively frequent consequence of exposure to major stressors. This condition often becomes chronic and is currently poorly treated. The research performed by the LST is highly relevant to the understanding and treatment of this invalidating condition. The anticipated clinical benefits to the patients and economical impact to the society are high. The translation of the research conducted by the LST into the clinical practice can help preventing the development of PTSD through improved acute care of trauma victims, and increase the likelihood of long-lasting remission.

The LST has identified a number of valid peritraumatic risk factors to the development of PTSD and replicated their findings in several cohorts of trauma patients. Some aspects of this work are innovative, and in particular, the development of a mathematical model to predict progression from acute stress reaction to PTSD over a 5-year period, the follow up of a cohort of childrens victims of road accident, the comparison of peritraumatic risk factors between different age groups (e.g. children, adults and elderly patients). In addition, the LST has participated in the first open-trial study on propranolol treatment of PTSD patients.



The LST has a good publication record with 32 papers in peer-reviewed journals listed by the AERES or included in international classifications and 14 peer-reviewed papers in journals non-included in international classifications, since the creation of the unit 3 years ago. Members of the group (excluding those who are due to leave in 2010) sign as first and/or last author on 18 out of 32 papers, 11 of which are in journals whose AERES impact ranges from good to excellent (2 excellent, 4 very good, 5 good). This is a decent track record given that the four permanent members all have clinical duties. In addition, the two most senior academic members are also involved in teaching. There is, however, room for improvement and instead of focusing on quantity, the team should aim at increasing the quality of their publications.

Members of the LST gave 25 invited lectures and seminars since 2007, 5 in international conferences and 7 in national conferences. The LST also widely disseminates its work to a larger audience through communications in local events and publications in a number of book chapters and other journals targeting professionals and the general public.

The LST widely appears in national networks, and collaborates with a number of French clinical teams. They have a long-lasting collaboration with a Professor of the Department of Psychiatry of McGill University and Director of the trauma research center of Douglas Mental Health University Institute, who regularly visits the LST.

The committee members' appreciation for this item was "good".

- **Appreciation on the impact, the attractiveness of the research unit and of the quality of its links with international, national and local partners:**

Members of the LST gave 5 invited lectures in international conferences and 7 in national conferences since 2007.

There are currently 8 ongoing PhDs to be concluded in 2010-2011, 2 of which are from 2 permanent clinical members of the team. The LST has a long-lasting collaboration with a Professor of the Department of Psychiatry in McGill University and Director of the trauma research center of Douglas Mental Health University Institute, who regularly visits the LST and wishes to join the team as a permanent member.

The work performed since 2007 was well funded through the award of 4 competitive research grants, mostly from the national Programme Hospitalier de Recherche Clinique (PHRC), for a total value of 863 000 Euros. Three of these grants are running until 2010 or 2011. The LST also secured, as principal investigator, an additional grant from the PHRC of a total value of 290 000 Euros to conduct a multi-site clinical trial over the next three years.

The LST widely appears in national networks, and collaborates with a number of French clinical teams. They have a long-lasting collaboration with the above quoted Canadian Professor of Psychiatry. 2 PhD students from the LST will spend a year abroad as part of a collaborating work: one in McGill University and the second one in Harvard University.

The focus of the research activity is on helping patients suffering from traumatic stress and treating them at the earliest stage. Past activity will lead to the first clinical trial combining symptom provocation and treatment with propranolol.

The committee members' appreciation for this item was "very good".

- **Appreciation on the strategy, management and life of the research unit:**

The LST is very well organised. The leader directs the LST whereas the co-leader is in charge of the day-to-day management of the unit. The team, including technical assistants, meets once a week to monitor progress with presentations of research results by PhD students and discussions of future directions. There is an excellent team-spirit in the LST and very good collaborations between the different team members. The work of technical assistant is recognised and acknowledged on publications.

Weekly meetings involve a brainstorming session and invited speakers.

Both leader and co-leader are PUPH and as such, in charge of psychiatry courses for medical students in the Universities of Rangueil and Purpan. They both teach in several master classes in the University of Toulouse.





The committee members appreciation for this item was “excellent”.

- **Appreciation on the project :**

Members of the LST have a clear view of their research and where it will lead to. They provided a very good project whose first aim is to expand their research on peritraumatic risks factors by inclusion of some biological markers. Since, they replicated their findings, have a unique access to three clinical cohorts and ongoing funding, they can thus achieve their objectives. The second project involves the development of an innovative treatment strategy by combining repeated sessions of symptoms provocation combined with the administration of propranolol, the most promising molecule for the future treatment of PTSD. The LST already recruited a proper clinical population and secured funding for the clinical trial, and will thus carry out this research successfully.

Several aspects of the future project are highly innovative and outstanding. Research on PTSD in children is a very important area, currently under-investigated, and for which the LST has the potential to gain international recognition.

The comparison between age groups, from childhood to senescence is also very innovative and clinically relevant given the impact of age on the ability to cope with stress and as such, the risk of developing adverse outcomes. This is also an under-investigated aspect of PTSD research.

The LST will ultimately be the first to publish a multicenter trial, double blind study using the innovative treatment paradigm combining symptoms provocation and propranolol. The outcome of the study will have a real impact on the future treatment of PTSD. In addition, the LST aims to combine this work with functional imaging, which will further enhance the impact of the research.

The committee members appreciation for this item was “excellent”.

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

Direction de la Recherche

Toulouse, le 8 mars 2010

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Le Président

au

Président du comité d'experts de l'AERES

**Objet : Observations de portée générale** sur le rapport d'évaluation  
de l'unité « **Laboratoire du Stress Traumatique** » – LST – JE 2511  
portée par **Professeur Laurent SCHMITT**

Nous signalons de nouveaux articles publiés et sous presse dans des revues internationales avec comité de lecture répertoriée par l'AERES ou dans les bases de données internationales :

<b>BUI, E., BRUNET, A., ALLENOU, C.,</b> Raynaud, J.-P., Claudet, I., Fries, F., Cahuzac, J.-P., Grandjean, H., <b>SCHMITT, L., &amp; BIRMES, P.</b> (in press). Peritraumatic Reactions and Posttraumatic Stress Symptoms in School-Aged Children Victims of Road Traffic Accident. <i>General Hospital Psychiatry</i> . DOI:10.1016/j.genhosppsych.2010.01.014	<b>IF</b> 2.229
LaGarde, G., Doyon, J., & <b>BRUNET, A.</b> (In Press). Memory and executive dysfunctions associated with acute PTSD. <i>Psychiatry Research</i> .	2.666
Fikretoglu, D., Liu, A., Pedlar, D., <b>BRUNET, A.</b> (2010). Patterns and predictors of treatment delay for mental disorders in a nationally representative, active Canadian military sample. <i>Medical Care</i> , 48(1):10-7	3.194
Benoit, M., <b>BRUNET, A.</b> Rousseau, C., Bouthillier, D., & Moss, E. (2010). Emotion regulation strategies as mediators of the association between level of attachment security and PTSD symptoms following trauma in adulthood. <i>Anxiety, Stress and Coping</i> , 23, (1):101-18	1.127
Cailhol, L., Rodgers, R., Burnand, Y., <b>BRUNET, A.,</b> Damsa, C., & Andreoli, A. (2009). Outcome in supportive versus psychodynamic psychotherapy: is therapeutic alliance useful for changing. <i>Psychiatry Research</i> , 170(2-3):229-33	2.666

Le Président de l'Université Paul Sabatier  
Professeur Jean-Pierre ROUGÉ  
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