台灣聯合大學系統
2015 暑期訪問研究實習計畫

103 學年度台灣聯合大學系統暑期訪問研究實習計畫的申請學校總表

No	學校名稱	訪問時間	合約名額	申請生科系限制	入學申請條件	備 註
I	**美國** **UC San Diego**	8 周	6	生命科學、理學、社會學、工程和醫學相關	TOEFL 61	註 2.中的接待系所資料，為 2014 年的資訊。最新資料尚等待接待學校系所的回覆，更新後的資訊將公告於四校國際事務處及台灣聯大首頁之交換學生資訊: http://www.ust.edu.tw/Exchange_Student.aspx
II	**香港中文大學** (理學院)	8 周	6	理學院相關科系	GPA 3	
III	**香港科技大學** (理學院)	8 周	6	理學院相關科系	GPA 3	
IV	**香港城市大學** (能源和環境學院)	8 周	4	能源和環境相關科系	TOEFL 79 或 IELTS 6.5	
V	**香港城市大學** (科學和工程學院)	8 周	4	科學和工程相關科系		

- 參加對象：大學部二年級以上(限大學部學生)
- 交換時間：103 學年度暑期，交換期間約 6-8 周
- 收件日期：即日起至 104 年 3 月 6 日止
- 申請條件：前一學年(前兩學期)平均成績達 GPA3.0 或是 B；TOFEL 成績或是 IELTS 成績，請參考每校入學申請條件(請參考上表)
- 申請方法：有興趣申請的同學，請依註 2.中的教授實驗室相關資料或是參考各接待學校或是學院系所的網頁，挑選出和自己專業相關的老師，於申請表中依意願先填選一所接待學校系所，再填列 3 個志願。請準備好相關申請資料在期限內向各校承辦人員提出申請。
- 補助辦法：台灣聯大鼓勵學生出國實習，擬給予獎學金以鼓勵學生參與本計畫。暑期實習交換生前往香港地區者，發給 10,000 元獎學金為原則；前往給美國地區者，發給 20,000 元獎學金為原則。獎學金實際金額以當年度預算而定。

- 審查流程：

校內收件初審: 依各校的審查辦法和報名方式辦理

⇩

台灣聯合大學系統審查：由各校審查結果，選出推薦學生名單，再經由台灣聯合大學系統審查，選出優秀同學，台灣聯合大學系統將推薦名單送至各夥伴學校，夥伴大學保有最後入取決定權。

- 報名方式：向各校承辦人[註 1)]辦理報名，經由各校進行校內審查通過後，將推薦學生名單連同報名相關資料以正式信件寄送至台灣聯合大學系統
- 報名相關資料:
  1. 申請表(如附件)
  2. 學習計畫書(如附件)
  3. 身分證正、反面影本和學生證正、反面影本(黏貼在指定頁面)
  4. 護照影本(有照片的那一頁，黏貼在指定頁面)
  5. 履歷表 C.V.
  6. 教授推薦函乙封
  7. 英文版歷年成績單(內含註冊組蓋章之學業成績累計系排名)
  8. 托福成績 TOFEL 或是雅思 IELTS 成績(香港中文大學和香港科技大學不需要)
  9. 其他有利審查的證明文件

敬請各校承辦人員將校內審核結果的學生名單和報名等相關資料，在收件截止日(**104 年 3 月 6 日**)前，先將電子檔案寄至 anling@cc.ncu.edu.tw；紙本寄至(32001)桃園縣中壢市中大路 300 號 國際事務處(台灣聯大)李安玲

註 1: 各校承辦人員:

國立中央大學: 國際事務處 顏妙怡小姐 mandyyen@ncu.edu.tw 03-4227151#57084
國立交通大學: 國際事務處 周秋儀小姐 cherrie@nctu.edu.tw 03-5712121#50059
國立清華大學: 全球事務處 03-5715131
港澳- 彭凱筠小姐 kypeng@mx.nthu.edu.tw #62464
其他- 陳宣融 小姐 hsjchen@mx.nthu.edu.tw # 62460
國立陽明大學: 國際事務處 余亭妍小姐 tyyu@ym.edu.tw 02-28267000#7393

公告人員: 台灣聯合大學系統辦公室 李安玲 anling@cc.ncu.edu.tw 03-4227151#57085

註 2.接待學校的相關科系請參考下列資料

I. UCSD information:

1. **Biological Sciences Faculty:** http://biology.ucsd.edu/bioresearch/fac-listing.html
2. **Chemistry Faculty:** https://www-chem.ucsd.edu/faculty/
3. **Engineering Faculty:** http://www.jacobsschool.ucsd.edu/faculty/faculty_bios/
4. **Math Faculty**: http://math.ucsd.edu/people/faculty/
5. **Pharmacy Faculty:** http://pharmacy.ucsd.edu/faculty/index.shtml
6. **Physics Faculty:** http://www-physics.ucsd.edu/fac_staff/fac_profile/faculty_profiles_display.php
7. **Scripps Institution of Oceanography Researchers:** https://scripps.ucsd.edu/research/centers-labs-programs-and-groups
8. **School of Medicine Research:** http://med.ucsd.edu/researchfocus.shtml
9. **Social Sciences Departments (faculty profiles can be found within individual departments):** http://socialsciences.ucsd.edu/departments/index.html

II. Faculty of Science (CUHK) 此為103年的資料，CUHK尚未提供最新資料，暫時以此資訊為主，若有進一步的訊息，將再公告(請同學隨時注意台灣聯大首頁之交換學生資訊: http://www.ust.edu.tw/Exchange_Student.aspx)

Department	Faculty Member	Research Field/ Topic
Chemistry	Prof. Tony K.M. Shing	Syntheses of Pyrrolidine Organocatalysts and their Application in IMDA Reactions
Chemistry	Prof. Xia Jiang	Chemical Biology
Physics	Prof. Li Hua Bai	Astrophysics: The link between magnetic fields, turbulence and star formation
Physics	Prof. Xu Lei	The role of air in liquid drop splashing

Please kindly visit the Faculty website: http://www.cuhk.edu.hk/chinese/faculties/science.html 和Department websites for more information:
Department of Chemistry: http://www.chem.cuhk.edu.hk/
Department of Physics: http://www.phy.cuhk.edu.hk/

III. 香港科技大學理學院(HKUST)
請在下列的系所資料中選擇您有興趣的老師實驗室，填入志願表中
Department of Chemistry: http://www-chem.ust.hk/Faculty%20staff/overall.htm
Department of Mathematics: http://www.math.ust.hk/faculty.php
Department of Physics: http://web.phys.ust.hk/index.php?option=com_akostaff&Itemid=88&func=list&catid=74&nobg=1
Division of Environment: http://envs.ust.hk/faculty_research.html
Division of Life Science: http://life-sci.ust.hk/faculty_alphabetical.html

IV. City University of Hong Kong(School of Environment and Energy)

School of Energy and Environment
List of Summer Internship Projects 2015

	Supervisor	Topic Title	Short Description	Prerequisites
1	Dr. Patrick Sit	Computational quantum mechanical study and design of energy storage systems	Computational modeling techniques have become powerful tools for the study of important scientific and technological problems due to the ever-increasing computing power and the development of efficient and accurate methodologies. In particular, first-principles density-functional simulations have been extensively used to provide realistic prediction of material properties and to unravel atomic-scale details of reaction mechanisms relevant to energy applications. This project focuses on the study of reaction in systems important for energy storage and the design of novel materials for applications like hydrogen production, carbon dioxide to fuel conversion and lithium-ion batteries.	Interested students should be perusing a degree in Physics, Chemistry, Materials Science or other related disciplines. Knowledge in quantum mechanics is required. Experience in atomistic-scale computational modeling and density functional theory is a plus.
2	Dr. Michael Leung	Photocatalytic fuel cell	The architecture of photocatalytic fuel cell (PFC) is composed of two major coupling parts: a photocatalytic reactor and a fuel cell. The theory is that in the photocatalytic reaction, the photo-induced electrons flow via the external circuit as an electricity supply due to the potential bias in the fuel cell. Thus, the fuel cell electrochemical process can boost the separation of photocatalytic electron-hole pairs. More photo-induced holes remaining at the photoanode become available to enhance the degradation of pollutants and generate more electrons. Therefore, the photocatalytic process can supply more electrons for the fuel cell electrochemical reactions at the cathode. Multiple electrochemical reactions may occur at the cathode, such as reduction of protons to generate hydrogen. The above chain reactions explain the PFC synergistic effects. The objective of this project is to obtain the characteristics of PFC waste degradation and energy production.	Experience in chemistry laboratory experiment.

3	Dr. Wey Yang Teoh	Fabrication of high efficiency metal clusters-based solar cells	The project investigates the design of novel metal clusters-sensitised solar cells. Metal clusters, consisting of tuneable 15-150 atoms (< 2 nm), are a new class of materials that are different from their nanoparticles cousin and exhibit semiconductor characteristics. It is exactly such characteristic that allows potential exploitations as effective sensitisers in a chemical solar cell. In this project, we aim to design metal clusters based on Au, Ag and Cu, and investigate their efficiencies in the harnessing of solar energy. Here, we will also investigate their compatibility with different redox mediators, including the non-corrosive cobalt complexes-based electrolyte that warrants high open circuit voltage of the cells.	This is an experimental-based project. Candidate should have strong knowledge in Chemistry, and preferably with some interest in Semiconductor Physics.
4	Dr. Wey Yang Teoh	Designing metal clusters-based composite photocatalysts for the remediation of gaseous pollutants	The project investigates the design of metal clusters-sensitised photocatalysts for the degradation of volatile organic carbons (VOCs). Prolonged indoor exposure of VOCs such as acetaldehyde and methanol, be it in buildings or aircraft cabins, pose health concerns to the occupants, including the sick building syndrome. Here, we aim to design metal (Au, Ag, Cu) clusters to sensitise wide bandgap photocatalysts such as TiO2, WO3 and BiVO4, such that they can function efficiently under indoor visible light. Manipulation of the size of the metal clusters has direct effects on the light absorption as well as its charge transport kinetics.	This is an experimental-based project. Candidate should have strong knowledge in Chemistry, and preferably with some interest in Semiconductor Physics.

V. 香港城市大學(科學和工程學院) 請參考下列連結:

http://www6.cityu.edu.hk/cse/cms/content.aspx?id=cecstuexchinboundsummer&lang=en

Department	Project Title	No. of Vacancy
Department of Architecture and Civil Engineering	Experimental Mechanics	1
	Numerical modelling of fires in enclosures	1
	Artificial Neural Network modeling for fire risk analysis	1
	Development of an intelligent agent-based model for simulation of pedestrian movement	1
	Development of an intelligent model for fire investigation	1
	Study on the pedestrian movement in metro stations	2
	Structural damage detection based on measured vibration data	1
	Ultrasound generation using Carbon Nanotube Optoacoustic Lens	1
	Theory of Thermo-Acoustics and Its Applications.	1
	Experimental Soil Mechanics	1
	X-Gen Autonomous Construction Jobsite Management System	2
	Smart Green BIM (Building Information Modeling) for Capital Projects	1
	Discovery-Enriched Education for Cyber-Savvy Students with Augmented/Virtual Reality	1
Department of Biomedical Sciences	Self-healing interfacial material	1
	Four-phase system for particle fabrication	1
	Stretchable material for dynamic anti-fouling	1
	Molecular and cellular mechanisms of zebrafish heart repeneration	1
Department of Biology and Chemistry	Aquatic models for aging study	2
	Bioinformatics for toxicology	2
	Effect of ocean acidification on marine invertebrates	1
	Relationships between personality and boldness in marine snails	1
	Assessment of emerging contaminants of concern by analytical and bioanalytical methods	1
	Theoretical examination of water activation by metal ion in nano-sized water droplets	1
	Targeted delivery of Pt-based anticancer agents by inorganic nanoparticles	1

Department	Project Title	No. of Vacancy
Department of Computer Science	Modeling eye gaze on web pages — the goal is to develop models for understanding how we look at web pages	1
	Counting people in video — the goal is to develop a real-time system to count the number of people in a video	1
	Improving manga reading on mobile devices — the goal is to collect data on how people read manga on small screens like mobile devices	1
	Real-time human pose estimation — the goal is to develop algorithms for estimating the pose of a human in a video	1
	Data-driven traffic engineering in software defined networks	1
	High performance data center networking, 1 student Greening mega data centers	1
Department of Electronic Engineering	Neural Bases of Finger Coordination	2
	Light-Induced Locomotor Response of Zebrafish During Early Development	1
	Wireless Health Monitoring (Programming skills: C, Java, Matlab, etc)	1
	Camera and Video Processing for Retinal Implant (Hardware and embedded programming: Arduino, C, Java)	1
	In Vivo Investigation of Electrical Stimulation of Retina (Neuroscience project, animal experiment is required)	1
	MEMS Analysis and Design (MAD) Project	2
Department of Physics and Materials Science	Kinetics of phase transformation in metallic glasses	1
	Surface modification of advanced materials	2
	Title 1: Magnetic quantum dots based on oxide semiconductors Title 2: Solid state random access memories employing oxide semiconductors	2
Department of Systems Engineering and Engineering Management	Study of statistical control chart for the monitoring of time-between-events	1
	Cluster-based anomaly detection in digital flight data for airline safety management	1
	Twitter App for Depression Detection	2