



前瞻科技與管理 8 卷 1 期，1-20 頁（2018 年 8 月）

Journal of Advanced Technology and Management Vol. 8, No. 1, pp. 1-20 (August, 2018)

DOI:10.6193/JATM.201808_8(1).0001

「核鑑識」分析之初探

李承龍^{1,2*} 林群智³ 丁健益⁴ 陳瑩嫻⁵

¹ 卡達警官學院副教授

² 臺灣警察專科學校副教授

³ 南華大學自然生物科技學系自然療癒碩士班教授

⁴ 樹人醫護管理專科學校醫學影像暨放射技術科助理教授

⁵ 建騰創達科技股份有限公司產品經理

摘要

「核鑑識」乃結合「鑑識科學」及「核科學」的新興跨域學門。日本福島核災輻射事故、放射性武器的恐怖攻擊、核原料和放射性物質的非法販賣及竊盜等事件，使「核鑑識」逐漸受到重視。「核鑑識」整合「犯罪偵查」與「科學蒐證」，因此，普及相關知識、培育研究人員、整合儀器設備、發展相關偵查工具及程序甚為重要。本研究分析臺灣「核鑑識」現況及能量，並從現有犯罪現場勘察的相關規範，以及現場放射物質蒐證與鑑識之先期研究，參考國際「核鑑識」技術、設備及作業程序、「核鑑識」現場處置、分析及其解讀方法等，探討輻射防護措施以及證據之保全、採集、保存、運送、鑑識等事項之因應，其目的為啟動「核鑑識」相關研究，引起國人對此議題的重視。

關鍵詞：放射性物質、核鑑識、核科學、輻射、鑑識科學

* 通訊作者：李承龍

電子郵件：lee0315@gmail.com

（收件日期：2017 年 5 月 4 日；修正日期：2017 年 6 月 13 日；接受日期：2018 年 7 月 5 日）



The Preliminary Study of “Nuclear Forensics”

Cheng-Lung Lee^{1,2*}, Chun-Chih Lin³, Chien-Yi Ting⁴, Ying-Li Chen⁵

¹Associate Professor, Qatar Police College

²Associate Professor, Taiwan Police College

³Professor, Department of Natural Biotechnology, Master's Program in Natural Healing Sciences, Nanhua University

⁴Assistant Professor, Department of Medical Imaging and Radiology, Shu-Zen Junior College of Medicine and Management

⁵Product Manager, ACTi Corporation

Abstract

Nuclear forensics is an emerging transdisciplinary science integrating forensic science and nuclear science. The development of nuclear forensics is recently respected due to the incidence of Fukushima nuclear disaster caused by earthquake on March 11, 2011, radioactive material attack threatened by terrorists, illegal transaction of nuclear and radioactive materials and nuclear smuggling as well as burglaries. Nuclear forensics plays a key role integrating crime investigation and scientific evidence collection. Accordingly, it is imperative to enhance related education, cultivation of researchers and integration of instruments and equipment. Moreover, developing related tools and procedures for investigations is needed to prohibit illegal trading of nuclear and radioactive materials internationally. This study firstly analyzed current condition and energy of nuclear forensics in Taiwan. Corresponding response to the measures of radiation protection and the maintenance, preservation, collection, preservation, transportation as well as identification of evidences were investigated according to present investigating regulations for crime scenes in Taiwan, previous studies of on-site evidence collection and identification for radioactive materials, and foreign techniques, equipment, protocols, on-site management, analysis and interpretation for radioactive materials in nuclear forensics. The aim is to initiate related studies for nuclear forensics and call attention of Taiwanese to this issue.

Keywords: radioactive materials, nuclear forensics, nuclear science, radiation, forensic science

* Corresponding Author: Cheng-Lung Lee
E-mail: lee0315@gmail.com