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保存年限：20

行政院國家科學委員會 函

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受文者：國立暨南國際大學

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密等及解密條件或保密期限：

附件：如說明三（102D2000604.PDF，102D2000605.XLS）（102D2000604.PDF、102D2000605.XLS，共2個電子檔案）

主旨：本會徵求102年度「任務導向型團隊赴國外研習計畫」，並自即日起至102年4月26日止受理申請，請查照轉知。

說明：

- 一、本(102)年度關鍵性之科技及人文社會研究項目訂有15項，國外研習機構有41所。
- 二、本年度之作業時程如下—
 - (一)計畫申請：102年1月10日起至102年4月26日止(以系統送出為憑)；申請機構請於102年4月30日前函送申請名冊到會(以公文發文日為憑)。
 - (二)公告結果日期：102年7月31日前。
 - (三)計畫執行日期：102年9月1日至103年8月31日(第二年期計畫順延一年)。
 - (四)國外研習機構參考意見：申請人(計畫主持人)應提醒擬前往之國外研習機構指導人直接將意見於102年5月10日前寄達本會業務承辦人。
- 三、有關本項計畫作業要點、年度關鍵領域及國外研習機構請參閱附檔，或至本會國際合作處網頁(<http://www.nsc.gov.tw/int/>)參考。

正本：國立臺灣大學等289個機構(國科會專題計畫受補助單位)



副本：駐美國代表處科技組、駐加拿大代表處科技組、駐舊金山辦事處科技組、駐洛杉磯辦事處科技組、駐休士頓辦事處科技組、駐日本代表處科技組、駐韓國代表處科技組、駐德國代表處科技組、駐英國代表處科技組、駐法國代表處科技組、駐歐盟兼駐比利時代表處科技組、駐俄羅斯代表處科技組、自然處、工程處、生物處、人文處、科教處、駐澳大利亞代表處科技組、駐印度代表處科技組、駐越南代表處科技組、駐捷克代表處科技組(均含附件)



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主任委員朱敬一

檢閱：文上傳公告周知，有意申請者，請於4月24日前
線上申請送出，俾便推組限期彙整線上送出
並寄送申請名冊。

二. 文稿送四院轉系所知悉。

三. 文彙彙編續辦。

秘書室 莊宗憲
102. 1. 17



專員王淑娟
102. 1. 17

專員黃漢陽

教授兼主任秘書 孫同文

副教授兼研發處
學術及推廣服務組組長 施君興
102. 1. 17

國立暨南
國際大學 蘇玉龍(甲)
102. 1. 17

教授兼
研所所長 林佑昇

線

2/5

行政院國家科學委員會補助任務導向型團隊赴國外研習作業要點

101年03月01日日本會第779次主管會報修正通過

目的：

行政院國家科學委員會(以下簡稱本會)為補助國內優秀人才赴本會指定之國外世界級公私立研究機構，研習關鍵性科技與人文社會研究項目，以培育我國未來發展所需之研發人才，並掌握自主研發能力，進而促成我國科研創新水準之躍升，特訂定本要點。

二、關鍵性科技與人文社會研究項目及國外世界級公私立研究機構：

- (一) 關鍵性科技與人文社會研究項目：由本會指定研習關鍵性之科技與人文社會研究項目；以每年公布五至十五項為原則。
- (二) 國外世界級公私立研究機構(以下簡稱研習機構)：由本會各學術處及駐外科技組推薦，並經本會審定後對外公布。

三、申請機構：

- (一) 公私立大專院校及公立研究機構。
- (二) 經本會認可之財團法人學術研究機構及醫療社團法人學術研究機構。

四、申請及參與研習資格：

- (一) 申請人(計畫主持人)及共同主持人(以一位為限)資格：符合本會補助專題研究計畫申請人資格，且不得為已依相關法令辦理退休之人員。
- (二) 研習人員資格：由計畫主持人選定赴指定研習機構研習之博士生或博士後研究人員，且須設有戶籍之中華民國國民。

五、補助對象及額度：

- (一) 補助對象包括計畫主持人、共同主持人及由計畫主持人選定赴指定研習機構之研習人員(申請人須於申請時一併提出，一計畫至多可申請三位研習人員)。
- (二) 補助額度以每一計畫每年新臺幣四百萬元為限。但國外研習機構提出特殊需求，經本會審查同意者，不在此限。

六、補助項目：

計畫主持人得在補助額度內，依規劃性質及實際需要，申請下列項目補助經費：

- (一) 計畫主持人及共同主持人之國外差旅費：包括生活費、交通費、出國手續費及綜合補助費，並依行政院「中央各機關(含事業機構)派赴國外進修、研究、實習人員補助項目及數額表」之規定報支。
- (二) 實驗費：包括研究計畫之耗材費及其他經核定之必要項目(如研習機構要求之管理費或儀器使用費等)
- (三) 研習人員之公費：博士生每人每年補助上限新臺幣九十萬元，博士後研究人員每人每年補助上限新臺幣一百三十萬元。

受以上補助研習人員不得同時支領我國政府其他赴國外研習公費、獎學金或本會補助博士後研究人員之薪資。

申請機構不核給管理費，計畫主持人及共同主持人不核給研究主持費。

七、補助期限及停留期間：

- (一) 補助期限得為一年或二年；屬二年期計畫者，應分年填列研究內容及需求經費。
- (二) 每一計畫每年補助計畫主持人與共同主持人往返研習機構合計二人次，每人次停留至少一個月，並得併為一人次至少二個月之方式處理；博士生或博士後研究人員每年期停留研習機構至少十個月。
- (三) 計畫核定補助採全程執行期間各年核給計畫編號，且除第一年為經費核定清單外，其餘年度經費為預核清單

八、申請方式：

- (一) 計畫主持人應至本會網站線上製作下列文件後，將申請案送至申請機構；新增計畫時，請填具各項申請資訊欄位，同時將中、英文研究計畫書、參與人員中、英文履歷及近五年著作目錄等各項文件以 PDF 檔上傳至系統。
- (二) 計畫主持人之任職機構(即申請機構)彙整送出，並造具申請名冊函送本會申請。
- (三) 計畫主持人應於完成本會線上作業申請後，另將英文申請資料(包括計畫書、所有研究人員履歷及其著作目錄等)併同「國外研習機構參考意見表」寄予擬前往之國外研習機構指導人，由該位指導人填具「國外研習機構參考意見表」並簽署後，將該表逕寄本會。
申請文件不全、不符合規定或逾期申請者，不予受理。
國外研習機構指導人未能於截止日期前將「國外研習機構參考意見表」送達本會者，視同申請文件不全。

九、作業時程：

- (一) 計畫補助以一年度一期對外公告徵求，並得視與國外研習機構洽談情況酌增公告次數。
- (二) 每年一月公告徵求計畫，並自申請案截止收件之次日起四個月內完成審查後核定公布；必要時，得予延長。實際作業時程以本會當年度對外公告資訊為準。

十、計畫審查：

- (一) 審查方式：採初審與複審二階段審查。初審由相關領域之專家書面審查；複審由本會參考初審意見及「國外研習機構意見表」二項，進行評比後擇優錄取。
- (二) 審查項目：
 1. 計畫主持人研究表現。
 2. 執行計畫能力與國際合作經驗。
 3. 研習人員研究專長、能力及赴國外研習對其未來研究之助益。
 4. 計畫主題之重要性與創新性。
 5. 研究內容與方法之可行性及與本要點所訂宗旨相符程度。
 6. 預期完成之項目、成果明確性、對臺灣科技發展之必要性及可能貢獻。
 7. 與國外研究團隊之合作或指導關係之必要性、適切性及未來性等。

十一、簽約及撥款：

- (一) 補助之簽約撥款事宜，依本會核定通知函規定辦理。
- (二) 配合計畫核定時程，一年分二次辦理計畫撥款。

十二、經費結報：

- (一) 申請機構於補助期間內得每半年，或俟計畫內人員交流活動全部完成辦理經費結報。惟至遲應於計畫執行日期截止後三個月內，檢附已支用經費原始憑證辦理。如有餘款並應繳回。
- (二) 申請機構應將經費支用原始憑證按補助項目分類整理裝訂成冊後，併同下列各件函送本會辦理經費結報：
 1. 計畫申請書與核定清單影本。
 2. 計畫收支明細報告表一份。
- (三) 申請機構對計畫款項之支付，應依支出憑證處理要點規定辦理。

十三、報告繳交：

- (一) 申請機構應督促計畫主持人於研究計畫執行期滿後三個月內至本會網站線上繳交期中進度報告或期末報告。
- (二) 經本會核定執行二年期計畫者，應按核定執行期限執行，並於第一年期計畫執行期滿前二個月或至遲期滿後三個月內，至本會網站線上繳交期中進度報告及第一年期經費支用明細表，經本會審查通過後，始得核定第二年期計畫經費。
- (三) 計畫期末報告，除敏感科技研究計畫或涉及專利、其他智慧財產權者外，得供立即公開查詢。

十四、計畫變更：

- (一) 計畫經核定補助，應依計畫內容確實執行。如配合計畫研究實際執行情況，有需要延長計畫執行期限、變更訪問內容或期限、變更研習人員資格、經費用途變更為原未核定之補助項目或經費超過規定之流用比例者(流入數額以百分之二十為限，流出數額以百分之三十為限)，計畫主持人應於事前至本會線上作業系統填具「補助經費延期及變更申請表」提送本會辦理，經本會審查同意者，始得據以執行。
- (二) 執行期間變更，每年期以一次為原則，除特殊情形者外，每件計畫總延長期間以六個月為限；延長期間內所需費用，不另予補助。
- (三) 計畫經核定，不得要求變更研習人員。
- (四) 計畫開始執行三個月後，不得提出於該執行年度新增共同主持人。
- (五) 經本會核定執行之二年期計畫，如預核經費須辦理變更者，應於繳交期中進度報告時，一併至本會網站線上製作經費變更申請表，以憑核定經費。

十五、注意事項：

- (一) 申請機構應切實審查計畫主持人、共同主持人及研習人員之資格要件。
- (二) 未經本會同意逕自變更研習國家、研習機構或研究主題者，喪失原

受補助資格，並應返還已領取之補助費。

- (三) 受補助人於領受補助公費期間所涉與其他機構之權利義務應自行負責。
 - (四) 受補助之博士生研究人員（役男除外）於國外研究期間是否辦理休學，由其在學機構自行規定；研習人員若為在職生或博士後研究人員，國外研究期間是否留職留薪，由給薪單位自行規定。
 - (五) 受補助人員於單一年度期間執行本要點計畫以一件為限。
 - (六) 未經本會一次核定執行二年期計畫者，後續年度計畫須依規定提出申請；申請時，應檢附上年度研究進度報告及當年度工作重點。
 - (七) 申請機構執行本要點補助之計畫須依第十二點及第十三點規定完成經費結報及繳交研究成果報告後，該計畫始為結案。計畫主持人未依規定辦理經費結報或繳交研究成果報告、經費結報或研究成果報告不合規定，經本會限期改正，屆期未改正者，本會得視情形通知該申請機構及計畫主持人追回該項計畫全部或部分補助款，結案前不再核給計畫主持人依本要點申請之其他計畫。
- 十六、本要點未盡事宜，應依經費使用與結報說明、本要點補助合約書與執行同意書及其他有關規定辦理。

102年度龍門計畫國外研習機構國別分布與推薦清單

洲別	國家	公告機構數	研習大學或國家級研究中心	(詳細內容如後附8頁)		
亞洲 (6)	日本	4	University of Tokyo			
			Tohoku University			
			Kyoto University			
			National Institute for Materials Science (NIMS)			
	韓國	1	Korea University			
	澳大利亞	1	The University of Queensland			
歐洲 (16)	比利時	1	Interuniversity MicroElectronics Center (IMEC)			
			德國		4	Juelich研究中心
						癌症研究中心 (DKFZ)
						達姆施塔特高等資訊安全研究中心 (CASED)
				Max Delbrück Center for Molecular Medicine (MDC)		
	英國	3	University of Edinburgh			
			University of Cambridge			
			The Imperial College of Science, Technology and Medicine			
	法國	4	國家衛生及醫學研究院 INSERM			
			法國國家科學研究中心 CNRS			
巴斯德研究院 Institut Pasteur						
European Synchrotron Radiation Facility (ESRF)						
	俄羅斯	1	Kurchatov Insitute			
	丹麥	1	Aarhus University			
	瑞士	1	Ecole Polytechnique Fédérale de Lausanne (EPFL)			
	奧地利	1	Universität Wien			
美洲 (19)	加拿大	3	The University of British Columbia			
			University of Toronto (incl. UHN)			
			Canadian Light Source			
	美國	16	Johns Hopkins University			
			Columbia University			
			MIT			
			Stanford University			
			Argonne National Laboratory			
			University of California (UCLA, UC Berkeley, UC San Diego and UC San Francisco)			

102年度龍門計畫國外研習機構國別分布與推薦清單

	California Institute of Technology
	University of Texas MD Cancer Center
	National Center for Atmospheric Research (NCAR)
	The University of Texas Southwestern Medical Center
	The University of Texas Austin
	Rice University
	Lawrence Berkeley National Laboratory
	Harvard University
	National Institutes of Health (NIH)
	Baylor College of Medicine
總計	41

備註: 酒紅字列出者, 表示為2013年新增或新洽邀之機構或實驗室

8/15

2013年國科會"補助任務導向型團隊赴國外研習"(龍門計畫)

外國研習機構一覽表

亞洲

項次	國別	研習機構	研習單位	研習領域	研習單位介紹	國外研習機構 指導或聯絡人姓名/職稱	聯絡資訊	國合處窗口
1	日本	東京大學 The University of Tokyo	1. 地震研究所 2. 比較文學比較文化研究室	1. 地震研究 2. 東亞文化	1. http://www.eri.u-tokyo.ac.jp/eng/ 2. http://fushime.c.u-tokyo.ac.jp/dept/index.html	1. 平田直 (東京大學地震研究所所長) 2. 齋藤希史教授 (Mareishi SAITO) 教授	1. Tel: 03-5841-5677 Fax: 03-5689-4467 E-mail: kenkyu@eri.u-tokyo.ac.jp 2. Tel: +81-29-860-4769 Email: FUKATA.Naoki@nims.go.jp	鄭慧娟副研 究員 02 2737 7472
2	日本	京都大學 Kyoto University	Center for Frontier Medicine of Department of Pharmacology	炎症及免疫疾病相關之藥物研發	http://www.med.kyoto-u.ac.jp/GCOE/1/member/individual/narumiya.html	成宮周 (Shuh Narumiya) 教授	TEL: +81-75-753-4392 e-mail: snaru@mfour.med.kyoto-u.ac.jp	鄭慧娟副研 究員 02 2737 7472
3	日本	東北大學 Tohoku University	Laboratory for Nanoelectronics and Spintronics Research Institute of Electrical Communication	自旋電子學Spintronics	http://www.ohno.riec.tohoku.ac.jp	Prof. Hideo Ohno (大野 英男) Laboratory for Nanoelectronics and Spintronics, Research Institute of Electrical Communication, Tohoku University	Tel: +81-22-217-5553; Fax: +81-22-217-5555 or 5553 (direct) E-mail: ohno@riec.tohoku.ac.jp	鄭慧娟副研 究員 02 2737 7472
4	日本	獨立行政法人 物質・材料研究機構 National Institute for Materials Science (NIMS), Japan.	Nano-Materials Field, Nanostructured Semiconducting Materials Group, Inorganic Nanostructures Unit, MANA	太陽能電池領域	http://www.nims.go.jp/eng/index.html	深田 直樹 (FUKATA Naoki), Group Leader	Tel: +81-29-860-4769 Email: FUKATA.Naoki@nims.go.jp	鄭慧娟副研 究員 02 2737 7472
5	韓國	高麗大學 Korea University	民族文化研究院	理論東亞	http://www.korea.edu/	(獲桂溶徹院長同意)	Tel: +02-3290-1610 Email: choe0419@korea.ac.kr	鄭慧娟副研 究員 02 2737 7472
6	澳大利亞	昆士蘭大學 University of Queensland	Australian Institute for Bioengineering and Nanotechnology (AIBN)	1. 生醫科學與工程 Biomedical Science and Engineering 2. 材料科技 Materials Technology	http://www.aibn.uq.edu.au/about-aibn	Donna Hamman, Deputy Director (Operations)	D.Hannan@uq.edu.au Telephone: +61 7 33463800 Facsimile: +61 7 33463973	江佩穎博士 02 2737 7150

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2013年 國科會"補助任務導向型團隊赴國外研習" (龍門計畫)
外國研習機構一覽表

歐洲

項次	國別	研習機構	研習單位	研習領域	研習單位介紹	國外研習機構 指導或聯絡人姓名/職稱	聯絡資訊	國台處窗口
7	比利時	跨校際微電子研究中心 Interuniversity MicroElectronics Center (IMEC)	(同前)	1. Bio-micro-electromechanical System or Bio-electronics, 2. Nanoelectronics, 3. Design & Production Technology for System-on-Chip, 4. Smart Systems, 5. Wireless Autonomous Transducers, 6. Bio-electronics, 7. Heterogeneous Integration, etc.	www2.imec.be/be_en/home.html	Prof. Jo De Boeck Senior Vice President Smart System and Energy Technology Jo.DeBoeck@imec-nl-nl	Tel: +32 16 28 12 11 Fax: +32 16 22 94 00	陳禹銘博士 02 2737 7959
8	德國	德國Helmholtz國家研究院	Juelich研究中心	1. 材料科學 Materials Science, 2. 能源科技 Energy Technology, 3. section Ethics in the Neurosciences	http://www.fz-juelich.de/portal/index.php?index=1096	Guenter Lincks, Head of International Relations	Tel: +49 02461 61-6232 Email: g.lincks@fz-juelich.de	鄭旭鋒秘書 02 2737 7515
9	德國	德國Helmholtz國家研究院	德國癌症研究中心 (DKFZ)	1. 生醫科學與工程Biomedical Science and Engineering, 2. 分子及細胞生物 Molecular and Cellular Biology, 3. 癌症醫學 Oncology	www.dkfz.de	Jana Grinewald, PhD Coordinator, International Affairs	Tel: +49 062 21. 42-2651 Email: j.gruenevald@dkfz-heidelberg.de	鄭旭鋒秘書 02 2737 7515
10	德國	達姆施塔特高等資訊安全研究中心 (CASED)	(同前)	1. 理論及計算科學 Theoretical Science and Computational Science, 2. 電子電信科技 Electronics and Telecommunication Technology, 3. 資訊安全	http://www.cased.de/en.html	Dr.-Ing. Michael Kreuzer Managing Director CASED Center for Advanced Security Research	Tel: +49 (0) 6151 16-6165 Fax: +49 (0) 61 51 16-4825 E-Mail: kreutzer@cased.de URL: www.cased.de	鄭旭鋒秘書 02 2737 7515
11	德國	德國Helmholtz國家研究院	德國分子醫學中心 Max Delbrück Center for Molecular Medicine (MDC)		http://mdc-berlin.de/en/	Prof. Walter Rosenthal	(Ms) Dr. Oksana Seumenicht Tel: +49 30 9406 3734 oksana.seumenicht@mdc-berlin.de	鄭旭鋒秘書 02 2737 7515
12	英國	愛丁堡大學 University of Edinburgh	1. 能源系統研究所 Institute for Energy Systems; 2. 極端條件科學研究中心, Center for Science at Extreme Condition	1. 海洋能源 Marine Energy, 2. 材料科技 Materials Science	1. http://www.see.ed.ac.uk/research/IES/ ; 2. http://www.csec.ed.ac.uk/	1. Prof. A Robin Wallace, 2. Professor J. Paul Attfield	1. Robin.Wallace@ed.ac.uk Tel: +44 (0)131 650 5587 2. j.p.attfield@ed.ac.uk Tel: +44 (0)131 631 7229	陶正統副研 究員 02 2737 7431

2013年國科會"補助任務導向型團隊赴國外研習"(龍門計畫)

外國研習機構一覽表

13	英國	劍橋大學 University of Cambridge	1. Department of Experimental Psychology, 2. Institute of Behavioral and Clinical Neuroscience, 3. Centre for Neuroscience in Education 4. Department of Psychiatry	1. 認知科學跨領域研究--心智、大腦與教育 Cognitive Science, Mind, Brain, and Education	1. http://www.psychol.cam.ac.uk/ , 3. http://www.educ.cam.ac.uk/centres/neuroscience/	1./2. Professor Trevor W. Robbins, FRS, 3. Professor Usha Goswami 4. Prof. Edward Bullmore	 1./2. E-mail: t.robbs@psychol.cam.ac.uk , 3. E-mail: ucg10@cam.ac.uk Tel: +44 (0)122 376 7635, 4. E-mail: etb23@cam.ac.uk Tel: +44(0)1223 336583	陶正統副研 究員 02 2737 7431
14	英國	Imperial College London	生醫工程研究所 (Institute of Biomedical Engineering)	生醫工程 Biomedical Engineering	http://www3.imperial.ac.uk/biom-edeng	Professor Christofer Toumazou	E-mail: c.toumazou@imperial.ac.uk Tel: +44 (0)207 594 6255	陶正統副研 究員 02 2737 7431
15	法國	國家衛生及醫學 研究院 INSERM	Unité de Neuroimagerie Cognitive CEA/SAC//DRM/Neurospin Center	認知科學跨領域研究--心智、大腦與教育 Cognitive Science, Mind, Brain, and Education	INSERM-CEA Cognitive Neuroimaging Research Unit - INSERM 562是Neurospin研究中心,四個研究組之一,神經顯像Neuroimaging研習領域為該中心專長	Dr. Denis Lebihan Director	Tel: +33 01 69 08 82 05 Fax: +33 01 69 08 79 80 E-mail: denislb@aol.com	陶正統副研 究員 02 2737 7431
16	法國	法國國家科學研 究中心	分子及細胞生物與基因 研究所 Institut de Génétique et de Biologie Moléculaire et Cellulaire (IGMBC) CNRS 7104/INSERM67404/ University of Strasbourg	細胞生物與發育 癌症生物學 神經生物與基因 功能基因組學 結構生物	法國國家科學研究中心所屬分子及細胞生物與基因研究所1994成立,研究所2001年成為CNRS/Inserm及史特拉斯堡大學聯合實驗室。IGMBC是歐洲最早成立專事研究生物醫學的研究單位。主要研究高等真核生物基因組及基因表達的控制與分析的功能基因與蛋白質。這些知識應用於人類疾病如癌症、單基因疾病、代謝性疾病等。該中心具有最新穎的老鼠醫院實驗室,以基因方法從老鼠身上作出病變研究。	Dr. Brigitte KIEFFER/Director	Tel: +33 03 88 65 32 16 E-mail: directeur.igbmc@igbmc.fr	陶正統副研 究員 02 2737 7431
17	法國	巴斯德研究院 Institut Pasteur	(同前)	Infectious diseases	世界知名研究機構	Mr Marc Jouan Director of International Network	Tel: +33 01 45 68 81 48 Fax: +33 01 45 68 89 52	陶正統副研 究員 02 2737 7431

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18	法國	European Synchrotron Radiation Facility (ESRF)	歐洲同步輻射中心	光速線 奈米科技 生物科技	http://www.esrf.eu/	Prof. Francesco SETTE, Director General	E-mail: sette@esrf.fr	陶正統副研 究員 02 2737 7431
19	俄羅斯	Kurchatov Institute	1. Nuclear Lab. 2. Synchrotron	1. liquid salt fluorides 2. X-ray	http://www.kiae.ru/index4.html http://www.kiae.ru/index4.html	Dr. Evgeniy Ugrinovich (Deputy Director, International S&T Cooperation) Dr. Sergey Virgiliev	Tel: +7-499-196-7696 E-mail: polis@kiaer.ru	鄭旭鋒秘書 02 2737 7515
20	丹麥	Aarhus University	Religion, Cognition and Culture Research Unit (RCC), Dept. of Culture and Society	Religion and Cognition	http://www.au.dk/	Prof. Armin W. Geertz	Tel: 871-62473 Email: awg@tso.au.uk	傅顯達研究 員 02 27377810
21	瑞士	Ecole Polytechnique Fédérale de Lausanne (EPFL)	Photovoltaic Laboratory (PV Lab), Institute of Micro Technique (IMT)	太陽能電池領域	http://www.epfl.ch/index.en.html	Pofessor Michel Graetzel	Michael Graetzel <michael.graetzel@epfl.ch>	鄭旭鋒秘書 02 2737 7515
22	奧地利	維也納大學 Universität Wien	Institute for Ethics and Law in Medicine; Institute for Systematic Theology and religious Studies	科技發展的倫理與法律意涵	http://etfst.univie.ac.at/home/ ; www.ierm.at	Ulrich Körtner 教授	T +43(1) 4277-22201 F +43 (1) 4277-9222 ulrich.koertner@univie.ac.at	鄭旭鋒秘書 02 2737 7515

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項次	國別	研習機構	研習單位	研習領域	研習單位介紹	國外研習機構 指導或聯絡人姓名/職稱	聯絡資訊	國合處窗口
23	加拿大	The University of British Columbia	Michael Smith Laboratories; Clean Energy Research Centre (CERC)	1. 生物科技Biotechnology; 2. 能源科技Energy Technology	http://www.msl.ubc.ca/ (Michael Smith Laboratories) http://www.cerc.ubc.ca/ (Clean Energy Research Centre)	Dr. Jim Kronstad, Director, MSL ; Dr. David Wilkinson, Director, CERC	Tel: +1 604 822-4732 E-mail: kronstad@msl.ubc.ca Tel: +1 604 827-4342 E-mail: dwilkinson@chbe.ubc.ca	胡秀娟研究 員 02 2737 7560
24-1	加拿大	University of Toronto	Terrence Donnelly Centre for Cellular and Biomolecular Research Center	生醫科學與工程Biomedical Science and Engineering	<a href="http://tdcbr.med.utoronto.ca/res
earch/platforms.html">http://tdcbr.med.utoronto.ca/res earch/platforms.html <a href="http://tdcbr.med.utoronto.ca/fac
ulty/directors_welcome.html">http://tdcbr.med.utoronto.ca/fac ulty/directors_welcome.html	Dr. Brenda J. Andrews, Director	Tel: 416-978-8562 Fax: 416-978-8287 E-mail: brenda.andrews@utoronto.ca	胡秀娟研究 員 02 2737 7560



2013年 國科會"補助任務導向型團隊赴國外研習" (龍門計畫)
外國研習機構一覽表

24-2	加拿大	University Health Network, Toronto	Advanced Medical Discovery Institute & The Campbell Family for Breast Cancer Research Institute, Princess Margaret Hospital	癌細胞代謝重新編程研究 (Metabolic reprogramming research in cancer cells)	http://www.theprincessmargaret.ca/en/FindaPerson/Pages/ScientistsProfile.aspx?personid=254	Prof. Tak Wah Mak, Director	Tel: 416 946-4501 E-mail: tmak@uhmres.utoronto.ca	胡秀娟研究員 02 2737 7560
25	加拿大	Canadian Light Source	The Materials Research Science and Engineering Center (MRSEC) at the Johns Hopkins University (JHU)	Synchrotron Radiation-related Sciences	http://www.lightsource.ca/	Prof. T. K. Sham	E-mail: tsham@uwo.ca	胡秀娟研究員 02 2737
26	美國	Johns Hopkins University	The Materials Research Science and Engineering Center (MRSEC) at the Johns Hopkins University (JHU)	Magneto-electronic effects and devices	http://mrsec.jhu.edu/	Prof. Chia-Ling Chien 錢嘉陵教授	Tel: 410-516-8092 Fax: 410-516-7239	胡秀娟研究員 02 2737 7560
27	美國	哥倫比亞大學 Columbia University		1. Earth Sciences. 2. Energy Frontier Research Center. 3. Integrated Circuit Design for Nanoscale Technologies. 4. Multimedia Computing and Information. 5. Nanoscience and Nanotechnology		哥倫比亞大學電機系主任張世富教授 Dr. Shih-Fu Chang	Tel: +1 212-854-6894 Fax: +1 212-932-9421 E-mail: sfchang@ee.columbia.edu	胡秀娟研究員 02 2737 7560
28	美國	MIT	1. Computer Science and Artificial Intelligence Laboratory, 2. the David H. Koch Institute for Integrative Cancer Research, 3. Picower Institute for Learning and Memory, 4. Dept. of Materials Science and Engineering, 5. Dept. of Nuclear Science and Engineering, 6. Department: Foreign Languages and Literature	1. Chinese Language Learning Software and Multimedia, 2. Cancer Research, 3. Brain and Cognitive Sciences, 4. Materials Science and Engineering, 5. Nuclear Science and Engineering, 6. Intercultural Exchange in Greater China	1. http://www.sls.csail.mit.edu , 2. http://bes.mit.edu/people/tsai.htm 3. http://web.mit.edu/picower/faculty/tsai.html , 4. http://dmse.mit.edu/faculty/faculty/elt/ , 5. http://web.mit.edu/hse/people/faculty/chen.html , 6. http://web.mit.edu/fl/www/people/emmaTeng.shtml	1. Prof. Victor Zue, 2. Robert G. Urban, Ph.D, 3. 蔡立慧院士 Prof. Li-Huei Tsai, 4. Prof. Edwin L. (Ned) Thomas, 5. 陳守信教授 Prof. Sow-Hsin Chen, 6. Emma Teng Chung	1. E-mail: zue@csail.mit.edu, 2. Tel: +1 617-324-3533 E-mail: rurban@mit.edu, 4. E-mail: elt@mit.edu 617-253-6901, 5. Email: sowhsin@mit.edu Phone: +1 (617) 253-3810 Fax: +1 (617) 258-8863; 6. Email: eteng@mit.edu	胡秀娟研究員 02 2737 7560

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2013年 國科會"補助任務導向型團隊赴國外研習" (龍門計畫)

外國研習機構一覽表

29	美國	Stanford University	1. Structures and Composites Laboratory; 2. SLAC National Accelerator Laboratory	I. 1. Structural Health Monitoring; 2. Design of Integrated Structures; 3. Smart Structures; 4. Design & Damage Tolerance of Composites Structures; 5. Multi-Functional Materials; II. 1. Accelerator physics; 2. Astrophysics and Cosmology; 3. Elementary Parti	1. 張福國教授 Fu-Kuo Chang, 2. 趙午院士 Alexander Chao	1. Tel: +1 650 723-3466 E-mail: fkehang@stanford.edu, 2. Tel: +1 650 926-2985 E-mail: achao@slac.stanford.edu	胡秀娟研究員 02 2737 7560
30	美國	Argonne National Laboratory		1. Materials and Molecular Design and Discovery 2. Hard X-Ray Sciences 3. Structural Biology	Mr. Norman D. Peterson, Assistant to the Director	Tel: +1 630 252 7229 Fax: +1 630 252 7923 npeterson@anl.gov	胡秀娟研究員 02 2737 7560
31-1	美國	University of California-Los Angeles(UCLA)	3. Optoelectronic Biofluidics Laboratory; 4. Electrical Engineering Department	1. Nanoelectronics and nano-spintronics beyond CMOS; 2. 材料科技; 3. biophotonics, nanophotonics, and lab-on-a-chip systems; 4. Nonlinear Optics, Ultrafast Optics, Semiconductor Lasers, Photonic Devices, Nonlinear Laser Dynamics, Chaotic Communications, Optical Imaging, High speed electronics	1. Prof. Kang L. Wang; 2. Prof. King-Ning Tu; Prof. Yang Yang; Prof. J.-M. Yang, etc.; 3. Prof. Eric Pei-Yu Chou (邱培钰); 4. Prof. Jia-Ming Liu (劉桂明); Prof. Frank M C Chang (張懋中)	1. Tel: 310-825-1609 Fax: 310-206-7154 E-mail: wang@ee.ucla.edu www.fena.org; www.win-nano.org; www.drl.ee.ucla.edu; 3. Tel +1 310-825-8620 pychiou@seas.ucla.edu; 4. (劉桂明) Tel +1 310 206-2097 liu@ee.ucla.edu; (張懋中) Tel+1 310 794 1633 mfchang@ee.ucla.edu	胡秀娟研究員 02 2737 7560
31-2	美國	University of California-Berkeley	the Center for Energy Efficient Electronics Science (E3S)	Nanoelectronics, Nanomechanics, Nanophotonics, and Nanomagnetism	1. M. Josephine Yuen, Ph.D., Executive Director of Center for Energy Efficient Electronics Science 2. Prof. Ming C. Wu (吳明強教授), http://www.eecs.berkeley.edu/Faculty/Homepages/wu.html		胡秀娟研究員 02 2737 7560



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37	美國	The University of Texas Austin	Department of Electrical and Computer Engineering	1. Bio-sensor for cancer detection and Environmental sensors 2. Energy harvest through energy collection, or 3. Electronics and Telecommunication Technology	http://muri.engr.utexas.edu/ ; http://www.mrc.utexas.edu/index.php/people/main/106	Prof. Ray Chen (陳瑞會), Cullen Trust Endowed Professor & Director of MURI center for Silicene Nanomembranes	Tel: +1 512 471-7035 Fax: +1 512 471-8575 Email: chen@ece.utexas.edu	胡秀娟研究員 02 2737 7560
38	美國	Lawrence Berkeley National Laboratory	Advanced Light Source	Synchrotron Radiation-related Sciences	http://www.lbl.gov/	Dr. Haimei Zheng		胡秀娟研究員 02 2737 7560
39	美國	Harvard University	東亞語言與文明系	東亞文化	http://harvarddealc.org/home.php	王德威教授(David Der-wei Wang)	dwang@fas.harvard.edu (617) 496-0925	胡秀娟研究員 02 2737 7560
40	美國	National Institutes of Health (NIH)	The Intramural Research Program (IRP), National Institute on Drug Abuse (NIDA), NIH	Optogenetics in the Understanding of Brain Functions	http://www.irp.drugabuse.gov	(1) Dr. Antonello Bonci, Professor and Institute Scientific Director; and (2) Dr. Brandon Harvey, Director, Optogenetics and Transgenetics Core Facility.	Dr. Bonci: Tel: 443-740-2463; Dr. Harvey: 443-740-2590	胡秀娟研究員 02 2737 7560
41	美國	Baylor College of Medicine	Department of Pathology & Immunology & Department of Molecular & Cellular Biology,	RNA molecular switches and RNA mutations in cancer	http://www.bcm.edu/pathimmunology/en/index.cfm?PMID=14409	Assistant Professor Laising Yen (嚴來興) http://www.bcm.edu/pathimmunology/en/?pmid=21095	Tel: +1 713-798-1180; e-mail: yen@bcm.edu	胡秀娟研究員 02 2737 7560

備註：

1. 紅字列出者，表示為2013年新增加或新洽邀之機構或實驗室



國科會 補助任務導向型團隊赴國外研習作業要點
關鍵性科技與人文社會領域

序號	102年度領域別
1	地球科技 Earth Science & Technology
2	理論及先進量子相關科學 Theoretical and Advanced Quantum-related Science
3	同步輻射相關研究 Synchrotron Radiation-related Sciences
4	生醫科學與工程 Biomedical Science and Engineering
5	分子及細胞生物 Molecular and Cellular Biology
6	生物多樣性與生態 Biodiversity and Ecology
7	材料科技 Materials Science & Technology
8	能源科技 Energy Technology [內含有機太陽能電池 Organic Photovoltaics included]
9	電子電信科技 Electronics and Telecommunication Technology
10	高齡社會與健康照護 Ageing Society and Health Care
11	認知科學跨領域研究--心智、大腦與教育 Cognitive Science, Mind, Brain, and Education.
12	科學教育與數位學習 Science education and digital learning
13	科學傳播暨科普媒體製作 Science Communication, Science Media Production
14	東亞研究 East Asia Studies
15	科技發展的倫理、法律與宗教意涵 Ethical, Legal, Religious & Social Issues

Targeted Research Areas for 2013 Internship at Caltech

Caltech faculty members generally welcome opportunities for international collaborations based on mutual research interest. For 2011, there are four targeted research areas for collaboration, which are specified below:



[1] Astronomy/Astrophysics/Space Studies

Astronomy, astrophysics and space studies at Caltech encompass a wide range of topics. Examples of studies range from theoretical modeling and observational verifications of cosmology to studying the Kuiper Belt in our solar system, instrumentation developments include energy sensitive single-photon counting detectors to large optical and submillimeter telescopes, and major involvement in space missions for astrophysics and planetary exploration. Facilities that Caltech researchers have access to include the Palomar Observatory (Hale 5m telescope, 1.5m Mayer telescope, 1.2m Oschin Schmidt telescope), the 10m telescopes of the W. M. Keck Observatory, the CARMA millimeter interferometer array, the 10m Caltech Submillimeter Observatory, and the telescopes of the Owens Valley Radio Observatory. Caltech researchers are involved in CMB experiments using facilities at the South Pole and on balloons. Space Astrophysics missions with major Caltech involvement include the GALEX UV imaging satellite, the Spitzer Space Telescope, the WISE all-sky survey explorer, the Herschel Space Observatory, the Planck Satellite and the Advanced Composition Explorer (ACE).

The LIGO Laboratory on the Caltech campus operates the LIGO (Laser Interferometer Gravity Wave Observatory) facility. Future projects that are actively being developed at Caltech include the NUSTAR X-ray observatory and the CCAT submillimeter telescope.

Faculty contact: Professor B. Thomas Soifer (also Chairman of the Division of Physics, Mathematics and Astronomy at Caltech), bts@iraastro.caltech.edu.

Related website: <http://www.astro.caltech.edu/>.

[2] “Beyond Si-CMOS” nano-electronic research

Current challenges in developing the technology that can go beyond the scaling limit of Si-CMOS (Complementary Metal Oxide Semiconductors) involve finding effective means of increasing the areal density of electronic devices on a chip while maintaining or even improving the performance. New materials and device concepts are necessary to facilitate such advances. Among various intensely explored paradigms, nano-electronic devices based on graphene and graphene-related materials, spintronics (spin-dependent electronics) and topological insulators have demonstrated both rich phenomena for scientific research and promising properties for beyond Si-CMOS applications. The condensed matter physics lab led by Professor Nai-Chang Yeh at Caltech has active research programs in the investigation of fundamental scientific issues associated with graphene, graphene-based electronics, spintronics and topological insulators.

Additionally, the lab has forged close collaborations with other research groups (at Caltech, UCLA and UC Riverside) specializing in theoretical simulations, materials development and fabrication of nano-electronic devices. The affiliation of Professor Yeh with the Kavli Nanoscience Institute at Caltech further also makes available state-of-the-art fabrication facilities for beyond Si-CMOS nano-electronic research.

Faculty contact: Professor Nai-Chang Yeh, ncyeh@caltech.edu.

Related websites: <http://www.its.caltech.edu/~yehgroup/> and <http://kni.caltech.edu/>.

[3] Biophysics & Nano-biotechnology

Microelectronics and nanoscience are ushering in a new generation of tools for modern biological research. These new approaches are beginning to provide unprecedented resolution of processes that open up new perspectives for understanding biological complexity. At the heart of these exciting recent advances are technologies that enable research at the level of single molecules and individual cells, but with sufficiently high throughput to survey complex interactions that occur only in higher hierarchies in biological organisms and populations. This research is highly interdisciplinary in nature and is closely linked to Caltech's nanoscience and nanotechnology efforts. Active areas of research at Caltech in nano-biotechnology include: systems biology, systems neuroscience, single-molecule biophysics, and nano-biotechnology for research and clinical applications.

For example, the Caltech Micromachining Laboratory led by Professor Tai exercises various MEMS and micro/nano technologies to physically fabricate integrated devices, and the research emphases include high-level system integration and hands-on fabrication of biochips, microfluidic chips, neural implants and biomedical devices. Similarly, the research lab led by Professor Roukes develops advanced nano-devices systematically for biomedical and life science applications.

Faculty Contacts: Professor Yu-Chong Tai, tai@mems.caltech.edu;

Professor Michael Roukes (also Co-Director, Kavli Nanoscience Institute), roukes@caltech.edu.

Related websites: <http://mems.caltech.edu/>; <http://www.its.caltech.edu/~nano/>, and <http://kni.caltech.edu/>

[4] Energy Research

While much progress has been made in developing renewable energy technologies, one major goal remains elusive: bringing these efforts to the terawatt scale necessary for sustainable energy to become a viable replacement for carbon-based energy sources such as oil, coal and gas, which are limited in supply, and contribute to carbon dioxide emissions. The ability to meet the global growing demand for energy while protecting the planet's resources will require profound creativity, cutting-edge science, and new technologies that arise from a number of different fields. At Caltech, a crucible for new ideas, leaders in the fields of chemistry, applied physics, materials science, bioengineering, aeronautics, mechanical engineering and genetics are working together on innovative approaches to capturing, amplifying, storing and converting the planet's renewable energy supplies.

The Resnick Institute at Caltech strives to identify and address the most important outstanding challenges and issues in the generation, storage, transmission, conversion and conservation of energy. The Resnick Institute provides a unique opportunity to leverage core competences in the areas of electrochemistry, biochemistry and materials, as developments in these areas converge to enable groundbreaking energy technologies. There are also opportunities for collaboration with newly-established research centers at Caltech, including energy-related micro- and nano-photonics research in the Light Material Interactions Energy Frontier Research Center, and research on semiconductor materials, heterogeneous catalysis, and photoelectrochemistry in the Joint Center for Artificial Photosynthesis.

Faculty contact: Professor Harry Atwater (also Director of the Resnick Institute)


haa@caltech.edu.

Related websites: <http://resnick.caltech.edu/> ; <http://www.lmi.caltech.edu/> ;
<http://solarfuelshub.org/> and <http://daedalus.caltech.edu/>.

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Argonne National Laboratory
2013 for Dragon Gate Program

☑ ☑  Materials and Molecular Design and Discovery: 1. Design, synthesis and control of material for energy: storage, low-power electronics, alkane oxidation, electrocatalysis; 2. In situ synthesis and characterization of bulk, film and interfacial architectures; 3. materials prediction through genetic algorithms and multiscale modeling of nucleation and growth; 4. spectro-microscopy; 5. Crystal growth and crystal growth technology; 6. Nano-photonics research

☑ Hard X-Ray Sciences: High energy x-rays have high impact in materials, biology, energy, engineering, and technology through advancing hard x-ray science using in situ techniques to explore real materials under real conditions in real time.

☑ Structural biology: Structural biology contributes to the exploration of new opportunities in biology, proteomics and genomics research with a major focus on medicine, bio-nanomachines, and biocatalysis.

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研習項目介紹

The Lamont-Doherty Earth Observatory is a world-renowned center for research into a wide range of topics in ocean, atmosphere and earth sciences. As part of the Columbia Earth Institute our basic research activities have become integrated into broader disciplinary efforts towards their application to societal applications such as natural hazard and risk assessment, poverty reduction, the mitigation of global warming, and the coupling of climate change to disease propagation. Several groups at Lamont-Doherty have deep expertise in areas with particular relevance to Taiwan, including: earthquake seismology; tropical meteorology and typhoons; landslides, debris flows and floods; chemical, biological and physical oceanography.

The Columbia Energy Frontier Research Center was established through a grant from the Department of Energy in September of 2009 under the leadership of Prof. Tony Heinz (EE and Physics) and Prof. Louis Brus (Chemistry). The Columbia EFR is creating enabling technology to redefine photovoltaic efficiency through fundamental understanding and molecule-scale control of the key steps in the photovoltaic process in organic and hybrid materials. The EFR is systematically developing the fundamental understanding of the primary photovoltaic processes in organic and hybrid materials and it is quantitatively investigating new nanostructured materials with potential for extracting multiple electrical charges from a single absorption event. In order to understand "Charge Generation: Excitation, Separation and Extraction of Charge Carriers in Tailored Nanostructures"

Prof. Colin Nuckolls and Prof. Louis Brus are developing a set of new, chemically well-characterized nanoscale materials. These include new quantum dots and a set of novel chemical compounds: "molecular clusters." Together with Prof. Tony Heinz they are exploring the dynamics and effectiveness of fundamental processes, using modern nanoscience tools. Prof. Latha Venkataraman and Prof. Richard Osgood are exploring the effectiveness of charge transport across interfaces through direct transport measurement, as well as through photoemission studies.

In collaboration with Brookhaven National Labs, Prof. Ioannis Kymissis and others are building new materials suitable for studying the fundamental physics in heterojunction solar cell devices including new chemically tailored semiconductor materials and ordered interfaces. In particular Prof. Philip Kim is actively exploring the use of graphene and other carbon-based conductors in solar applications. Prof. Tony Heinz and Prof. Louis Brus are exploring experimentally new concepts in carrier multiplication in quantum dot and one-dimensional systems, while Prof. David Reichman is seeking to establish quantitative and predictive theory for novel carrier multiplication concepts.


The Columbia Integrated Systems Laboratory conducts research in the development of novel designs and architectures for integrated circuits and systems. To realize the unprecedented integration and performance opportunities of highly scaled nanometer CMOS technologies, important challenges like reduced supply voltage and higher device variability need to be mitigated using an interdisciplinary approach reaching from devices and circuits, to architectures, signal processing and applications. Researchers in the Kinget group conceive, design, lay out, send for fabrication, and experimentally verify innovative concepts to integrate analog, RF and mixed signal interfaces in standard CMOS technologies. These interfaces are the crucial link between the digital cores of system-on-chip devices and the physical world.

研習領域

(1) Earth Sciences

(2) Energy Frontier Research Center

(3) Integrated Circuit Design for Nanoscale

<p>Technologies</p> 	<p>Active areas of research are ultra-low voltage and ultra-low power RF interfaces and A/D converters; energy harvesting, conditioning and storage for "Energy Harvesting Active Networked Tags"; capacitor based energy storage for renewable energy sources such as photovoltaic or wind energy; multi-antenna RF systems; and pulsed RF communications for ultra-low power wireless links in biomedical applications. The group currently has strong ties to several academic research groups, companies and foundries in Taiwan.</p>
<p>(4) Multimedia Computing and Information</p>	<p>The multimedia research groups at Columbia University are leading the frontiers of research of next-generation search engines for multimedia (including video, music, and speech), media content understanding, security, forensics, and communication. The Digital Video and Multimedia Lab led by Chang conducts research on image retrieval, object recognition, video event analysis, and media forensics, targeting at applications of broad impact such as Internet, surveillance, biomedicine, and consumer. Many large-scale research testbeds and corpora have been developed and disseminated worldwide. The group also plays a major role in developing international multimedia standards such as MPEG-7. The Laboratory for the Recognition and Organization of Speech and Audio (LabROSA) led by Ellis conducts research into automatic means of extracting information from various types of sound, including speech, music, and environmental sound. The groups have led major research forums and maintain close collaboration with a large number of industrial and academic institutions, including many from Taiwan. They have also established close ties with partners from other disciplines, such as Journalism, Music, Medicine, and Education.</p>
<p>(5) Nanoscience and Nanotechnology</p>	<p>The Columbia Nanoscale Science and Engineering Center (NSEC) has been developing primary understanding of charge transport in nanoscale systems since 2001. This Center has demonstrated an extremely effective program of interdisciplinary research across the fields of chemistry, physics, electrical engineering, mechanical engineering, and applied physics and beyond. The research program is built upon exploration of transport phenomena in single molecules, in carbon nanotubes and in two dimensional systems. Through the scientific contributions of Profs. Philip Kim, Louis Brus, George Flynn, Tony Heinz, Jim Hone, Richard Osgood, Aron Pinczuk, Ken Shepard, Horst Stormer and others, it has established a leadership position internationally in the development and characterization of the fundamental properties of an exciting new material: graphene. This research includes exploration of quantum interference phenomena in graphene-based devices.</p> <p>Through collaborations amongst Prof. Tony Heinz, Prof. Louis Brus, Prof. Philip Kim, and Prof. James Hone the Columbia NSEC has developed new spectroscopic techniques for characterizing carbon nanotubes and graphene and for understanding the electronic structure and dynamics for these systems. The center is currently extensively exploring the properties and opportunities for graphene including high frequency electronics, mechanics, and biological sensors. The Columbia Nanocenter through Prof. Colin Nuckolls, Prof. Latha Venkataraman, Prof. Philip Kim, Prof. Ronald Breslow and others has pioneered understanding of electron conductance phenomena in single molecules – work which is changing our understanding of the role of molecules in transport and which is opening new opportunities for single molecule biological sensing and detection.</p>



NIH NIDA/IRP Dragon Gate Targetd Program for 2013

Optogenetics is a recently developed world-reknown powerful tool for examining brain circuits and pathways for cognition, emotion, motivation, value appreciation/depreciation, and disease-related alterations in the brain and behaviors. Under the leadership of Professor Antonello Bonci, the NIDA/IRP of the NIH is one of the world leaders and pioneers in this exciting area of research.

NIDA Optogenetics and Transgenic Technology Core (OTTC) Facility

Transgenic Technology: The first part of training program will be focused on the “genetic” component of optogenetics. The visiting scientist/student would learn: 1) background molecular biology for optogenetic experimentation and understand the basic principles by which it is used; 2) safety and handling of viral vectors; 3) virological methods used to package, purify, characterize and quality control optogenetic viral vectors; 4) in vitro and in vivo methods of delivering viral vectors for expressing optogenetic proteins.

Optogenetic Experimentation in Animal Models: The second part of the training program will be directed towards using optogenetic techniques in rodent models aimed at the following: 1) manipulating neuronal activity with optics to affect behavior, 2) using optogenetics to activate or inhibit neuronal activity for brain slice electrophysiological measurements, 3) performing in vivo recordings of neuronal activity while manipulating neuronal circuits using optogenetics.

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