

出國報告（出國類別：國際會議）

2011 年台法雙邊年度活動及 法國國家級研究院之合作訪問

服務機關：行政院國家科會委員會

姓名職稱：林宗泰國合處處長

陶正統副研究員

派赴國家：法國

報告日期：101 年 02 月 17 日

出國時間：100 年 11 月 20 日 ~

100 年 11 月 27 日

摘 要

此次林處長宗泰係受法國在台協會(BFT)邀請赴法國科研單位參訪與交流，旨在讓林教授深度了解法國科研現況，期有助於兩國雙邊科研合作活動之推動。

在法訪問活動已於 100 年 11 月 21 至 25 日五個工作天順利完成，此行參訪行程主包括 3 部份：(一) 與本會協議或合作單位如 INSERM、CNRS 與高教部等進行業務協調與討論，主要決議有：與 INSERM 同意推動兩國年輕頂尖學者之交流合作、組成 **Steering Committee**，每年共同議定優先推動主題及舉辦雙邊研討會，並據以重新簽署雙方合作協議；與 CNRS 討論拓展在 LIA 方案之合作。(二) 參加暨主持台法科技獎頒獎酒會，本年度之得獎團隊為：台灣大學海工系許文翰教授及法國巴黎第六大學 REO 實驗室 Marc THIRIET 教授。(三) 與法國科研單位如 INSERM、CEA、CNRS、INPI 與外交部就國際合作智財權意見交換與學習。

目次

摘要	2
壹、緣起及目的	4
貳、過程	
甲、訪問行程	4
乙、台法科技獎頒獎典禮	7
丙、與法國協議或合作單位之工作會議	8
丁、法國國家級研究院之專利與智財權運作	10
參、心得	12
肆、建議事項	13
伍、致謝	13
附錄	14

壹、緣起及目的

國科會對國際合作業務之推動一向不遺餘力，目前已與 42 個國家之科研單位及國際組織共簽署了 104 項協議，其中，歐洲部份的國家中，就屬與法國的科研合作最為長久、完整、方案多元，與各協議單位之互動頻繁，每年也都定期會面進行年度規劃、交換資訊、回顧以往合作以及進行年度活動。

繼今(2011)年度下半年台法科技獎審查會、ANR 合作計畫成果發表與年度審查會議等多項活動已在台舉辦，以及與 INRIA、CNRS 及科學院之雙邊協議也陸續完成新約簽署後，與 INSERM 之新合作方式推動會是列在年度規劃的最後一項大事!

此外，本會將在 2012 年後改組成立為「科技部」，從以往主力在上游的學研發展之外，同時要加強中游在技術研發與技轉的業務推動，我國已從美國、日本或韓國等參考過其經驗，但對歐洲這方面的政策與執行資訊較少，適逢法國在台協會(BFT)邀請林處長宗泰訪法，旨在讓年初就任的林教授深度了解法國科研現況，俾利兩國雙邊科研合作活動之推動，是以將年度活動執行、完成與 INSERM 新約洽簽及了解法國技轉及其智財權政策作為此行之最大目標。

貳、過程

甲、 訪問行程

PROGRAMME 行程		
Date / Horaire 日期/時間	Activité 活動	Notes / Contacts 備註
Dimanche 20 novembre 2011		{TAOYUAN}
23h55	Départ de l'Aéroport international Taiwan-Taoyuan pour Paris par le vol BR87 搭乘長榮航空班機 BR87 赴法	
Lundi 21 novembre 2011		{PARIS- ROISSY }

06h40	Arrivée à l'Aéroport CDG par le vol BR87 en provenance de Taipei 抵達巴黎戴高樂機場	- <u>Accueil</u> EGIDE au Terminal 1 • Accueil à l'aéroport le 21/11 à 6h40, 由 EGIDE 人員在機場接待, - <u>Hôtel</u> HOTEL LE ROYAL 212 Bd Raspail 75014 Paris Tél : +33 (0)1.43.20.69.20
09h30-12h00	<u>Institut national de la santé et de la recherche médicale (INSERM)</u> 法國國家健康及醫學研究院 - entretien avec Mme Anne BISAGNI , directrice du département Partenariats et relations extérieures 拜會 Anne BISAGNI , 對外關係與合作夥伴處主任	<u>Adresse :</u> 101, rue de Tolbiac - 75654 Paris Cedex 13 <u>Contact :</u> 聯絡人 M. Philippe Arhets Responsable Relations internationales Inserm – DPRE Tél.: +33 (0)1 44 23 61 80 Mel : philippe.arhets@inserm.fr www.inserm.fr
16h00-18h00	<u>Institut National de la Propriété Industrielle (INPI)</u> (National Institute for Intellectual Protection) 法國國家智慧財產權研究院 - Rencontre avec M. Philippe CARDE , Directeur adjoint du Département brevet à l'INPI 拜會 Philippe CARDE 先生，專利處副主任	<u>Adresse :</u> 26 bis rue de Saint-Pétersbourg 75800 Paris Cedex 08 <u>Contact :</u> 聯絡人 Charlotte Beaumatin 女士 Chargée de mission Affaires bilatérales et coopération internationale 26 bis rue de saint-Petersbourg, 75008 Paris Tél : +33 (0)1 53 04 53 42 Mel : cbeaumat@inpi.fr
Mardi 22 novembre 2011		{PARIS}
10h00-11h30	<u>CNRS</u> 法國國家科學研究中心 歐洲研究部 – 國際合作處 / 創新及產業關係處 Entretien avec : - Dr Chantal Khan-Malek , Vice Directeur Asie-Pacifique, Direction Europe de la recherche - coopération Internationale (DERCI) - M. Frédéric FOUBERT , Vice Directeur de l'innovation et des relations avec les entreprises (DIRE) 拜會 Chantal Khan-Malek 博士，國際合作處副主任 ; Frédéric FOUBERT 先生，創新及產業關係處副主任	<u>Adresse :</u> CNRS, Direction Europe de la Recherche – Coopération Internationale, salle H206 3 rue Michel Ange, Paris 75016 <u>Contact :</u> 聯絡人 Chamira LESSIGNY 女士 Chargée de relations internationales Secteur Asie Pacifique CNRS, Direction Europe de la Recherche - Coopération Internationale Tél : +33 (0)1 44 96 46 92

14h00-17h00	Remise du prix de la Fondation Franco-Taiwanaise : Séance Solennelle 台法科技獎頒獎典禮	<u>Adresse :</u> Académie des Sciences 23 quai de Conti 75006
Mercredi 23 novembre 2011		{PARIS}
09h30	<u>CEA du Ponant de Paris , Direction de la Valorisation</u> 法國國家原子能暨替代能源署 - M. Michel NEU , Expert senior Propriété Intellectuelle 拜會 Michel NEU 先生, 智慧財產權資深專家	<u>Adresse :</u> CEA du Ponant de Paris, CEA Bâtiment Le ponant D 25 rue Leblanc 75015 PARIS <u>Contact :</u> Michel NEU Expert senior Propriété Intellectuelle Direction de la Valorisation du CEA Tél : +33 (0)1 69 08 21 51 Mobile : +33 (0)6 89 10 00 07
13h30-14h30	<u>INSERM</u> 法國國家健康及醫學研究院 - Mme Denise Hirsch Directrice du département Propriété Intellectuelle - M. Olivier Arnaud , Directeur du Département Transfert de Technologie 拜會 Denise Hirsch 女士, 智慧財產部主任及 Olivier Arnaud 先生, 技術轉移部主任	<u>Adresse :</u> <u>INSERM, Transfer Department</u> 7 Rue Watt - 75013 Paris - 3ème étage <u>Contact :</u> Mme Muriel Merkhouf Assistante du Département Transfert de Technologie Tél : +33 (0)1 55 03 01 18 Mel : Muriel.MERKHOUF@inserm-transfert.fr
18H30-20H00	<u>Evénement : T-F Award Giving Ceremony</u> 台法科技獎頒獎典禮暨酒會	<u>Adresse :</u> Bureau de Représentation de Taipei en France 78, rue de l'Université 75007 Tél : +33 (0)1 44 39 88 58
20h00-22h30	<u>Dîner offert par le Bureau de Représentation de Taipei en France (BRTF)</u> 臺北駐巴黎代表處晚宴	<u>Adresse :</u> Restaurant Tse Yang (正陽樓) 25, avenue Pierre 1er de Serbie 75016 Paris Tél : +33 (0)1 47 20 70 22
Jeudi 24 novembre 2011		{PARIS}

11h00~	<u>Ministère des Affaires étrangères et européennes</u> 法國外交暨歐洲事務部 創新與產業處 - Mme Hélène DUCHENE , Directrice des politiques de mobilité et d'attractivité (DGM/ATT) - Mme Donatienne HISSARD , directrice adjointe 拜會交流與提升法國吸引力政策主任 Hélène DUCHENE 女士、副主任 Donatienne HISSARD 女士	<u>Adresse</u> <i>Ministère des Affaires étrangères et européennes</i> <i>Sous-direction de l'Innovation et des Entreprises</i> 27 rue de la Convention - 75732 PARIS <u>Contact</u> : 聯絡人 M. Bruno RÉMIAT Mel : bruno.remiat@diplomatie.gouv.fr Tél : +33 (0)1 43 17 94 43
Vendredi 25 novembre 2011		{PARIS}
15h00	<u>Ministère de l'Enseignement supérieur et de la Recherche (MESR)</u> 法國高等教育與研究部 Entretien avec - M. Andrzej ROGULSKI , Sous-directeur des relations internationales Direction des relations européennes et internationales et de la coopération - M. Marc MELKA , Chef du Département Asie-Afrique Direction des relations européennes, internationales et de la coopération Ministère de l'éducation nationale, et Ministère de l'enseignement supérieur et de la recherche 拜會 - Andrzej ROGULSKI 先生，國際合作處副主任 - Marc MELKA 先生，亞非司長	<u>Adresse</u> Ministère de l'Education nationale / Ministère de l'Enseignement supérieur et de la Recherche Direction des Relations Européennes et Internationales et de la Coopération (DREIC) ¹ 97, rue de Grenelle 75007 Paris <u>Contact</u> : 聯絡人 Pascal LE GUIADER Assistant du Chef du Département Asie & Afrique Tél : 01.55.55.73.15
Samedi 26 novembre 2011		{PARIS ~ ROISSY}
11h20	Départ depuis Paris-CDG pour Taipei par le vol BR88 搭乘長榮航空班機 BR88 返台	• Raccourci à l'aéroport le 26/11, départ de l'hôtel Le Royal à 7h30 由 EGIDE 人員安排送機，早上 7 點 30 分由旅館離開
Dimanche 27 novembre 2011		{TAOYUAN}
7h05	Arrivée à l'Aéroport international Taiwan-Taoyuan par le vol BR88 抵達臺灣桃園國際機場	

乙、台法科技獎頒獎典禮

台法科技獎係由本會與法蘭西學院自然科學院共同擇定授獎，旨在遴選出兩國研究團隊合作卓越者予以獎勵，同時鼓勵渠等能繼續共同合作並需協助推動其

他研究人員之合作研究；自然科學院每年均在 11 月左右舉辦該院所有獎項之聯合頒獎典禮，本項「台法科技獎」亦已列入其 27 個獎項次之一，是唯一一項與他國一起聯合頒發之國際性獎項。（授獎消息請參附件一）

第 13 屆「台法科技獎」共收到 3 件申請案，我方由中央研究院劉炯朗院士與伊林院士及本會陳副主任委員三人擔任評審委員，經 10 月 27 日與法方科學院共同召開之審查會議共同推舉年度得獎人。本屆得獎團隊為國立臺灣大學工程科學及海洋工程學系暨研究所許文翰教授與法國巴黎第六大學與法國科學研究院 REO 實驗室 Marc Thiriet 教授；許教授及 Thiriet 教授兩人過去主要在醫療照護領域有關物質傳遞之數學與機械模組建立等議題進行合作未來亦將透過雙方學生交換、舉辦討論會及教授短期課程等方式推動兩國合作研究及培育年輕研究人員。（得獎人及合作介紹請參附件二）

相關活動包括 100 年 11 月 22 日下午 2:00 參加法蘭西學院之年度大獎會議，得獎人可獲頒法蘭西學院授予之獎牌；另，11 月 23 日下午 6 時由國科會及法蘭西學院為雙方主人（邀請卡如附件三），並由代表處共同主辦，於我代表處大會場舉行「台法科技獎」之頒獎活動與酒會。酒會結束後，由呂代表設宴款待副主委、雙方得獎人及法方來賓。

丙、與法國協議或合作單位之工作會議

一、INSERM (法國國家健康及醫學研究院)

國家衛生暨醫學研究院成立於 1964 年，為一公立科技機構，隸屬於衛生部與高等教育暨研究部，是法國唯一完全投入人類健康領域研究的機構，從最常見至最罕見的疾病，都是其研究內容。

該院自 2008 年起負責相關生物醫學研究方面的策略、科學與合作聯繫。2009 年 3 月法令明定該院負有科學專業鑑定暨監督的任務，以確保該院能面對 21 世紀新科學、衛生與經濟的挑戰。同年 4 月該院與國家科學研究中心（CNRS）、原子能署（CEA）、巴斯德研究院、大學校長聯合會議（CPU）共同成立國家生命暨衛生科學聯盟（Alliance nationale pour les sciences de la vie et de la santé），以期加強法國在該領域的研究角色。本項生命及衛生科研聯盟計畫，有 10 個研究主題，(1)生物分子結構基礎；(2)細胞生物學及其發展演進；(3)遺傳學、基因體學、生物資訊學；(4)神經科學、認知科學、神經學、精神病學；(5)微生物學、傳染病學；(6)癌症；(7)循環、代謝、營養；(8)免疫學、血液學、肺病學；(9)公共衛生；(10)衛生科技。

本會與法國國家健康與醫學研究院於 2004 年簽署合作共同補助研究計畫，由於上述 2009 年該院有了新的任務，是以擬重新檢討與本會之合作，擬採更為積極有效之方式；遂暫緩雙方共同計畫之徵求，由院長 Andre Syrata 率其顧問 Egly

教授與國際處長 Anne Bisagni 一行三人於 2010 年 12 月中旬訪台，深入了解我國科研強項。該次訪問院長對我國之醫學研究水準印象深刻，予以肯定，願與我國發展中、長期更具體之合作關係。法方初步建議選派三至五位 ATIP - AVENIR 計畫（計畫說明如附件四）下優秀年輕研究人員到我國從事短期觀摩與研究為期三週，試辦三年，以建立初步關係。

此行即由本處與法方 INSERM 國際處就合作原則建立共識並就細節與機制予以討論。雙方結論條列如下：（新協議之初稿如附件五）

1. 本次國科會與 INSERM 之新合作方向在於推動兩國年輕頂尖學者之交流合作，項目包括短期、中期及其旗下博士生長期訪問研究。【菁英方案】
2. 舉辦雙邊研討會，一年一場；初步訂在明年三或四月在台舉辦第一場，會議領域已列出（依楊泮池院長及郭處長於 2011 年 9 月訪法時會議結論），待我方修訂。
3. 兩邊組成 Steering Committee，每年開會一次（可為視訊會議）以擇定年度合作重點、研討會主題及進行雙方合作評鑑。
4. 依以上討論責成協議稿，由國科會與 NSERM 重新簽署；若時間配合得當，法方院長可望明年來台參與雙邊學術研討會並簽署本項續約。

二、 CNRS (國家科學研究中心)

法國國家科學研究中心 (Centre National de la Recherche Scientifique, CNRS) 是全法國最大的研究機構，研究經費來自於政府；國科會與 CNRS 自 2001 年簽署合作協議，共同補助兩國研究人員多項交流與合作研究活動，可說是本會與法國合作之科研單位的骨幹，也是最長久的合作夥伴。

雙方甫於今年 7 月以換文方式完成第二次續約，目前具體方案包括 1-2 年之人員短期交流互訪案 (PIC)、FoS 及 HERCULES，因約文屬架構性合作，不排除其他合作型式；考量 CNRS 的國際計畫案有 4 種合作階段（如附件六），本會與其雙方主要只有第一種，過去雖有一件地質領域之 LIA 計畫，考量現已有三件計畫構想醞釀或申請中，或可將雙方合作提升至另一個層次—LIA，並將之機制化。透過此行，也將此項議題提出，並正式納入雙方合作新方案。

基本上 LIA 是一個跨國多團隊的合作交流計畫案，並可提供一些團隊間交流或 networking 活動費用補助，同時，它另一個很重要且特殊的功能---它具有認證的作用。換句話說，一旦獲得 CNRS 的 LIA 計畫，代表這些團隊已在該領域形成一個聚落，如果想要與法國在該領域進行國際合作研究，這些 LIA 計畫內的團隊會是第一個該被探詢的對象們!

相對於國科會，並沒有一個如此的認證型態方案，但確是一個值得配合的方案，倘共同資助本項 LIA 計畫，也等於是為我國該項相同領域的研究團隊取得一張證書! 至於作法上，由於國科會本身就是一個研究計畫補助單位，倘我方案內

的計畫都是國科會現有補助的計畫情況下，則每件計畫已經審查，國科會只要查證無誤，就可以進行，同時，若有需要，則只需提供我方差旅與運作費用及研討會議費。

三、法國高等教育及研究部

法國高等教育及研究部主要是一個政策制定與跨機構協調執行的單位，若以國科會來相對應，它不具研發補助的功能！但本會與高教研究部仍屬合作單位，過去四年雙方主要在「台法前鋒科學論壇」之執行及參與。

此次拜會除了對雙方政府架構有更清楚了解外，雙方也對目前即將進行的第五屆台法前鋒論壇之 PGM 期中會議，以及下年度幽蘭計畫之等業務細節進行檢討，期明年能執行的更為順暢。

四、法國外交暨歐洲事務部

此行主要與其交流與提升法國吸引力政策主任與副主任會面，林處長首先對其本次邀訪致謝，並說明此行訪問重點；法方也將法國在台協會科技專員其角色與工作以及與法外交部間之互動機制作了一些說明，之後雙方則對目前台灣與法國之間的科研之合作與交流方案予以回顧。

法方主任同時提到法國近年在學、研部份兩項重大措施，一是鼓勵 CNRS 與法國的 83 所大學進行合作研究，期將更多大學擠進全球百大之列，另一項則是將法國各研究院(計有 25 個)或政府等各機構以健康生物(AVIESAN)、環境(ALLENVIE)、能源(ANCRE)、資通訊(ALLISTENE)及人文與社會(ATHENA)為主題重組為五大聯盟(Alliance)，期能整合資源作最有效之運用並讓研發政策得以貫徹。至於研發專利等則採鼓勵態度，讓產業界透過市場機制去提升，政府不予干涉。

丁、法國國家級研究院之專利與智財權運作

此次的訪問除了拜會國科會的合作單位外，也針對法國的研究單位的智財權管理與應用做一初步的了解，以因應未來科技部的組改需求。

一、INPI (法國國家智慧財產權研究院)

INPI 角色與性質其實與我國智慧財產局相似，目前員工 771 人，有 4 個海外據點，負責業界財產法規制定與智財權註冊。渠表示，在 1978 年歐盟成立之後，對法國研發之專利產生及適用性有極大的影響，目前他們正推動單一專利窗口制度，一旦申請獲得，則可適用於 27 國，此制度規劃會以英、法、德三種語言建立。

該單位雖架構在法國經濟部之下，但經費自主，2009 年收入為 17235M 歐元，主要(66%)來自專利，餘為設計及商標授權；渠也表示，在其體系下專利申請，長年以美國與日本為大宗，但近年中國大陸及印度大幅提升!

我國智財局於 9 月時甫組團拜會 INPI，雙方並簽署了合作意向書。

二、CNRS

CNRS 創新及產業處副主任表示該中心自 1990 年代起，已有 600 間創業公司，也有 20%對外授權；去年在專利方面之花費為 17M 歐元，收入則為 50M 歐元，大多數屬於生藥領域。

由於 CNRS 是一個由研究人員自主研究且以基礎研究為重之單位，亦沒有以取得專利或技轉為目的之研究政策規劃，目前 CNRS 的研發強項與市場之技術或市場需求重疊度不高，所以現階段他們專利釋出即授權最大的困難是找到一個適當的買主(投資公司)! 他們最常要面對的問題是：這項技術的成熟度為何? 多久可以取得專利?多久可以進入市場? 進入市場前還需要多少投資? 同時，要能將此技術用淺顯易懂的方式讓買主了解! 尤其，生藥領域與電子業的授權型態有相當的不同，電子業較易找到投資者與資源! 現在 CNRS 主要還是找美國公司尋求投資!

依據里斯本條約內容，希望各國研發投入達人民生產毛額 3%，法國現雖已超過 2%，但主要來自於政府機構之投入，很少部份來自於私人業界，是以法國政府近日正制定新的產業方案，要求提高法國公司在研發上之投入，CNRS 期待本項政策對該中心未來研發成果之專利授權與技轉等有所提升。

三、CEA (法國原子能暨替代能源署)

原子能署創於 1945 年，復於 2009 年 12 月 14 日由法國總統宣佈更名為原子能暨替代能源署，以彰顯其近年來在低碳能源，如核能、太陽能、燃料電池、氫能源、住宅電力儲存與運輸、將生質能轉為生質燃料等領域的研究。CEA 隸屬於研究部、財經工業部、國防部三部會，設有四個研究處，主要研發領域為國防安全、能源、資訊暨健康科技等三大區塊，並透過設在國內的 10 所研究中心，與國內產官學研等地方和中央研究機構保持密切合作關係。該署亦參與國際組織或與多國機構簽訂科學暨科技合作協議，得以進行外國研究人員間合作研究交流或實習。

此次我們拜會的是其智慧財產權與技術轉移部門之資深專家，他對其議題在 CEA 之運作給予詳細的說明，基本上，該署針對某一技術開發平均約 5~12 年可以取得專利，該單位有專責專利管理部門，以 package 的觀念授權給工業界，平均約 1~3 年的技轉時程。此一技轉由自有的創投公司負責投資(prefunding)，約 1~2 年後轉給民間創投(funding)。

四、INSERM

INSERM 於 2001 年成立國家衛生暨醫學研究院轉移中心 (Inserm-Transfert SA)，目的在於將 INSERM 自身研發成果增值、轉移技術、管理國家衛生暨醫學研究院的智慧財產權，並管理 EC Framework Program 研發計劃。該中心主要負責 (1)創立生物科技創新公司、(2)處理歐洲與國際人類健康計畫、(3)評估與轉移技術、(4)管理國家衛生暨醫學研究院的專利權，使其專利許可暨合作政策達到最佳化、(5)支持臨床研究。

旗下各專利、授權與行銷等相關部門，均由來自律師、業界與研究部門之專業人士，共有約 70 名員工，為一自給自足的公司，但 INSERM 有提供 seed funding 給 INSERM Transfert。

參、心得

法國科學院每年都會頒獎給對法國科技研究有貢獻的科技人士，為一年一度的盛會，台法科技獎是其中一個獎項。從學界科研界中挑選出年度最優秀的研究學者，依獎項的權重依序頒發。除此之外，也頒發給研究成果優異的研究生與代表法國參加世界奧林匹克學術競賽得獎的高中生。如此的安排，除了有傳承的意味，鼓勵優秀的後輩之外，也增加儀式的隆重氣氛，值得我們學習。

由於專利與技轉極為專業，且需具有規模方可順利推動產學研的合作，國內目前由大學與研究單位自行管理智財權與授權，除了少數稍具規劃的學校可以勝任外，其餘學校實在難以推動並永續經營，本會組改後成為科技部應注意此一問題，產業創新 innovation，有其層次，目前國內的創新多屬下游的設計，與中游的增值與 integration，對於上游如製藥、材料與關鍵技術比較薄弱，我們應該正視。

此次拜會的 INSERM、CNRS 及 CEA 法國三大研究院，雖都有專利或智財權負責部門或單位，但彼此的角色及運作方式卻有極大的差異，前兩者經費來源為中央政府，而 CEA 則一半自主，INSERM 採集中管理，CNRS 則由研發單位自主進行，若需要，才由該部門予以行政或行銷上之協助。對我國未來的科技部在此議題的處理，是很好的三種參考模型，但科技部的真正角色不是選擇其中一種，跳入去幫國內學界或產業界申請專利或協助技轉，而是 1. 協助國內各機構如何依其單位性質來選擇適合它們自身的技轉模型，2. 建立台灣自己的研發與技術分布及專利地圖，提供產學研界參考及利用。另外，對於國內大學之評鑑，對不同類型大學應採不同之標準(criteria)重點，如對研究型大學或者可強調該校之學術論文之篇數及其 impact factor，但科技大學則應看重其技轉及商轉的效益。

肆、建議事項

此次擬將與法方 INSERM 會談結果列入明（2012）年與法國重要工作事項，推動兩國生醫領域合作。包括：

- 一、繼續洽商新合作方案及續約事。
- 二、於上半年共同舉辦一場研討會，會議之重點議題會是癌症(包括：metabolomics approaches, study of signalling pathways, genomics and epigenetic approaches, stem cells and host-pathogen interaction)及分子生物學(包括：DNA repair; hormonal dysregulation, animal models)。
- 三、邀請 INSERM 院長 Syrota 再次率團來台訪問。

伍、致謝

此行首先要謝謝法國在台協會對訪問單位的聯繫與安排，讓我們收穫豐富，達到預期!再者，也要謝謝我們的好夥伴—科技組的組長及同仁，對台法科技獎的活動規劃與執行，以及訪問活動中適時的協調與參與，讓整項活動的每一天都十分順利。在此本人由衷的謝謝！

附錄

附件一、2011「台法科技獎」新聞報導	15
附件二、2011「台法科技獎」雙方得獎人介紹	16
附件三、2011「台法科技獎」頒獎典禮及酒會邀請卡	17
附件四、法國 ATIP-AVENIR 計畫說明	19
附件五、本會與法國國家健康與醫學研究院新約稿（英文版）	20
附件六、法國 CNRS 國際合作方案簡介（英文版）	24

附件一、2011「台法科技獎」新聞報導

台大許文翰 獲頒台法科技獎

時間：2011/11/24 05:57

撰稿 編輯：吳寧康 新聞引據：中央社



台法科技獎23日在巴黎舉行頒獎典禮，行政院國科會國際合作處處長林宗泰（右1）向得獎人台灣大學教授許文翰（左1）和巴黎第六大學教授堤西耶（左2）恭賀。

台法科技獎23日在駐法代表處舉行頒獎，今年共同得獎人是台灣大學教授許文翰、和巴黎第六大學教授堤西耶(Marc Thiriet)。

台法科技獎是由行政院國家科學委員會、與法蘭西自然科學院合辦，每年頒獎鼓勵台法聯合科學研究計畫。

頒獎典禮在駐法代表處舉行，中華民國駐法代表呂慶龍將出席觀禮。法蘭西自然科學院院長巴哈(Jean-Francois Bach)、以及國科會國際合作處處長林宗泰主持頒獎。

今年得獎人許文翰和堤西耶自1999年開始進行心血管模擬研究。近年來投入治療肝腫瘤的「射頻能量導管消融術」(radio frequency ablation)、及「高能聚焦超音波療法」(high-intensity focused ultrasound)的科學計算工作。

2人自2010年起，共同指導台灣大學與巴黎第六大學的雙學位博士生，對中醫針灸進行生理機制的數學建模及分析工作。

駐法代表處科技組表示，許文翰和堤西耶推動台法交換學生，落實聯合研究。雙方在未來1年內，將持續推動台大數學科學中心、及法國巴黎第六大學實驗室的學術研究合作。

2011

台法科技獎揭曉



國立臺灣大學
許文翰 教授



巴黎第六大學
Marc Thiriet 教授

「台法科技獎」是依據國科會與法蘭西學院自然科學院所簽署的「台法科技基金協議」，由雙方共同設立的獎項，主要目的在促進台法雙邊科技合作，並培育年輕的科技人才。每年選拔1組共同合作的台法科學家，以表揚他們對促進台法雙方科技合作、交流及訓練的卓越貢獻。2011年的得主是國立臺灣大學許文翰教授和巴黎第六大學 Marc Thiriet教授。

許文翰及 Marc Thiriet兩位教授於1999年開始進行心血管的模擬研究，近6年來全力地投入有關肝癌腫瘤治療的「射頻能量導管消融術」(radio frequency ablation, RFA) 及「高能量聚焦超聲波療法」(high-intensity focused ultrasound, HIFU) 的科學計算工作。自2010年開始，透過共同指導臺灣大學與巴黎第六大學雙學位博士生，進行中醫針灸理論中有關針刺(acupuncture)生理機制的數學建模及分析工作，兩人在學生交換的推動與落實，以及前緣學術主題的研究上，均有卓越貢獻。雙方在未來1年內將持續推動臺大數學科學中心(Taida Institute of Mathematical Sciences, TIMS)及法國巴黎第六大學 Laboratoire Jacques-Louis Lions (LJLL) 的卓越學術研究合作。

附件三、2011「台法科技獎」頒獎典禮及酒會邀請卡

*Remise du Prix de la Fondation scientifique
Franco-Taiwanaise*

Madame, Monsieur

à

.....

...

*Messieurs Marc Thiriet
et Tony Wen-Hann Sheu*

- | | |
|---|---|
| <input type="checkbox"/> <i>assistera</i> | <input type="checkbox"/> <i>n'assistera pas</i> |
| <input type="checkbox"/> <i>assisteront</i> | <input type="checkbox"/> <i>n'assisteront pas</i> |

23 novembre 2011

à la réception du

mercredi 23 novembre 2011

Willis T. Lin
Représentant du
Conseil national des Sciences
et
Michel Ching-Long Lu
Représentant, Bureau de Représentation de
Taïpei en France

Catherine Bréchignac
et
Jean-François Bach
Secrétaires perpétuels
de l'Académie des sciences

Sous le haut patronage de

Gabriel de Broglie

Chancelier de l'Institut de France

sont heureux de convier

M.....

*à la remise solennelle du prix 2011
de la Fondation scientifique Franco-Taiwanaise*

à

Messieurs Marc Thiriet et Tony Wen-Hann Sheu

*Bureau de Représentation de Taïpei en France
Salle de Représentation
78 rue de l'Université - 75007 Paris
le mercredi 23 novembre 2011 à 18 heures*

*Réponse SVP avant le 16 novembre 2011 auprès de Lysiane Hurvé-Texier,
Secrétaire générale de l'Académie des sciences - 23 quai de Conti 75006 Paris*

附件四、法國 ATIP-AVENIR 計畫說明



Programme ATIP – AVENIR 2011



Objectives

Under a partnership between Inserm and CNRS, a call for proposal is launched to:

- **Enable young scientists to create and lead a team** within an established laboratory in France. The ATIP - AVENIR teams will strengthen the research of the host units but will develop **independently their own scientific project**.
- **Promote mobility** and attract young team leaders of high-level working abroad.

The ATIP - AVENIR grant is allocated for a period of 3 years. After evaluation, it can be extended for an additional 2 years.

It is open to any young scientists, whatever their present position and nationality, who have defended their PhD (or equivalent doctoral degree) within the last 10 years (after December 31, 2000)¹. Successful applicants will have to develop their projects within a structure in which he/she has not been working for more than 18 months² and will not find previous mentors (of PhD and/or postdoctorate). Laureates of a "Young investigator" ANR programme or "ERC Starting Grant" are not eligible.

Projects must relate to Life sciences or Health. Applications from clinicians and qualified women are strongly encouraged.

Funding: minimum € 270,000 for the first 3 years

- Annual grant of € 60,000.
- Two-year salary for a postdoctoral researcher.

In addition, non-tenured successful applicants are guaranteed a monthly gross salary of € 3,500 (before tax deduction).

The host laboratory will provide the team with a dedicated research area of about 50m² and access to the local technological facilities.

Applicants may submit their proposal without an identified host laboratory but should then in parallel contact Inserm and/or CNRS to help identifying a suitable scientific environment.

Potential partners for the co-financing of projects in their scientific areas

ANRS (Agence nationale de recherches sur le sida et les hépatites virales), AFM (Association française contre les myopathies), ARC (Association pour la recherche sur le cancer), ARD (Association pour la recherche sur le diabète), ARIIS (Alliance pour la recherche et l'innovation des industries de la santé), les conseils généraux et régionaux, DGA (Délégation générale à l'armement), DGOS (Ministère chargé de la santé - direction générale de l'offre des soins), EFS (Etablissement français du sang), la fondation Bettencourt Schueller, les hôpitaux, INCa (Institut national du cancer), les laboratoires Pierre Fabre, LNCC (Ligue nationale contre le cancer), MILDT (Mission interministérielle de la lutte contre la drogue et la toxicomanie), Sanofi-Aventis, les universités.

Selection procedure

They will be assessed by specialized international scientific committees with appropriate experts:

- LS1 Molecular and Structural Biology, and Biochemistry ;
- LS2 Genetics, Genomics, Bioinformatics and Systems Biology ;
- LS3 Cellular and Developmental Biology ;
- LS4 Physiology, Pathophysiology, Translational Research ;
- LS5 Neurosciences and disorders of the nervous system ;
- LS6 Immunity and infection ;
- LS7 Diagnostic tools, therapies, biotechnology and public health ;
- LS8 Fundamental microbiology and virology, unicellular eukaryotes.

The selection will be done in two stages: short-listing will take place early in March 2011, and selected applicants will then be interviewed at the end of April 2011. The final list of laureates and their host laboratories will be established jointly by Inserm and CNRS before July 2011.

Applications must be submitted in electronic form³ before **December 9th 2010**

Proposals could be submitted to :

https://www.eva2.inserm.fr/EVA/jsp/AppelsOffres/ATIP-AVENIR/index_INSERTM_CNRS.jsp

¹ Exceptions can be granted for maternity or military service leaves

² Exceptions can be granted to teachers from university hospitals

³ Consult the guide for applicants

Further information can be obtained from

at Inserm
Christine Guillard and/or Christiane Durieux
atip-avenir@inserm.fr

at CNRS
Jean Houmard
atip-avenir@cns-dir.fr

附件五、本會與法國國家健康與醫學研究院新約稿（英文版）
Cooperation Agreement

Between

The Institut national de la sante et de la recherche medicale (Inserm)
[to be completed by INSERM]

and

The National Science Council (NSC)
106, Heping E. Road, Sec. 2, Taipei 10622, Taiwan
Represented by the Minister, Academician CHU C. Y. Cyrus

hereinafter together referred to as " the Parties", and the term 'Party' refers to either NSC or INSERM

Considering

- The previous Memorandum of Understanding (MoU) signed by the Parties in February 2004, recognizing their mutual interest for improving scientific cooperation in the fields of the Life Sciences and Health research,
- Their common willingness to update the previous MoU including renewed objectives and operational modalities of cooperation in the fields of common interest,

agree on the following schemes to foster their collaboration:

1 – Exploratory-visiting Programme

a) Definition

This Programme is devoted to highly-selected young scientists:

- for the Inserm part they are either laureates of the Inserm-CNRS ATIP/Avenir Programme (see appendix 1) or are among the European Research Council – ERC - Starting Grants awardees (see appendix 2) who work in research units supported by Inserm.

Other French high-level scientists could be also concerned later on.

- for the NSC part they are either receivers of the Ta-You Wu Memorial Award or Outstanding Research Award or the candidates with age under 42, selected annually by the NSC.

Based on a spirit of reciprocity, the Exploratory-visiting programme aims to help these French and Taiwanese young scientists selected by the Parties to: i) discover the landscape of research in Life Sciences and Health in both countries; ii) explore new opportunities of cooperation based on scientific excellence and complementarities; iii) if relevant after the first contacts, initiate scientific cooperation that could form the basis of joint research projects.

b) General principles

The beneficiaries of the Exploratory-visiting programme are further called “Project Investigator(s), (PI)”; the programme will be implemented in two steps:

1 – Exploratory visits of 1 to 2 weeks, which should include: scientific seminars, visits of laboratories and technology platforms, meetings with scientists in any domain of interest of the PI.

2- Once scientific collaboration is foreseen, and after a positive evaluation of the scientific project by the Parties, further short to medium stay of up to 3 months, renewable if necessary, can be provided for the PI and his/her counterpart on both sides, to rapidly initiate the collaborative project and to support the emerging collaboration.

3. In a next step, such initiated cooperation could help for application at international programmes (Human Frontier Science Programme, European Framework programmes) and any appropriate programmes supported by respective National funding agencies.

c) Time table and implementation

The Exploratory-visiting Programme will be carried out through an open procedure by the Parties.

1 - Exploratory visits

Candidates will have to submit to one Party a Letter of Intent (LoI) expressing their wish to visit research teams in either France or Taiwan, with preliminary information on their own scientific field, their fields of interest and expected outcomes. They also can mention laboratories they would like to visit. (details will be asked in the application).

The LoI will be submitted to the other Party for approval.

The Parties will assist the selected candidate to organise his/her visiting programme, in close cross-collaboration. A list of research centres and laboratories of excellence will be established by the hosting party to help define the programme of visit.

The completion of the procedure should not exceed 2 months after the submission of the project.

Following the exploratory visit, a report shall be transmitted by the PI to each party no later than after one month, detailing activities performed during the visit, highlighting

the interests for his/her research activities and the prospect for potential cooperation.

2 – Further step

PI who wish to explore more in-depth the potential for cooperation will have to submit a project according to common guidelines established by the Parties (see appendix 3).

d) Financial resources and specific conditions

A maximum of 3 candidates will be selected annually to enter the Exploratory-visiting programme.

The Party will take in charge the travel costs of its researcher (s) on the basis of one APEX Fly ticket.

The hosting party will cover the daily allowance and accommodation costs in accordance with its own prevailing laws and regulation.

2 – Joint scientific Seminar

Following the identification of scientific fields of mutual interest that could offer perspectives for future collaboration, scientific seminars could be organised involving a few number (under a 6-6 format) of experts from both sides (every year).

Topics should be decided in common agreement.

Those seminars will be organised alternatively in France and in Taiwan on a regular basis (up to one per year).

Each party will cover the travel costs of its researchers while the hosting party will take over the organisation and accommodation during the meeting, including daily allowance, for the participants.

3 – Post-doctorates

Depending on projects that stem from the Exploratory-visiting programme and/or Joint scientific seminars, the possibility to fund post-doctorates, through start-money, will be set-up by both parties to support scientific cooperation of excellence.

Up to 2 stays of 3 to 6 month (renewable once) with living allowance or subvention will be provided by each Party on an annual basis and will be made available after evaluation following a common established procedure (see appendix 4). The relay should be sought through other project funding providers.

Each party will take over the travel costs of its researcher (s) on the basis of a roundtrip economic class flight ticket.

Each party will provide temporary contracts according to its own rules.

4 – Governance

A steering committee will be composed of two representatives of the Parties.

For Inserm:

The President and CEO of Inserm or his/her representative.

The Director of the relevant Thematic institute.

For NSC

Deputy Minister in charge of international cooperation or life sciences of the NSC or his/her representative.

The Director General of Life Sciences Department of the NSC.

The steering committee should meet at least once a year alternatively in Taiwan and in France or through other appropriate communication ways (videoconferences).

The steering committee will be in charge to assess the progress made under this Agreement, to refine if necessary the schemes of cooperation according to the general objective stated in this Agreement.

5 – Term, amendment, renewal and termination

This Agreement shall enter into force upon its signature by the Parties and shall remain in force for a period of five (5) years. No Party shall assign or otherwise transfer its rights or benefits under this Agreement.

Amendments to this Agreement can only be made upon the written consent of the Parties. Each Party retains its right to apply its standard operating policies and procedures, including those relating to international collaboration, funding policy and procedures and proposal evaluation.

Each party may terminate this Agreement by giving a six (6) months' notice in writing to the other Party via registered letter with acknowledgement of receipt. Nevertheless, the early termination of this Agreement shall not affect the implementation of the projects or programmes established under it prior to such termination.

DONE in Paris on 19 April, 2012, in duplicate in the English language, both being equally authentic.

For Inserm

For NSC

Professor André Syrota
President and CEO

Dr. Cheng-Hong Chen
Deputy Minister

附件六、法國 CNRS 國際合作方案簡介 (英文版)



www.cnrs.fr

RESEARCHER EXCHANGES

To assist researchers in initiating scientific collaboration with a foreign partner, CNRS funds research trips and short-term stays. The goal is for researchers from different research organizations or universities to work together on a jointly defined project. The exchanges take place within the framework of general cooperation agreements that have been signed by CNRS and foreign research organizations.

How long does the project last?
A project is initially for one year, and is renewable. During this period, researchers are able to visit each other during short-term stays, which on average last between 1 and 4 weeks.

Who can apply?

- In France, CNRS researchers, as well as teaching and research staff from other institutions who

work in CNRS-affiliated research units.

- Outside France, researchers working at research organizations or universities.

How and when to apply
A call for proposals is published annually. Researchers who wish to work with a foreign partner must first ascertain that their partner works for an organization with which CNRS has signed a general cooperation agreement. Deadlines for submitting proposals vary according to the country, and are given in the calendar on the website for CNRS' Office of European Affairs (DAE) and Office of International Relations (DIRI). The call for proposals and the application form are available online.

How are proposals evaluated?
Project proposals are evaluated separately by CNRS and the partner institution. At CNRS, evaluation is by peer review and is coordinated by the research Institutes before CNRS and the partner institution make the final selection jointly. Decisions are sent by mail. An annual activity report is required.

How are exchanges funded?
Funding comes from both CNRS and the partner institution. According to type of cooperation agreement signed ahead of time between the partners, either each organization pays for its researchers' travel expenses and the visiting researchers' accommodation expenses, or else each organization covers all expenses for its own researchers.

 **advancing frontiers**

INTERNATIONAL PROGRAMS FOR SCIENTIFIC COOPERATION (PICS)

In situations where cooperation with a foreign partner is well-established, and has resulted in joint publications in scientific journals, it is possible to formalize the relationship through a PICS. This is a more involved form of cooperation than a researcher exchange in that it is based on pre-existing joint research, and has a longer time frame. It brings together two researchers.

What is a PICS?

A PICS is a joint research project carried out by two researchers, one from CNRS and one from abroad. Funding for exchanges and other expenses required by the cooperation comes from both partners.

How long does a PICS last?

► *Three years, non renewable.*

Who can submit a proposal?

- In France, CNRS researchers, as well as teaching and research staff from other institutions who work in CNRS-affiliated research units.
- Outside France, researchers working at research organizations or universities.

How and when to apply

A call for proposals is published annually on the website of the Office of European Affairs and the Office of International Relations. The two-stage application process has deadlines on March 31 and May 31, and funding begins at the start of the following year. Before submitting a proposal, CNRS researchers must seek approval from their research institute. Once they have obtained it, they can request

an application form from the DAE and DRI. The foreign partner must simultaneously submit a proposal to his or her home institution. A consolidated provisional budget (including salaries and portion of laboratory budget provided by the research organization, as well as other resources allotted to the project) is to be presented with the research project proposal. The PICS partners sign a confidentiality agreement once a project is approved.

How are applications evaluated?

Proposals are evaluated by peer review, at both CNRS and the partner institution. At CNRS, evaluation is overseen by the research institutes. Decisions are made jointly by CNRS and the partner institution, and are announced by mail. Scientific and financial reports must be submitted annually.

How are PICS funded?

Both institutions participate in PICS funding. Funding covers the additional expenditure due to the international nature of the project, such as research trips, meetings, operating expenses and small equipment. Funding begins at the start of the year following the decision to carry out a PICS.

EUROPEAN ASSOCIATED LABORATORIES (LEA) INTERNATIONAL ASSOCIATED LABORATORIES (LIA)

To structure collaboration between two research teams (or two laboratories), one in France and the other abroad, which already have joint publications, you can request the creation of a European Associated Laboratory (for European partners) or an International Associated Laboratory (for non-European partners). The relationship between the two partners is formalized through a contract signed by the heads of both organizations, with clauses dealing with issues such as intellectual property rights.

What is an LEA/LIA?

An LEA/LIA is a "laboratory without walls" that brings together one CNRS and one foreign team or laboratory to work on a jointly defined project. Human and material resources are pooled to carry out the project. Teams or laboratories associated through an LEA or LIA maintain their separate autonomy, status, director and location. The LEA or LIA is jointly managed, with alternating or simultaneous co-principal investigators, and has a scientific evaluation committee.

How long does an LEA/LIA last?

► *Four years, renewable once.*

Who can submit an LEA/LIA proposal?

- In France, CNRS researchers or professors who work in CNRS-affiliated research units, and who are likely to be a co-principal investigator for the LEA/LIA.
- Outside France, researchers from teams or laboratories which belong to a research orga-

nization or university and who are likely to be a co-principal investigator for LEA/LIA.

How and when to submit a proposal

Proposals can be submitted simultaneously at any time to the relevant CNRS research institute and to the foreign institution.

How are proposals evaluated?

Scientific evaluation of proposals is carried out simultaneously by peer review, at both CNRS and the partner institution. At CNRS, evaluation is overseen by the research institutes.

Decisions are announced by mail.

Once the creation of an LEA/LIA has been approved, a contract, which includes a research project description, consolidated provisional budget, and intellectual property clauses, is signed by the Director General of CNRS and by the head of the partner institution.

A scientific and financial report must be submitted annually.

How is an LEA/LIA funded?

CNRS and the partner institution earmark funding for LEA/LIA projects, in addition to other resources provided by the home institutions for research on the project.

Equipment, operating costs, research trips, visiting researcher positions... are covered. Funding begins at the start of the year following the decision to create an LEA/LIA.

EUROPEAN RESEARCH NETWORKS (GDRE) INTERNATIONAL RESEARCH NETWORKS (GDRI)

..... In order to create a flexible partnership bringing together several French and foreign laboratories in the private or public sector to work on a specific research topic, you can request the creation of a European or International Research Network. One of the key features of this type of structure is that it involves a number of international partners, thus creating a rich forum for scientific exchange on a defined theme.

What is a GDRE/GDRI?

A GDRE/GDRI is a network of laboratories in several European (for GDREs) or European and non-European (for GDRI) countries. Its goal is to bring together a range of academic and industrial partners. These networks have a scientific management committee.

How long does a GDRE/GDRI last?

► *Four years, renewable once.*

Who can submit a GDRE/GDRI proposal?

- In France, CNRS researchers, as well as teaching and research staff from other research organizations working in CNRS-affiliated joint units.
- Outside France, researchers working at a private or public research organization or university.

How and when to submit a proposal

Proposals can be submitted simultaneously at any time to the relevant CNRS research institute and to the partner institutions.

How are proposals evaluated?

Scientific evaluation of proposals is carried out simultaneously by peer review at CNRS and the partner institutions. The selection of GDRE/GDRIs is competitive and based on common agreement between the partners. At CNRS, evaluation is overseen by the research institutes.

Decisions are announced by mail.

Once the GDRE/GDRI has been approved, a contract, with a research project description, consolidated provisional budget, and intellectual property clauses, is signed by the Director General of CNRS and the heads of the French and foreign partner institutions. Funding begins at the start of the year following the signing of the contract.

A scientific and financial report must be submitted annually.

How is a GDRE/GDRI funded?

The network is funded by all partners, and the pooled resources are used for exchanges between the partners and to organize seminars and workshops. Funding begins at the start of the year following the decision to create a GDRE/GDRI.

INTERNATIONAL JOINT UNITS (UMI)

..... If collaboration with a partner institution is already well-structured and the teams would like to work together full-time in the same laboratory, located either in France or abroad, you can request the creation of an International Joint Unit.

What is a UMI?

A UMI is a full-fledged laboratory, as found in universities and research organizations. It is in a single location, in France or abroad, and brings together researchers, students, postdocs, and technicians from CNRS and the partner institution. The director of the UMI is jointly named by CNRS and the foreign partner institution.

How long does a UMI last?

► *Four years, renewable twice*

Who can submit a UMI proposal?

The request to create a UMI is submitted by its future director (a researcher or professor) to both CNRS and the foreign institution.

How and when to submit a proposal

The request to create a UMI can be made at any time to the research institutes of CNRS and to the partner institution. The file includes a research proposal and a provisional budget with total cost for 4 years.

How are UMI proposals evaluated?

Scientific evaluation of proposals is carried out simultaneously by peer review at CNRS and the partner institution.

In France, the National Committee for Scientific Research is also asked to provide an evaluation.

As UMIs have the same status as real laboratories, decisions concerning their creation are made in the same way as for other CNRS laboratories.

The decision must then be ratified by the Director General of CNRS. Once the decision to create a UMI has been made, a contract, with research project description, consolidated provisional budget, and management rules and intellectual property clauses, is signed by the Director General of CNRS and the head of the foreign partner institution.

How is the UMI funded?

Human and material resources are provided to the UMI by CNRS and the partner institution, in addition to funding from other sources, such as organizations, foundations, and private companies.

The salaries of researchers, Ph.D. students, and postdocs are covered, as are equipment, operating expenses, research trips, visiting researcher positions and infrastructure expenses.

These expenses are jointly covered by the partners according to an annual provisional budget, following discussions by the administrative and scientific authorities of both countries.

<https://dri-dae.cnrs-dir.fr>

CNRS IN FIGURES

• **32,500** employees: **11,600** researchers, **14,400** engineers and technical staff and **6,500** non permanent employees • **1,100** research units - **90 %** are joint research laboratories with universities and industry • Budget **€ 3.367** billion of which **€ 607** million come from revenues generated by CNRS contracts • **25,000** publications per year of which about **50 %** are co-authored with foreign scientists • **85** exchange agreements with **60** countries • **275** International Programs for Scientific Cooperation • **89** International Associated Laboratories • **90** International Research Networks • **18** International Research Joint Units • **8** CNRS Offices abroad (Beijing, Brussels, Hanoi, Johannesburg, Moscow, Santiago de Chile, Tokyo, Washington) • **4,000** contracts signed with industry • **30** current agreements with major international industrial groups • **729** active patents • **€ 53.3** million in royalties • **394** companies created from 1999 to 2008 •



The international dimension of research is a daily reality at CNRS. International collaboration between researchers is initially a matter of personal affinity and research interests, based on personal relationships or contacts developed at international conferences, summer schools and seminars.

These collaborative activities between researchers or laboratories are carried out within networks of scientific exchange. In some cases, however, relationships with foreign partners benefit from being consolidated and formalized.

In order to optimize and structure these exchanges, CNRS' international scientific strategy aims to enable CNRS research units to work with leading laboratories around the world.

This document presents the cooperative tools made available by CNRS and the procedure to set them in use. It is designed to help CNRS researchers and their foreign partners find the tool best suited to the type of collaboration they would like to develop - whether it is initiating a research project through exchanges, consolidating it through an international program for scientific cooperation, coordinating it through a network, or structuring it through an associated laboratory or an international joint unit. The tools presented here are intended as a base for discussions about how to implement collaboration between partners.

