

一場連結心與思緒的表演－〈宇宙意識：昔日的你，今日的我〉

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我原是一位物理學家，自歐洲歸國並受過專業的科學訓練，於研究上也頗有貢獻。2011年在因緣際會之下，我開始投入科技藝術創作，以公共藝術為主，結合互動科技、動態燈光、聲音和機械等元素，並在許多知名的展演空間發表作品。爾後，創作思想的主軸漸漸從科技朝向人文方面，科技成為說故事的工具，每件作品都有自己的故事。我並嘗試將科技延伸到各個領域或不同的文化當中，而科技本身也在這個過程中不斷演進。也因此，我瞭解到與其他藝術家和專家交流的重要性，此次「數位藝術人才國外駐棧創作計畫」即符合我的科學科技背景，與未來想要朝藝術方向實踐的理想。

這次的駐棧經驗，我以較為傳統的藝術家態度來面對，意即在作品的規劃中預留較大的空間和自由度，等抵達當地並生活一段時間後，再以該地的人、事、物與文化做為啟發，融入作品之中。然而，在我的作品中，幾個要素是必須存在的：一、使用生理感應器（Biosensor）做為互動裝置媒材，如心跳或腦波感應器；二、將互動裝置結合舞蹈劇場表演，與當地舞蹈家合作；三、創作概念上著重於探討意識和世界之間的關係。

體驗駐棧創作生活

年輕求學時，我曾經在歐洲居住長達十二年之久，包括英國、德國和法國，因此對歐洲文化與生活可以說是非常熟悉。這次有機會再回到歐洲，對我而言，有著格外特別的意義。我自科學跨入藝術創作領域，事實上已是回臺後，而過去在歐洲生活的那段時間，我的「身分」其實還只是個科學家，如今跨到藝術領域且再次回到歐洲，有種奇妙感受，彷彿不斷地看到自己過去的足跡。

雖然以前從未到過比利時或是布魯塞爾，然而歐洲的民情風俗對我而言，大致上皆算熟悉，且布魯塞爾又是一個外國人眾多的地方，因此抵達當地後的第一印象並沒有帶來很大的衝擊。如果要瞭解屬於這個國家的文化，真的必須仰賴時間與認識當地的人，藉由與他們交談去瞭解文化的獨特性。

駐棧創作初期第一個月，除了安頓處理例行瑣事，我花較多時間探索當地環境與接觸當地人群及藝術家。令我感到意外的是，比利時iMAL數位文化與科技中心在這段期間，並沒有其他像我一樣的駐棧藝術家，只有身兼FabLab經理的JULIAN Maire及FELIX Luque，因此我並沒有多餘的機會和藝術家交流，反而是透過臺灣朋友們的介紹，才認識當地的藝術家或設計師。在與他們交談互動中，也才進一步瞭解當地的文化民情。

作品結合舞蹈演出

這次的創作〈宇宙意識：昔日的你，今日的我〉，想要完成的部分，在於結合互動裝置與舞台表演。然而有表演必須先具備故事劇本，其調性及概念大致上即以「愛情」為主題，來探索意識和宇宙之間

的關係。接著就是必須找到適當的編舞家或表演者，讓故事透過肢體語言傳達給觀眾。駐棧機構iMAL透過他們的網路社群發佈舞蹈家的徵選消息，報名狀況也非常踴躍，每天都有一至兩位舞蹈家來函表示有興趣合作，且大部分非比利時籍，而是來自歐洲各國的表演工作者。在這方面，可以知道布魯塞爾的藝文風氣在歐洲裡是一大重鎮，而iMAL在這個城市也具有其知名度。

在面試多位舞者之後，最後選擇來自法國的女性舞蹈家茱莉·麥格納維爾（Julie Magneville）。茱莉曾經在歐美各國與知名舞團及編舞家合作，經歷豐富；她的表演紀錄片，也顯示其肢體語言對於柔和細膩的動作處理恰當，因此我認為她對於故事主題的表現能有所幫助。此外，在與她的談話過程中，我也發現她具備勇於嘗試挑戰新事物的個性，適合這次實驗性的合作計畫，且可以彼此互相激發創意。

合作初期，我們花很多時間交談，除了討論如何使用肢體語言配合裝置作品及呈現創作概念之外，也彼此分享對於愛情與生活的經驗想法。在創作概念確定之後，接下來就是克服技術上的困難，可分為以下三個面向：

一、程式運用

腦波控制燈光的部分，我選用Neurosky Mindwave Mobile腦波感應器、Arduino、藍牙模組、PWM訊號擴充晶片和LED做為控制元件，來建立一組控制系統，除了能感應腦波，也可調節燈光明暗與顏色的細微變化，同時兼具美感。而兩組心跳互動裝置則較單純，同樣使用Arduino和心跳感應器模組，一組使燈光隨著心跳脈動，另一組則觸動約二十顆電磁繼電器，發出機械式的聲響。

二、穿戴式電子裝置

因作品需把控制系統安裝在表演者身上，必須設計一個方便穿上與卸下的穿戴結構，使系統能夠穩固，不至於在表演者移動時產生掉落狀況，也同時能具備美感。

三、裝置對於表演者的肢體限制

因為視覺和概念上的要求，燈光控制系統不採用無線式控制，許多複雜的電線和訊號線增加了裝置視覺上的效果，卻也限制了舞蹈家的肢體。然而，我們將此「限制」轉化為一種「束縛感」，也許是來自於情感，亦或是來自於這個由意識所產生的世界。因此很有趣地，我們藉由裝置對表演者的肢體限制，延伸出更多的藝術創作概念，茱莉也很流暢地運用肢體語言表達。

創作概念與成果發表

愛是人類關係中的基本元素，也可以說是維繫家庭和社會和諧的情感關係。我們往往探究愛是從哪而來，又是如何消逝，無論多少的疑問與猜測閃過腦海，最終仍舊選擇接受結果。也許正是因為人類「意識」本身的神祕性，造就了愛情無法被理解和預知的特質。

我試著透過作品探討人如何因為愛的存在與否，改變了自身的世界觀，並且與法國舞蹈家茱莉·麥格

納維爾合作，結合肢體語言、劇場形式和互動裝置，來實驗全新的敘事方式。因此此次創作由自身經驗或觀察為起點，我也首次參與了演出，希望讓整個故事更完整。

〈宇宙意識：昔日的你，今日的我〉延續我另一件〈夢中的妳〉的作品概念，即世界是建立在人的「意識」之上，因此這一系列作品都有個「人形」代表著產生意識的生命體，以及連結人形至裝置的線，某種程度上則代表著神經網路，而神經網路另一端的裝置則代表著世界中存在的某種價值。

此次作品裝置的設計包含穿戴式電子系統，用來詮釋身體、意識和宇宙的關係，並且透過偵測心跳和腦波的互動科技來輔助此概念。材料的選擇則反應了自己在布魯塞爾駐棧創作時，對當地生活中人事物的啟發。駐棧期間，我感受到比利時人對於二手舊物的喜愛，在城市中很容易就看到二手書店、傢俱店或是二手市集。因比利時人喜歡自己購買材料製作傢俱，因此當地也流傳一句話：「每位比利時人生下來，肚子裡就有塊磚」，即是強調這項傳統。因此，我在市區的水果市集裡，收集商家用過的廢棄木片箱，利用這些木片完成一個裝置並結合動態燈光。而這些燈光的控制，則透過腦波偵測器和自行編寫的軟體，讓表演者以腦波改變顏色。此外，也結合了心跳感應器，控制燈光與二十顆電磁繼電器，做出隨心跳脈動的燈光和機械式的聲響裝置。

駐棧成果發表為兩天，以個展的形式展出。發表首日晚上由我與法國舞蹈家茱莉共同演出，第二天僅為裝置展出，而參觀的民眾可以與作品進行互動，戴上感應器進行體驗。表演當日非常順利，演出時間約三十分鐘，約有六、七十位觀眾前來觀看表演，觀眾的存在無形中產生一股壓力，然而也更讓我投入作品表演中。

演出後，觀眾的反應也非常有趣，各自對作品有著不同的詮釋，如空間設計代表的涵意及表演者的肢體語言等。對於表演唯一的台詞「昔日的你，今日的我」(The Past is My Present to Your Future)也產生各種理解，有些人覺得像是父母親對子女所說的話，是種「傳承」，有些則覺得是對愛人的「奉獻」，甚至有些人認為是主角宣告自己的「蛻變」。

有些觀眾抱著忐忑的心情來看表演，生怕看不懂，最後卻慶幸不是這麼一回事。不過，也有觀眾覺得他們習慣更抽象的表現手法。有些藝術家認為，此次作品已跳脫數位藝術或科技藝術的範疇，進到劇場的領域；部分藝術家則覺得，因為身為創作者的我加入了演出與舞者進行互動，「人」的部分已經超越了媒材，比起其他科技藝術又多了一層溫度，其中甚至有著「關係美學」(Relational Aesthetic)的成份。

駐棧期間之觀察與思考

創作這段期間，我在布魯塞爾所觀察到的事物以及創作的過程，皆讓我不斷思考著當地人如何懷舊及尊重著自己的文化，不輕易捨棄用過的物品。即使是3C電腦類型產品，如螢幕、鍵盤及滑鼠等周邊配件，他們都捨不得丟，而這些物件也自然地成為許多新媒體藝術家的創作媒材。創作時令我印象較深的是，因某次缺少一塊晶片座，於是詢問了周遭的藝術家，他歪頭想了一下說沒有，便自然地往

旁邊一指：「你可以看那箱子裡面的舊電腦主機板，上頭看有沒有可以拆下來使用的。」平日處在電子零件生產大國的臺灣，一貫的作法就是直接去光華商場花個十來塊錢買新的，從沒想到連這一點東西，他們都可以惜舊。從這個小細節，我也直接聯想到最近國外逐漸興起的「數位考古」（Digital Archeology），即替數位硬體或軟體做史料，甚至是收藏。

另外，關於互動裝置與舞台表演結合的未來創作趨勢，目前多數的新媒體科技藝術結合舞蹈的例子，大多都使用投影，較少用裝置。經過這次的創作經驗，我會持續在這個方向上嘗試更多的可能性，主要著重於裝置與表演者及故事架構的連結是否強烈，裝置是否擴充了表演者對於故事主軸的詮釋空間，我認為這是未來這系列作品可以持續嘗試並加強的地方。

有些人或許會提出，表演中使用的新媒體可能不需要互動成分，表演前預先編好讓表演者按照排演進行即可。然而我發現，創作型的表演者在每一次的表演中都會有些微差異，可能會被表演當時的氣氛、觀眾、身體狀況、情緒或設備狀況所影響，因此將裝置的動態部分事先編排好，再要求表演者「按表抄課」，是一件很詭異的事情。我認為「互動」性質，能讓表演者更自由地操控想要傳達給觀眾的訊息。此外，除了自身參與表演，表演場域的舞台及燈光設計，我這次也親自嘗試與進行實驗。

對於這次駐棧的經歷，很感謝比利時 iMAL 數位文化與科技中心給我足夠的創作自由，這次的創作方式並非屬線性，也不具有條理，反而需要很多的時間及空間來觀察，且反覆檢視自己的設計。整件創作包含與舞蹈家的腦力激盪，激發出來的點子往往是無法預期的，這對於創作者而言，是持續創作的動力。

創作環境方面，布魯塞爾雖然不大（人口一百萬，臺北市的一半），除了剛抵達的八月是活動的休眠時期，藝文展演的活動一般來說則非常多。如果不去參加城市的藝文相關活動，就真的無法體會布魯塞爾在藝術文化上的成就。

在作品宣傳的部分，建議國立臺灣美術館可與當地臺北代表辦事處聯繫，預先通知駐棧藝術家抵達的日期，以便他們能夠在生活方面協助藝術家，介紹認識當地臺灣人或是媒體以利日後推廣作品。

此次駐棧經驗，除了完成預期的創作成果，也延伸出許多新的創作方向。如使用 FabLab 的雷射機及簡單的穿孔技術，依照當地商店（特別是開到很晚的雜貨店，當地人稱 Night Shop）隨處可見的 LED 招牌樣式，替 iMAL 做了一個「招牌」，並贈送他們以示感謝，作為一個友誼的象徵，而他們對此也感到驚艷，目前正以相同技法延伸創作一系列的作品。

此次完成駐棧，要感謝國立臺灣美術館及評審委員們提供這次機會，讓我能夠實踐創作理念，也非常感謝 iMAL 提供的空間、設備及協助，特別是總監 Yves Bernard、Yannick Antoine 及 Sarah Merabai，還有 FabLab 的 Julian Maire 和 Felix Luque 對於設備使用上的幫忙。當然，也謝謝我的舞蹈合作者茉莉，她對於主題概念的深入瞭解以及本身散發出的正面能量，加上她在舞蹈領域的高度成就，讓這次合作的過程十分順利，也激盪出許多創意的火花。

Between Universes: The Past is My Present to Your Future: **A Performance that Connects Heart and Thoughts**

Ivan Chen-Hsiu LIU | Artist in residency at iMAL Center for Digital Cultures and Technology in Belgium

I used to be a physicist. I received professional training of science in Europe before returning to Taiwan and contributing to research. In 2011, by chance, I began to devote myself to art related to technology. Since then, the axis of my idea of art-making gradually shifted from technology to humanist aspect. I also tried to extend technology into various domains or different cultures. Meanwhile, technology itself also went through incessant evolutions. It was also for this reason that I came to realize the importance of exchange with other artists and experts.

In my experience of residency this time, I spared much more space and freedom to plan my work. It was after a period of time living there that I integrated the inspiration I got from local people, things and culture into my work. My work requires certain factors: 1. Use biosensors like heart-rate or brain-wave sensor as a medium for interactive installation; 2. Combine interactive installation with dance performance by collaborating with local dancers; 3. Take the exploration of relations between consciousness and the world as the focus of artistic concept.

During the period at iMAL Center for Digital Cultures and Technology in Belgium, there was no other artist in residency except me. Other people there were Julian Maire and Felix Luque, managers of FabLab. Therefore, I did not have many chances to exchange with artists. Rather, it was through the connection of some Taiwanese friends that I came to know local artists or designers. The conversations and interactions with them allowed me to further understand local tradition and custom.

A Work in Combination with Dance Performance

For my project *Between Universes: The Past is My Present to Your Future*, I attempted to combine interactive installation and stage performance. However, a performance implies a story or a script written in advance. I attempted to explore relations between consciousness and the universe through the story and decided that the tone and concept of largely revolve around "love". The next thing was to find suitable choreographers or performers whose body language would convey the story to the audience. The institute of residency, iMAL, diffused the news of looking for dancer through their internet community. The reaction was enthusiastic: everyday, one or two dancers wrote to say they were interested in the collaboration. Also, most of them are not Belgian but performers from other European countries. This shows Brussels is one of the important sites for art and culture among European metropolises, and iMAL is also popular in this city.

After auditions with many dancers, I finally selected French female dancer Julie Magneville. Julie has rich experiences: she has collaborated with famous dance troupes and choreographers in Europe and America. The documentaries of her performances also show how her body language adequately renders gentle and delicate actions. Therefore, I thought she could contribute to the representation of the theme of the story. Moreover, through our conversation, I found that she was courageous to try new things and take challenges. This suits the experimental collaboration project where we could inspire each other.

At the beginning of the collaboration, we spent a lot of time talking. In addition to discussing how to use body language to correspond to the installation and represent artistic concept, we also shared our experiences and ideas of love and life. Once the artistic concept was defined, the next task was to overcome technical difficulties which could be categorized into three aspects:

1. Applied Programs

Regarding the control of lighting by brain-wave, I chose Neurosky Mindwave Mobile Brainwave Sensor, Arduino, Bluetooth module, Pulse Width Modulation(PWM) Expander Chip and LED as controlling units to build a set of control system. The system not only detects brainwave but also modifies the intensity of light and nuances of colors. Meanwhile, it also evokes a

sense of beauty. As for the two interactive installations regarding heartbeat, they are much simpler. In both installations, I use Arduino and heart-rate sensor module. While one makes the light pulsate with heartbeat, the other triggers around twenty electromagnetic relay and produces mechanic buzz.

2. Wearable Electronic Devices

Since the work requires the installation of control system on the performer's body, I had to design a wearable structure which is easy to put on and off so that it could remain stable and would not fall during the performer's movements while retaining a certain sense of beauty.

3. Restraints over the Performer's Body in the Installation

To meet the visual and conceptual conditions required by the project, the lighting control system I used was not manipulated through a wireless device. Besides, many intertwined electric and signal wires enhance visual effect of the installation yet they also restrained the dancer's body. However, such "restraints" were transformed into a kind of "feeling of restraint" which perhaps came from one's feeling or from the world constructed by one's consciousness. In an interesting way, more artistic concepts were thus extended from the restraints imposed by the installation on the performer's body. Julie also used her body language for expression in a smooth way.

Creative Concept and Presentation of Result

Love is an essential factor of human relations. It may also signify relations that maintain familial or social harmony. We often explore the origin of love and how love disappears. No matter how many questions and speculations come to mind, one chooses to accept the result in the end. Perhaps it is the mystery of human "consciousness" itself which brings about the incomprehensibility and unpredictability of love.

Through this work, I tried to explore how an individual changes his/her worldview because of the existence or absence of love. Also, I collaborated with French dancer Julie Magneville to integrate body language, theatre and interactive installation to experiment a brand new narration. Since the project takes one's own experience or observation as starting point, I also took part in a performance for the first time, with the hope of making the story more complete.

Between Universes: The Past is My Present to Your Future was extended from the idea of another work titled *You in My Dream*, i.e., the world is established on human "consciousness". So there are "human figures" in all the works of the series. These figures represent beings that generate consciousness. These works also include wires connecting the body to the installation. While the wires represent the nervous system to a certain extent, the installation on the other side of nervous system represents a certain value in this world.

The design of the installation includes wearable electronic systems used to interpret relations among body, consciousness and universe. Besides, the idea is supported by means of interactive technology that detects heartbeat and brain-wave. The choice of materials reflects the inspiration I got from the people and things of local life during my project of residency in Brussels. During the period, I sensed the Belgians' penchant for second-hand objects. One finds second-hand bookshops, furniture shops or flea markets everywhere in the city. Since the Belgians prefer purchasing the materials and making furniture themselves, there is a popular saying that goes "A Belgian is born with a brick in his stomach" which foregrounds such a tradition. Therefore, I collected discarded wooden boxes of shops in downtown fruit markets and used the chumps to make the installation which incorporates lighting in motion. As for the control of lighting, the performer can change the colors through her brain-wave by means of a brain-wave sensor and software programmed by me. Besides, a heart-rate sensor was integrated to control the lighting and twenty electromagnetic relay to realize an installation with mechanic buzz and lighting that pulsates with heartbeat.

The presentation of result of my residency took the form of solo exhibition for two days. In the evening of the first day, I and the

French dancer Julie performed together. On the second day, there was only the installation on view. Visitors could interact with the work by wearing sensor to make his/her own experience. The performance on the first day went rather smoothly. Around sixty or seventy people assisted in the performance that lasted about half an hour. Imperceptibly, the presence of the audience brought about a certain pressure. Yet this also made me more involved in the performance.

The audience's reaction after the performance was quite interesting. The work evoked various interpretations regarding, for example, the significance of the space design, the performer's body language, etc. The only line in the performance, "The Past is My Present to Your Future", also led to different understandings. While some felt the words were told by parents to their children and meant "inheritance", others felt they were about "dedication" to one's beloved. Some even thought this represented the protagonist announcing her own "transformation".

Some audience was quite uncanny in watching the show, for fear of not being able to understand it. Yet they felt relieved to see things turned out differently. However, some viewers felt they were more used to more abstract approaches. And while some artists thought this work has gone beyond the domain of digital art or art related to technology and entered the domain of theatre, other artists thought that, because of the participation of me as the artist in the performance and my interaction with the dancer, the "human" part exceeded the media, thus infusing more warmth into the work and surpassing other artworks related to technology; there was even something about "Relational Aesthetic" in this piece.

Observation and Reflection during the Residency

During this period of art-making, from what I observed in Brussels as well as the creative process itself, I kept on thinking about how local people are nostalgic of the past and how they respect their own culture so that they do not throw away used objects easily. They are even reluctant to throw away 3C peripheral products like monitors, keyboards and mice. Naturally, these objects become media for many artists working on new media.

Moreover, regarding the future tendency of combining interactive installation and stage performance, in most of the existing examples that integrate new media technology and dance, projection is used more often than installation. After my experience in this project, I will continue to try more possibilities in the direction by mainly focusing on the intensity of the connection among installation, performer and story structure and whether if the installation expands the performer's interpretation of the axis of the story. For me, this is what I shall continue to try and reinforce in the series.

Some might propose that the new media used in the performance does not necessarily require interactivity; it suffices to plan things in advance and ask the performer to perform accordingly. Yet according to what I found, with a creative performer, each performance carries some nuance caused by factors about live performance: the ambiance, audience, physical conditions, emotions or equipment. Therefore, it would be strange to compose the changing part of the installation in advance and ask the performance to "go by the plan". In my view, the "interactivity" allows much more freedom for the performer to control the messages to convey to the audience. In addition, not only have I taken part in the performance myself, but I made experimentation about the stage and lighting design of the performance venue.

Regarding my residency this time, my special thanks go to iMAL Center for Digital Cultures and Technology which allowed me sufficient artistic freedom. The process of realizing the project was non-linear and it did not follow any order. Rather, much time and space was required for observation and re-examination of my own design. The entire project involves brainstorming with the dancer which inspired ideas that were usually unpredictable, which is a continuous driving force for an artist.

Regarding the environment for art-making, there are many activities of art and culture in Brussels. It is by assisting at the activities in the city more frequently that one comes to realize the artistic and cultural achievements of Brussels. Regarding promotion, it is suggested that the National Taiwan Museum of Fine Arts gets in touch with Taipei Representative Office in the EU and Belgium so that they can help with daily affairs of Taiwanese artists in residency in Belgium and introduce Taiwanese people living there or local media, which would contribute to the promotion of artists' projects in the future.



〈宇宙意識：昔日的你，今日的我〉作品呈現
Presentation of *Between Universes*





劉辰岫〈宇宙意識：昔日的你，今日的我〉成果發表

Final presentation of *Between Universes: The Past is My Present to Your Future* by Ivan Chen-Hsiu LIU

- 2011 "South Music Award", Selected, Kaohsiung Bureau of Cultural Affairs, Kaohsiung, Taiwan
- 2010 "Creation Contest of Flower Exposition Taipei", Second Prize, Taiwan
 "Hsinchu Band Contest", Star of Tomorrow Award, Hsinchu, Taiwan
 "Invitational Contest of Popular Music for Youth", Original Music Award, Taipei, Taiwan
 "English Song Composing Contest Providence University", First Prize, Taiwan

Performances

- 2014 "Asia Triennial Manchester, MOSI, Manchester, UK
 "Interface: New Music For Organ and Electronics", Union Chapel, London, UK
 "PureGold Festival", Royal Festival Hall, Southbank Centre, London, UK
 "City-Goldsmiths Exchange Concert", London, UK
 "SONIC MALFUNCTIONS, Goldsmiths College, London
- 2013 "Lack Sound Festival #73", Noise Kitchen, Taipei, Taiwan
 "Noise on Site vol.1", Noise Kitchen, Taipei, Taiwan
- 2011 "Performing Groups", Flower Exposition Taipei, Taipei EXPO Park, Taiwan
- 2010 "Rock Taichung Festival", Taichung, Taiwan
 "Festival of Light", JUT Foundation for Arts and Architecture, Taipei, Taiwan
 "Hohaiyan Rock Festival", New Taipei City, Taiwan

Selected Exhibitions

- 2014 "V2_Summer Session", V2_Institute for the Unstable Media, Rotterdam, The Netherlands
 "1296-4107" Group Show, Ben Pimlott Building, London, UK
 Hsia Yu "Sound And Colors" Collaboration Exhibition, Huashan 1914 Creative Park, Taipei, Taiwan
- 2012 NTU Art Festival, "WenRooTing" Interactive installation, National Taiwan University, Taipei, Taiwan

Music Production

- 2014 *Artists World Cup*, NME Brazil
Floating City, Hello Nico, Black Market Record
- 2011 *CocoaBed* Mini Album, Himalaya Record
- 2010 *Simple Life* Collection Album, Neutron Culture Co., Ltd
Why So Loud? Collection Album, National Taiwan University

劉辰岫

學歷

- 2003-2008 德國馬克斯普朗克研究院物理博士
 1999-2003 英國倫敦帝國學院物理系畢

經歷

- 2013至今 國立臺灣師範大學物理系兼任助理教授
 人嶼科技藝術國際有限公司總監
 行政院科技部特約文字編輯
- 2009-2012 財團法人工業技術研究院研究員
 行政院經濟部國家標準技術委員 (電子工程)
- 2008-2009 德國馬克斯普朗克研究院博士後研究員
- 2007-2008 法國國家科學院(CNRS)客座研究員

個展

- 2014 「宇宙意識：昔日的你，今日的我」，互動裝置結合舞蹈劇場，iMAL 數位文化與科技中心，布魯塞爾，比利時

聯展

- 2014 「一起呼吸」，動態燈光裝置，Project UAS，臺北，臺灣
 「夢中的妳」，動態燈光裝置，華山1914文創園區，臺北，臺灣
- 2013 「掌聲鼓勵！」，互動裝置，麗寶淡水莊園，新北市，臺灣
 「被微笑擁抱」，互動裝置，My Sweetie Pie 文創空間，臺北，臺灣
 「被微笑擁抱」，互動裝置，麗寶淡水莊園，新北市，臺灣
- 2012 「光田」，互動裝置，松山文創園區，臺北，臺灣

委約創作

- 2014 「潘洛斯之夢」，動態光影裝置，寒舍艾美酒店，臺北，臺灣

獲獎與補助

- 2014 「臺北設計獎」入圍，臺北市政府，臺北，臺灣
 「X-Site 地景裝置計畫」首獎，臺北市立美術館，臺北，臺灣
 「數位藝術人才國外駐棧創作」獲選，國立臺灣美術館，臺中，臺灣

駐棧經歷

- 2014 比利時iMAL數位文化與科技中心，布魯塞爾，比利時

Ivan Chen-Hsiu LIU

Education

- 2003-2008 PhD in Physics, Max-Planck Institute for the Physics of Complex, Dresden, Germany
 1999-2003 Bachelor and Master in Physics, Imperial College London, UK

Experiences

- 2013-present Assistant Professor (Part-time), National Taiwan Normal University
 Founder and Director, Legacy Lab International, Ltd.
 Special Editor, National Science Council
- 2009-2012 Researcher, Industrial Technology Research Institute, National Measurement Laboratory
 Member of National Technical Standards Committee, Ministry of Economic Affairs
- 2008-2009 Post-doc, Max-Planck Institute for the Physics of Complex Systems, Dresden, Germany
- 2007-2008 Visiting Researcher, The National Center of Scientific Research (CNRS), Paris, France

Solo Exhibition

- 2014 "Between Universes: The Past is My Present to Your Future", Interactive Installation with Performance, iMAL, Brussels, Belgium

Group Exhibitions

- 2014 "Breathing in Sync", Lighting Installation, Project UAS, Taipei, Taiwan
 "You in My Dream", Lighting Installation, Hua-Shan Creative Park, Taipei, Taiwan
- 2013 "Put Your Hands Together!", Interactive Installation, Lih-Pao Cultural Art Foundation, Taipei, Taiwan
 "Smile", Interactive Installation, My Sweetie Pie Art Space, Taipei, Taiwan
 "Smile", Interactive Installation, Lih-Pao Cultural Art Foundation, Taipei, Taiwan
- 2012 "Light Farm", Interactive Installation, Songshan Cultral and Creative Park, Taipei, Taiwan

Commissioned Work

- 2014 "Penrose's Dream", Lighting Projection, Le Meridien, Taipei, Taiwan