

2018 Symposium of Radiation Emergency Management and Radionuclide Theranostics

輻射醫療處置暨核醫診療研討會

June 30, 2018 (Saturday) 13:30~17:00

Room 201A, Taipei International Convention Center, Taipei

Program Book



會場位置圖 Venue and Map

「中華醫學會 107 年度會員大會暨聯合學術研討會」謹訂於 107 年 6 月 30 日（星期六）假台北國際會議中心舉行
（台北市信義路五段 1 號），節目內容精彩豐富，竭誠歡迎您踴躍參與、共襄盛舉



中華醫學會 107 年度會員大會暨聯合學術研討會會場安排

時間：107 年 6 月 30 日（星期六）

地點：台北國際會議中心

會議室	一 樓						二 樓				三 樓
	101 A 容納 120 人	101 B 容納 150 人	101 C 容納 150 人	101 D 容納 120 人	102 容納 200 人	103 容納 120 人	201 A 容納 112 人	201 BC 容納 200 人	201 DE 容納 200 人	201 F 容納 112 人	南軒 容納 90 人
上午 08:30 12:00	腫瘤醫學 進展 腫瘤及細胞治療的最新	腸胃科 肝癌治療新進展	麻醉部 研討會 新時代麻醉供氧器材	醫研部 榮總台灣聯合大學系統 合作研究成果發表會	醫研部 再生醫學研討會 台日幹細胞治療與	病理檢驗 數位病理的發展和應用			兒醫部 精準醫療於遺傳性疾病	整形外科 美容醫學新進展	
	泌尿部 男性健康論壇 2018	內視鏡中心 一般內科 肥胖治療新進展	放射線部 醫學人工智慧化： 現在與未來	腎臟科 腎臟精準醫學	教學部 醫學教育暨臨床實踐之 最佳實證	病理檢驗 檢驗醫學未來發展趨勢 研討會	核醫部 201 A 輻射醫療處置暨核醫診療 研討會	大腸直腸 外科 腹腔鏡直腸癌手術的進展	兒醫部 精準醫療於遺傳性疾病	精神部 老年憂鬱症診斷與治療 研討會	耳鼻喉部 數位科技在耳科的運用
下午 13:30 17:30											

中華醫學會會員大會【102 會議室】12:30~13:00

台北國際會議中心 TICC 2樓平面圖
TICC conference Room Floor Plan of 2nd floor





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Organizing committee

2018 年輻射醫療處置暨核醫診療研討會

歡迎詞

謹代表承辦單位臺北榮民總醫院，熱烈歡迎各位嘉賓蒞臨「2018 年輻射醫療處置暨核醫診療研討會」。

有關輻射防治相關工作人員對輻射傷害、醫療照護經驗、相關知識及教育訓練仍應不斷精進。本院為增進國內輻射醫療工作人員之輻射意外醫療及防護知識，並加強輻射醫療處理流程，確保工作人員、患者及民眾安全，增進全民之健康與福祉，特別舉辦本次研討會。

本次會議邀請國內輻射防護及醫療專家依國內目前現況作專題演講外，也邀請日本、韓國等專家學者的經驗作分享，讓與會者有機會觸及與自身專業相關的基礎及臨床知識，並進行交流與討論，使得核能從業人員與管制者之間，得以分享在嚴重核子事故管理方面之資訊與經驗；也特別針對日本福島核子事故發生後，各國對於嚴重事故的管理精進作為進行專業討論，從經驗中學習教訓，討論減少輻射傷害的策略，建立了新的核災害對策管理與結構。

再次誠摯歡迎您們來進行跨領域的整合性交流與討論，希望能夠藉此提升我國輻傷處置能力及相關基礎研究。最後 祝
研討會圓滿順利！
各位嘉賓滿載而歸！！



臺北榮民總醫院 院長

西元 2018 年 6 月 30 日



2018 輻射醫療處置暨核醫診療研討會

Symposium of Radiation Emergency Management and Radionuclide Theranostics

時 間：6 月 30 日(星期六) 13:30~17:30

地 點：台北國際會議中心 201A 會議室

時 間	講 題	主 講 人
13:30-13:50	Opening Remarks 貴 賓 致 詞 邱賜聰 副主委 Deputy Minister Chiou, Syh-Tsong 劉仁賢 理事長 President Ren-Shyan Liu 趙 毅 主 任 Director Yee Chao	
13:50-14:40	座長: 張志賢 博士 / 黃獻緯 主任 (Moderators: Drs. Chih-Hsien Chang / Hsien-Hao Huang) 核研所生物劑量實驗室在核意外之應用 Implications of INER biodosimetry Lab. in nuclear accident	張剛瑋 博士 Dr. Kang-Wei Chang
14:40-15:30	座長: 鄭銘泰 執行長/ 施欣怡 醫師 (Moderators: Drs. Ming-Tai Cheng / Hsin-I Shih) 針對核能災害的對應措施與相關醫療處置-福島事件的啟示 Leading Countermeasures against Radiation Disaster and Nuclear Medical Application after Fukushima Nuclear Power Plant Accident	山下俊一 教授 Dr. Shunichi Yamashita
15:30-15:40	Coffee Break	
15:40-16:10	座長: 李潤川 主任 / 顏若芳 主任 (Moderators: Drs. Rheun-Chuan Lee / Ruoh-Fang Yen) 核醫影像在釷 90 體內放療的角色-台大經驗 Role of Nuclear Scintigraphy in SIRT-NTUH experience	鄭媚方 醫師 Dr. Mei-Fang Cheng
16:10-16:40	座長: 黃文盛 主任 / 張承培 主任 (Moderators: Drs. Wen-Sheng Huang / Cheng-pei Chang) 釷 90 體內放療的相關輻射防護議題與未來展望 Radiation concern and perspectives of Y-90 SIRT	林可瀚 醫師 Dr. Ko-Han Lin
16:40-17:10	座長: 陳瑞裕 醫師 / 譚鴻遠 主任 (Moderators: Drs. Jui-Yu Chen / Daniel Hueng-Yuan Shen) 放射碘治療在難治性甲狀腺癌的再導入 Reintroduction of RAI therapy to RAI refractory thyroid cancer	Dr. Byeong-Cheol Ahn
17:10-17:30	綜合討論及閉幕報告 Panel discussion and closing remarks	劉裕明 主任 Dr. Yu-Ming Liu 謝牧謙 教授 Dr. Mu-Chang Shieh 黃玉儀 醫師 Dr. Yu-Yi Huang

Domestic speech 1 (Continuous education):

演講者簡介

Name: Kang-Wei Chang

Affiliation: Deputy Engineer

Institute of Nuclear Energy Research

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Present Appointment:

Deputy Engineer, Institute of Nuclear Energy Research, Atomic Energy Council

Career Highlight:

Associate Researcher, Institute of Nuclear Energy Research, Atomic Energy Council

Academic Background:

Ph.D., Department of Biomedical Imaging and Radiological Sciences, National Yang-Ming University

核研所生物劑量實驗室在核意外之應用

Implications of INER biodosimetry Lab. In nuclear accident

Kang-Wei Chang, PhD

Personal Biological Laboratories should plan the staff to receive dose as a later dose assessment and management to ensure that the individual dose of radiation-related operations. There are about 44,000 radiation workers in Taiwan, including in nuclear power plants, industrial and hospital areas. In order to measure the accidental exposure of radiation, it is necessary build a biological dosimetry laboratory. When exposed with radiation accident, the biological analysis could as exposure dose assessment, and as a follow-up medical care.

International studies on the current bio-dose-related effects of individuals; biological dosimetry by chromosome analysis is a quick, simple and effective method. In INER (institute of nuclear energy research) had established chromosome variation analysis of the relevant discrimination method, from 2012 to 2018, we were completed five dose-effect curve, and combined into a standard curve for the standard curve. We also participated in the International Competency Test with Canadian Ministry of Health, as well as received ISO17025 Laboratory certification. Expect to become a credible and internationalized national laboratory in biological dosimetry.

Guest speech 1:

演講者簡介

Name: Shunichi Yamashita

Affiliation: Vice Professor

Nagasaki University School of Medicine

Citizenship: Japan

Email: shun@nagasaki-u.ac.jp



Present Appointment:

Vice President, Department of Radiation Biology and Protection,
Atomic Bomb Disease Institute, Nagasaki University.

Academic Background:

Graduated from Nagasaki University School of Medicine in March 1978
July 1984 to March 1987 as an ears from endocrine research fellow at the
Cedars-Sinai Medical Center, Los Angeles.

Specialty: Endocrinology/ Thyroidology, and Radiation Disaster Medicine

Publication: more than 450 peer-reviewed English papers and 280 Japanese papers

Teaching: Seventy PhD students including 14 foreign students mainly from Belarus and
Russia



針對核能災害的對應措施與相關醫療處置-福島事件的啟示

Leading Countermeasures against Radiation Disaster and

Nuclear Medical Application after

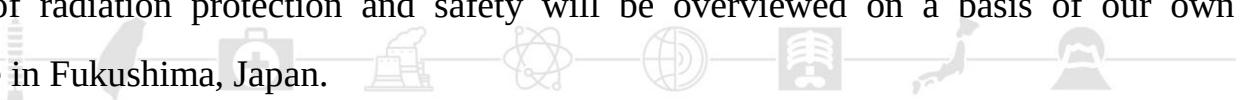
Fukushima Nuclear Power Plant Accident

Shunichi Yamashita, M.D., Ph.D.

Seven years have passed since the complex disaster of the Great East Japan earthquake and its aftermath, the Fukushima Daiichi Nuclear Power Plant accident. Various issues, including not only the importance of emergency radiation medicine but also the public response to residents especially to those who lived in the affected area, have been revealed in the initial chaos and confusion. Ways to engage with the problems of radioactive contamination, the so-called “existing exposure situation” (a situation in which both the exposed dose remains higher than public dose limit (1mSv/year) during normal conditions and extended periods of time are required to further reduce the radiation dose), have also manifested as changes in individual action were caused by a difference in recognition and understanding of these problems. While difficult conditions and long-term mental and emotional stresses for evacuees continue, it is gradually becoming possible to make level-headed decisions and act calmly.

First we need to follow the global consensus on radiological protection standards introduced by the UNSCEAR, ICRP, WHO and IAEA. To prepare for and respond to nuclear accident more effectively and efficiently, we further need to improve the comprehensive countermeasures against radiation disaster and nuclear medical application.

In Japan, a new governance and structure of nuclear disaster countermeasures was established by Nuclear Regulatory Agency from August 2015. Here, the overall scope and structure of radiation protection and safety will be overviewed on a basis of our own experience in Fukushima, Japan.



Domestic speech 2:

演講者簡介

Name: Mei-Fang Cheng

Affiliation: Assistant Professor

Department of Radiology, College of Medicine,
National Taiwan University

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Present Appointment:

Attending physician, Department of Nuclear Medicine, National Taiwan
University Hospital

Academic Background:

Visiting Scholar, Molecular and Medical Pharmacology, University of California, Los
Angeles

Lecturer, Department of Radiology, College of Medicine, National Taiwan University

Assistant Professor, Department of Radiology, College of Medicine, National Taiwan
University



核醫影像在釷 90 體內放療的角色-台大經驗

Role of Nuclear Scintigraphy in SIRT-NTUH experience

Mei-Fang Cheng, M.D., Ph.D.

The purpose of radiation therapy is to reduce tumor burden while preserving normal tissues from injury. Our experiences (NTUH) in selective internal radiation therapy using Yttrium-90 resin microspheres will be discussed, especially focusing on the role of nuclear scintigraphy in treatment planning. Strategies to minimize radiation-reduced injury will be discussed.



Domestic speech 3:

演講者簡介

Name: Ko-Han Lin

Affiliation: Attending physician

Department of Nuclear Medicine,

Taipei Veterans General Hospital

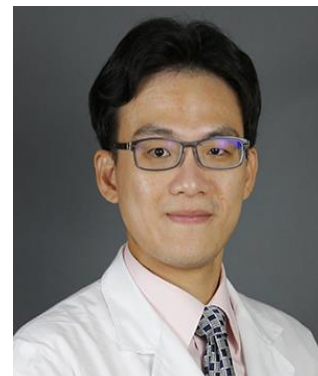
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Present Appointment:

Attending physician, Department of Nuclear Medicine

Career Highlight:

Attending physician, Department of Nuclear Medicine, Taipei Veterans General Hospital Councilor, Taiwan Society of Neutron Capture Therapy

Attending physician, Division of Family Medicine, Taipei Veterans General Hospital Taoyuan Branch

Fellowship - Department of Nuclear Medicine, Taipei Veterans General Hospital

Resident - Department of Nuclear Medicine, Taipei Veterans General Hospital



釷 90 體內放療的相關輻射防護議題與未來展望

Radiation concern and perspectives of Y-90 SIRT

Ko-Han Lin, M.D.

Yttrium-90 microsphere selective internal radiation therapy (Y-90 SIRT) is an emerging treatment method for advanced hepatocellular carcinoma and metastatic hepatic malignancies. This therapy is rapidly expanding throughout the radiology and nuclear medicine communities since introducing to Taiwan. Since 2008, we performed more than 300 treatments using Y-90 SIRT in Taipei Veterans General Hospital and also provided technical instructions to other institutes.

Two kinds of Yttrium-90 microspheres are available for SIRT. One is manufactured by Sirtex with Y-90 isotopes labeled on the surface of resin spheres and the other is manufactured by BTG with Y-90 embedded in the glass matrix. Some principles of treatment are similar for these two microspheres, such as trans-catheter arterial delivery, estimation of lung shunt fraction with Tc-MAA simulation, and post-treatment scanning. However, other issues differ significantly between these two microspheres because of different characteristics, delivery devices, and dosimetric formula.

For the glass microspheres, the activity of dose vial is fixed and its delivery system is seal-designed, which brings on less radiation protection concern. However, the radioactivity administrated might be less flexible. On the contrary, the resin microspheres provide on-site adjustment more flexible, but with more concern of employee radiation exposure.

In this section, I will introduce the several concerns of two kinds of Y-90 microspheres and future perspectives of Y-90 SIRT for liver cancers in Taiwan.



Guest speech 2:

演講者簡介

Name: Byeong-Cheol Ahn

Affiliation: Professor

Kyungpook National University Hospital

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Present Appointment:

Department of Nuclear Medicine, Kyungpook National University Hospital

Academic Background:

Department of Nuclear Medicine, School of Medicine, Kyungpook National University

Honors and Awards:

Research award, Ministry of Science, ITC, and future planning, Korea, 2015

Academic Award, Korean Thyroid Association, 2017

Academic Award, Korean Society of Nuclear Medicine, 2017

Best academic Award, Kyungpook National University Hospital, 2018



Reintroduction of RAI therapy to RAI refractory thyroid cancer

Byeong-Cheol Ahn, M.D., Ph.D.

Although most differentiated thyroid cancers show excellent prognosis, treating radioiodine refractory differentiated thyroid cancer is challenging. Various therapies, including chemotherapy, radiotherapy, and targeted therapy, have been applied for treating radioiodine refractory differentiated thyroid cancer but show limited effectiveness. The pathogenesis of thyroid cancer is closely associated with genetic mutations, rearrangements and epigenetic alterations, which activate certain signaling cascades, which might produce silencing of iodide metabolizing genes. Blockade of the signaling cascades may lead to redifferentiation of radioiodine refractory cancers that are respond to radioiodine therapy. Redifferentiation followed by radioiodine therapy might be a promising new alternative therapy for the radioiodine refractory differentiated thyroid cancer.

In this presentation, clinical values of redifferentiation on the radioiodine refractory differentiated thyroid cancer and discovery and development of the redifferentiation agents using molecular imaging techniques will be discussed.



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References: 1. Lewandowski RJ, Thurston KG, Goh JE, et al. 90Y microsphere (TheraSphere) treatment for unresectable colorectal cancer metastases of the liver: response to treatment at targeted doses of 135-150 Gy as measured by [18F]fluorodeoxyglucose positron emission tomography and computed tomography imaging. *J Vasc Interv Radiol* 2005;16(12):1641-51. 2. Meunier K, Lewandowski RJ, Mulcahy MF, et al. Radioembolization for neuroendocrine liver metastases: safety, imaging, and long-term outcomes. *Int J Radiat Oncol Biol Phys* 2012;83(3):887-94. 3. Riaz A, Gabas VL, Atassi B, et al. Radiation segmentectomy: a novel approach to increase safety and efficacy of radioembolization. *Int J Radiat Oncol Biol Phys* 2011;79(1):163-71. 4. Salem R, Lewandowski RJ, Mulcahy MF, et al. Radioembolization for hepatocellular carcinoma using Yttrium-90 microspheres: a comprehensive report of long-term outcomes. *Gastroenterology* 2010;138(1):52-64. 5. Youche M, Habib A, Ward TJ, et al. Unresectable solitary hepatocellular carcinoma not amenable to radiofrequency ablation: multidisciplinary radiology-pathology correlation and survival of radiation segmentectomy. *Hepatology* 2014;60(1):192-201. 6. Hilgard P, Hammill M, Fouly AE, et al. Radioembolization with yttrium-90 glass microspheres in hepatocellular carcinoma: European experience on safety and long-term survival. *Hepatology* 2010;52(5):1741-9. 7. Mazzafiero V, Spadaro C, Bhoori S, et al. Yttrium-90 radioembolization for intermediate-advanced hepatocellular carcinoma: A phase 2 study. *Hepatology* 2013;57(5):1826-37.

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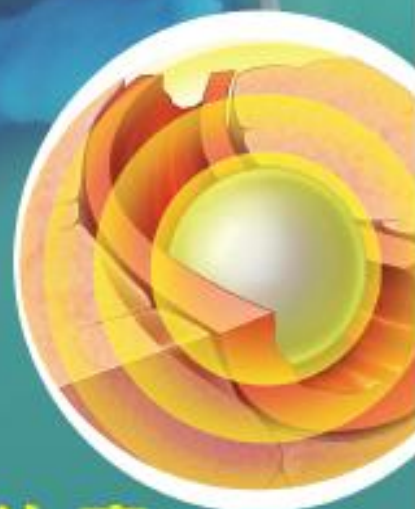
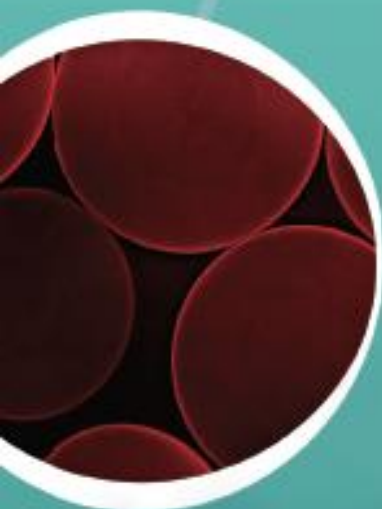
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台北國際會議中心地圖、交通資訊



台北國際會議中心(TICC):
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台北國際會議中心停車場採用自動化收費管理作業，車輛進場時由入口出票機自動吐票，車輛出場前請先至自動繳費機繳費後，再憑原票卡至出口處之驗票機自動驗票後開柵出場。50元/時

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- 1 站牌 1: 258、292、293、611、284、294、282、20。
- 2 站牌 2: 282、20、258、611、625、284。
- 3 站牌 3: 22、266、37、288。
- 4 站牌 4: 信義幹線。
- 5 站牌 5: 294、202、207、信義幹線。

其他資訊

周邊除國貿大樓、世貿中心展覽大樓(一館)、台北101、君悅大飯店與展覽三館等，均附設有停車場外，鄰近尚有市府路及松智路等地下停車場及其他民營停車場。

Memo:

大會組織（依姓筆畫順序，尊稱省略）

會長：張德明

召集人：黃文盛

總幹事：林可瀚

報到組：洪慧美、郭諭燁

場務組：李建穎、謝文彬

籌備組：朱建榮、李哲皓、周榮鴻、姚珊汎、洪慧美、張智勇、
郭諭燁、楊邦宏



