

出國報告（出國類別：其他\國際會議）

## 赴哈薩克參加研討會發表論文及參訪

服務機關：國立雲林科技大學

姓名職稱：楊智傑副教授

派赴國家：哈薩克

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## 摘要

GLOBAL ILLUMINATORS 組織於 2017 年 7 月 27-28 日在哈薩克阿斯塔納舉辦第三屆學術研究跨領域創新國際研討會 (3<sup>rd</sup> International Conference on “Multidisciplinary Innovation In Academic Research, MIAR-July 27-28,2017, Astana, Kazakhstan)，向世界各國學者公開徵稿。本校共有五位老師、技職教育所若干學生，共三篇論文參與發表，並與台灣其他各大專院校各校老師一同成行。於 7/23 日從台灣出發，7/24-25 於哈薩克第一大城阿拉土圖參訪，並參訪當地兩所大學，7/26 從阿拉土圖飛首都阿斯塔納。7/27-7/28 兩日舉辦研討會，與當地大學與世界各國參與學者交流。7/29 參訪 2017 世界博覽會 (EXPO)，7/30 返台。

本次會議與參訪，瞭解哈薩克此一國家的學術發展狀況，以及該國學生就讀大學與研究所的情形。

**關鍵字：**哈薩克、阿斯塔納、阿拉木圖、GLOBAL ILLUMINATORS 組織、第三屆學術研究跨領域創新國際研討會

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## 一、目的

GLOBAL ILLUMINATORS 組織於世界各國舉辦國際學術研討會，2017 年暑假恰巧於台灣不熟悉的哈薩克新首都阿斯塔納舉行。一方面參與國際研討會，另一方面想初步瞭解哈薩克這個中亞內陸國家的學術發展情形，故本校共五名老師（巫銘昌院長、曾世昌國際長、蔡登傳教授、楊智傑副教授、黃建盛助理教授）、技職教育所若干學生，共三篇論文參與發表，並與台灣其他大專院校各校老師（包括屏東科技大學、修平科技大學、高雄師範大學、大同技術學院、環球科技大學、朝洋科技大學等校老師），一共 15 人，組成台灣學術團，共同前往哈薩克進行學術交流。

除了參與研討會發表，也希望透過參訪哈薩克兩大城市（舊首都阿拉木圖、新首都阿斯塔納），參訪當地大學，與主辦研討會之負責老師交流，瞭解當地大學的學術發展情形，以及該國大學生、研究所的發展狀況。

## 二、過程

1. 第一日（2017/7/23）。12：55 搭乘韓亞航空，桃園機場飛韓國首爾國際機場轉機，18：10 從首爾機場出發，飛哈薩克阿拉木圖。因哈薩克與我國沒有邦交，也無法事前申請簽證，只能在當地機場辦理落地簽證，晚上到達機場後又在機場等待約 2 個小時。

2. 第二日（2017/7/24）。整日參訪阿拉木圖郊區，包括前蘇聯溜冰訓練場。哈薩克人遍佈中亞，為游牧民族，在中國新疆境內也有哈薩克人。在新疆對哈薩克人的教育，在大學以前仍保留母語教育，在大學以後才使用華語教育。此次參訪團的導遊，就是一名在新疆成長的哈薩克人，其在大學後才學華語，後移民回哈薩克。因可同時講哈薩克語與華語，故能擔任華人團導遊。

3. 第三日（2017/7/25）。整日參訪阿拉木圖市區，參訪哈薩克斯坦中央國家博物館，俄羅斯東正教堂，以及參訪國立哈薩克大學（Al-Farabi Kazakh National University）。此次參訪並沒有與對方學校聯繫，純粹參觀校園。在校園中認識一位從美國哥倫比亞大學畢業的碩士生，其拿了哈薩克斯坦獎學金，將回該國擔任大專教師。由此可見，該國的大專師資中，部分師資仍僅具有碩士學位。

4. 第四日（2017/7/26）。上午參訪哈英科技大學（Kazakh-British Technical University），下午從阿拉土圖飛首都阿斯塔納。

5. 第五日（2017/7/27）。參加第三屆學術研究跨領域創新國際研討會（3rd International Conference on “Multidisciplinary Innovation In Academic Research, MIAR-July 27-28, 2017, Astana, Kazakhstan），並與各國學者與當地學者交流。

早上 9：00 到 10：00 開幕，巫銘昌院長擔任大會主講人，講題為介紹臺灣

的技職教育發展與政府政策之關係。接著第一場次 10：30 到下午 1：00，主題為 Business, Management, Economics Studies & Sciences，蔡登傳教授發表「A Survey Study on Imagination, Creativity, and Innovative Thinking of Undergraduate and Graduate Students in Taiwan」，其次巫銘昌與曾世昌教授與其技職所同學，共同發表「A Study on the Influential Paths and Hierarchic Structure of Constructive Factors for College Students' Creative Thinking」。下午 2：20 至 3：30 為第二場次，主題為 Engineering & Technology Studies，黃建盛教授與楊智傑參與發表「A Novel Skin Moisture Detection Device Made by Indium Gallium Zinc Oxide (IGZO) Thin Film with Smart Color Reminding」。

此次參與 GLOBAL ILLUMINATORS 組織所舉辦的研討會，有來自歐洲、韓國等各地學者一同參加。但其舉行規模不大，可能原因是，哈薩克對觀光產業發展相對緩慢。過程中與承辦此次研討會的當地女性大學教授閒聊，她們解釋因為男性必須養家急於就業，反而女性才會選擇繼續唸書。

6. 第六日(2017/7/28)。阿斯塔納市區參訪，參訪總統博物館 (Museum of the First President)、納扎爾巴耶夫大學 (Nazarbayev University)。哈薩克斯坦乃自 1991 年蘇聯解體後，於 1991 年 12 月 16 日宣布獨立。雖然獨立，但其領導人為努爾蘇丹·納扎爾巴耶夫年輕時屬於共產黨，自獨立以來一直擔任總統達 25 年以上，與俄羅斯保持友好關係。由於其統治該國達 25 年以上，該國政治屬於專制民主。納扎爾巴耶夫大學為以總統為名成立的年輕大學。此次參訪並沒有與對方學校聯繫，純粹參觀校園。

7. 第七日 (2017/7/29)。參訪 2017 世界博覽會 (EXPO)。各外國學者之所以願意遠道而來哈薩克斯坦參與國際研討會，可能與剛好今年 2017 年哈薩克新都阿斯塔納舉辦世界博覽會有關，本團在世博會場與多位研討會學者巧遇。晚間搭乘 23：55 出發的飛機，至韓國首爾轉機。

8. 第八日 (2017/7/30)。9：20 到達韓國首爾機場，等候轉機。於 14：20 搭乘韓亞韓空飛台北，因航班遲延，於 16：50 抵達台灣。

### 三、心得

哈薩克斯坦位於中亞，面積為世界第九大國，人口只有 1696 萬餘人。哈薩克斯坦的人口組成多元，主要人口為哈薩克人，第二大人口為俄羅斯人，其他則有烏克蘭、烏茲別克等民族。由於該國屬多民族國家，對各式人種均相當開放，民風也相當開放，也尊重各種宗教。雖然哈薩克人 60% 以上信伊斯蘭教，但俄羅斯人信東正教，故對宗教也保持開放，並沒有像一般伊斯蘭國家要求婦女包頭巾的習慣。該國主要語言為哈薩克語和俄羅斯語，對英語並不熟悉。

哈薩克斯坦因為土地太大，但人口相對少，故一方面鼓勵國民多生育子女，一般家庭至少生育三名子女以上，且國家提供中小學免費教育。另外，哈薩克斯坦也鼓勵在其他國家（例如新疆）的哈薩克人移民回哈薩克斯坦，並提供便宜土地與工作機會。

哈薩克斯坦人均國民收入為 11,390 美金(2015 年),台灣為 20925 美金(2015 年),與台灣相差近一倍。當地物價也相當為台灣的一半以下。例如當地的一瓶啤酒,換算台幣大約一瓶 20 元台幣,相當便宜。該國土地很大,地價相對便宜(40 公尺\*40 公尺之土地不到新台幣 100 萬),所以該國國民大多自行購買土地,自建別墅型房屋。

哈薩克某程度仍維持了社會主義社會,人民高中畢業後,政府會協助安排工作機會,故大多數人高中畢業均選擇就業與結婚,念大學的人較少。其中,念研究所、讀博士的人更少,甚至以女性較多。

在參訪該國大學校園時,認識一位從美國哥倫比亞大學畢業的碩士生,其拿了哈薩克斯坦獎學金,畢業後回該國擔任大專教師。由此可見,該國的大專師資中,部分師資仍僅具有碩士學位。

由於哈薩克斯坦與中國緊鄰,維持與中國和俄羅斯友善關係,台灣與哈薩克斯坦的交流非常少。從碩士招生角度來看,該國人民念碩士的風氣不盛,招生空間有限。

整體而言,由於該國官方語言之一為俄羅斯語,並不擅長英語,其次該國就讀研究所風氣不盛,以臺灣推廣國際教育方向來說,對哈薩克的招生空間有限。

#### 四、建議事項

台灣與哈薩克的交流非常少,對該國瞭解太少,但其屬於草原游牧民族,在蒙古統治亞洲時與中國歷史上有高度淵源,故我們仍可進一步多跟該國交流,慢慢熟悉這個新興國家。在學術交流上,由於該國念研究所的風氣不盛,很難做招生工作,只能先從參與國際研討會的學術交流做起。此次台灣學術團,據說是第一個到達新首都阿斯塔納的台灣團,可見台灣與哈薩克的交流有多麼貧乏。這次的交流只能說是走出第一步,未來建議仍可慢慢展開交流,但短期內應不會有具體成效。

附錄一、會議議程



International Conference on "MULTIDISCIPLINARY INNOVATION IN ACADEMIC RESEARCH" (MIAR-2017)

# MIAR

**3rd International  
Conference On**

MULTIDISCIPLINARY INNOVATION  
IN ACADEMIC RESEARCH

July 27-28, 2017

Astana, Kazakhstan

Organised by:  **GLOBAL ILLUMINATORS**  
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**DAY 01 Thursday (July 27, 2017)**

**Welcome Reception & Registration**

**8:15 am – 9:00 am**

**Opening Ceremony (09:00am – 10:00 am)**

**Venue: Room 1**

09:00 am – 9:15 am	Welcome Remarks –Dr. Madina Tussupbekova	Conference Coordinator MIAR 2017 Global illuminators
09:15 am – 9:25 am	Opening Speech – Dr. Tariq Iqbal Khan (Ph.D.)	Director Global Operations, Global Illuminators Conference Co-Chair
09:25 am – 9:35 am	Keynote Speech – Dr. Mingchang Wu,	Dean of School of Humanistic and Applied Science at National Yunlin University of Science and Technology, Taiwan
09:35 am - 10:00 am	Group Photo	

**Tea Break (10:00 am – 10:30 am)**

**DAY 01 Thursday (July 27, 2017)**

**Session 1 (10:30 am – 1:00 pm)**

**Venue: Room 1**

**Session Chairs: Godspower I. Onvenanu & Chien-Sheng Huang**

**Track A: Business, Management, Economics Studies & Social Sciences**

MIAR-17-104	Do Gritty Leaders Inhibit Employees' Improvisation Behaviors A Moderated Mediation Model	José Arménio Rego
MIAR-17-117	A Survey Study on Imagination, Creativity, And Innovative Thinking of Undergraduate and Graduate Students in Taiwan	Dengchuan Cai
MIAR-17-119	A Study on the Influential Paths and Hierarchic Structure of Constructive Factors for College Students' Creative Thinking	Mingchang Wu, Shi-Chang Tseng
MIAR-17-120	Exchange Rate, Bank Loans Performance and Monetary Policy in Kazakhstan	Gulnara Moldasheva
MIAR-17-133	Developing Trilingual Education in Universities of Kazakhstan	Idrissova Mapruza, Smagulova Botagoz
MIAR-17-134	Implementation of the Official Language Policy and the Linguistic Reality in Astana, Kazakhstan	Tussupbekova Madina
MIAR-17-105	The Individual Experience of Competing Institutional Logics	José Arménio Rego

**Lunch Break (1:00 pm – 2:00 pm)**



**DAY 01 Thursday (July 27, 2017)**

**Session 2 (02:00 pm – 03:30 pm)**

**Venue: Room 1**

**Session Chairs: José Arménio Rego & Dengchuan Cai**

**Track A: Engineering & Technology Studies**

MIAR-17-107	Potential of Feldspar Mortar as A Construction Material	Lee, Khil-Ha
MIAR-17-127	Evidence for Deeper Hydrocarbon Exploration: New Insight from the Hydrocarbon Plays in the North Celtic Sea Basin	Godspower I. Onyenanu
MIAR-17-128	A Study on Wave Power Generation System Utilization of Bell-Mouth Effect to Pairs of Water Chambers	Guk Hwan Sin
MIAR-17-137	A Novel Skin Moisture Detection Device Made by Indium Gallium Zinc Oxide (IGZO) Thin Film with Smart Color Reminding	Chien-Sheng Huang

**Closing Ceremony (03:30 pm – 04:00 pm)**

3<sup>rd</sup> International Conference on “Multidisciplinary Innovation in Academic Research”(MIAR- July 27-28, 2017)  
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Global Illuminators, Kuala Lumpur, Malaysia.

## Keynote Speaker

**Dr. Mingchang Wu,**



Dr. Mingchang Wu, Dean of School of Humanistic and Applied Science at National Yunlin University of Science and Technology, received his doctoral degree at Purdue University in 1995, majoring Vocational and Technical Education. His academic interests focus on Higher Education, Occupational Psychology and Sociology, and Educational Development and Quality Evaluation. Moreover, undertook a series of educational improvement projects at the positions of Chairperson of Graduate School of Vocational Education, Coordinator of Teaching Resource Center for 20 institutes in Central Taiwan, and CEO of Program Evaluation in Taiwan. Recently, HE is administering several research projects on the collaboration among universities for educational quality improvement and revitalization. Most importantly, he is looking for some international colleagues to conduct cross-cultural research.



## A Survey Study on Imagination, Creativity, and Innovative Thinking of Undergraduate and Graduate Students in Taiwan

Dengchuan Cai<sup>1</sup>, Nyan-Myau Lyau<sup>2</sup>, Chuan-Yu Chang<sup>3</sup>, Sheng-Chun Huang<sup>4</sup>, Jia-Wei Jhang<sup>5</sup>

<sup>1,2,3,4,5</sup> National Yunlin University of Science and Technology, Taiwan

### Abstract

Imagination, creativity, and innovative thinking are very important capabilities for various industries. The design students will be the designers of industries in the near future. In order to plan a course to enhance students with those capabilities, it is necessary to get understanding of the state of the arts of those capabilities of the students. This study surveyed those capabilities of undergraduate and graduate design students in Taiwan. A questionnaire consisting of four aspects with 99 questions was used to survey the capabilities of students. Sixteen, twenty-nine, twenty-four, and twenty-nine, questions were designed for the imagination, creativity, innovative thinking, and work efficacy, respectively. Forty-five undergraduate students and twenty-seven graduate students in the department of industrial design were surveyed. The results illustrated that: 1) the overall score of the four capabilities of the graduate students was greater than that of the undergraduate students, 2) In the four aspects, the graduate students in the future imagination and work efficacy were better than the undergraduate students, however, the affective creativity and innovative thinking were not different, 3) The graduate students were better than the undergraduate students in seven of the ten second aspects; among them were curiosity, imagination, originality, persistence, situation construction, work attitude, and work vision. Whereas, in the other three second aspects were not different, among them are adventure, obey, and over the fact, and 4) the graduate students were better than the undergraduate students in 15 questions of the total 99 questions. The results can be a reference for design education and research.

**Keywords:** Imagination, Creativity, Innovative thinking, Work efficacy, Design

\*All correspondence related to this article should be directed to Dengchuan Cai, National Yunlin University of Science and Technology, Taiwan  
Email: caidc@yuntech.edu.tw



A Study on the Influential Paths and Hierarchic  
Structure of Constructive Factors for College Students'  
Creative Thinking

Mingchang Wu<sup>1</sup>, Wei-Jen Tan<sup>2</sup>, Chang Chuanyu<sup>3</sup>

Chung, Ruey-Gwo<sup>4</sup>, Shi-Chang Tseng<sup>5</sup>, Lin, Hsiuhsu<sup>6</sup>

<sup>1,2,3,5</sup>National Yunlin University of Science and Technology, Taiwan

<sup>4</sup>Husiping Unersivity of Science and Technology, Taiwan

<sup>6</sup>Chaoyang Unersivity of Technology, Taiwan

Abstract

Creativity is always regarded as the core competence of human development and the core value for higher education. It conceptually includes creative capabilities, affective creativity, and imagination for the future. People with creativities usually tend to possess unique thinking styles and work attitude. Curiosity then comes to researchers that if there is any relationship among these seemingly the same but different conceptual constructs. This empirical study, taking statistical tests, purported to identify the structural relationship among these constructs through a series of statistical analyses, such as t-test, one-way analysis of variance, and SEM confirmatory analysis. This understanding may facilitate youngsters' creativity through university curricula. The study found that Taiwanese students in universities of science and technology performed a competent level of creativity. Their work attitude plays the mediating role to cultivate youngsters' creativity at workplace. In addition, it indicated that the improvement of creativity multifactorially results from affective creativity, creative thinking, and future imagination. At a workplace, people's creativity is initiated by their affective creativity, which raises a creative thinking, and eventually built into imagination with hierarchical and systematic processes. Finally, this study further suggested future research to employ more students' empirical data for more in-depth analyses, as well as extend the investigating aspects and forecasting factors, such as personality trait and environment atmosphere, to further realize a broader spectrum of affective creativity education for university students and future employers.

**Keywords:** Creativity, Affective Creativity, Creative Thinking, Future Imagination, Work Attitude

\*All correspondence related to this article should be directed to Mingchang Wu, National Yunlin University of Science and Technology, Taiwan  
Email: [wumc@yuntech.edu.tw](mailto:wumc@yuntech.edu.tw)

<sup>3</sup><sup>rd</sup> International Conference on "Multidisciplinary Innovation In Academic Research"  
(MIAR-2017)



## A Novel Skin Moisture Detection Device Made by Indium Gallium Zinc Oxide (IGZO) Thin Film with Smart Color Reminding

Chien-Sheng Huang<sup>1\*</sup>, Shi-Wei Luo<sup>2</sup>, Chih-Chieh Yang<sup>3</sup>  
<sup>1,2,3</sup>National Yunlin University of Science and Technology, Taiwan

### Abstract

As the progress of technology, the skin moisture can be detected, which is usually showed by relative humidity. However, the reminding of moisture content supply is more important for a consumer, such as informing for facial moisturizer, or adding water for athlete replenishing moisture. In this study, a novel architecture is proposed to reach the purpose of reminding for supplementing moisture. First, a thin film sensitive to the moisture is made by Indium Gallium Zinc Oxide. A pair of novel digitated electrodes on the film measures the various values of resistivity which responds to the different relative humidity values. Secondly, a smart algorithm is established and calibrated into the circuit, which receives the signal measured by the film and will make a decision whether to activate the reminding process. Finally, the reminding signals consist of a combo red and blue light. The red is for the reminding of replenishing moisture, and the blue just for indicating so far ok. The prototype of this device is justified, and the miniature is in progress.

**Keywords:** IGZO, Skin moisture

\*All correspondence related to this article should be directed to Chien-Sheng Huang, National Yunlin University of Science and Technology, Taiwan  
Email: [huangchs@yuntech.edu.tw](mailto:huangchs@yuntech.edu.tw)



## 附錄二、照片



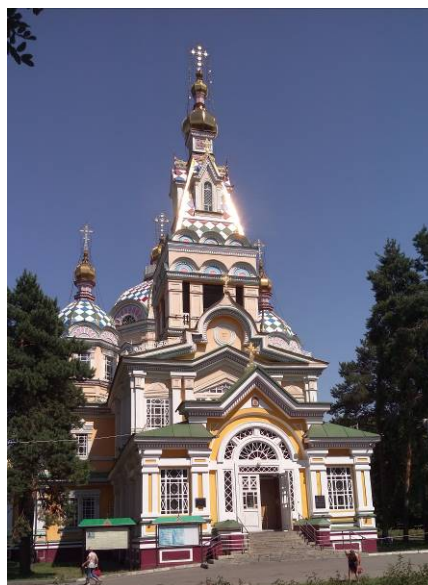
7/23 晚上，在阿拉木圖機場等候落地簽證



7/24 阿拉木圖近郊前蘇聯溜冰訓練場，台灣學術團全團合影



7/25 阿拉木圖市區參訪，哈薩克斯坦中央國立博物館



7/25 參訪俄羅斯東正教堂



7/25 參訪哈薩克國立大學



7/26 參訪哈英科技大學



7/26 阿拉木圖飛阿斯塔納



7/27 巫銘昌院長擔任大會主題演講人



7/27 黃建盛教授與楊智傑教授於研討會場發表演文



7/27 蔡登傳教授於研討會場



7/27 技職教育所學生於研討會場



7/28 參訪總統博物館





7/28 參訪哈薩克國立博物館



7/28 參訪哈薩克國立博物館



7/28 參訪納扎爾巴耶夫大學



7/29 參觀 2017 世界博覽會



7/29 世界博覽會



7/30 於首爾機場等候轉機