



# RAS6065

## Progress Report of 2014

(Republic of Korea)



Ministry of Science, ICT and  
Future Planning



KOREA INSTITUTE OF  
RADIOLOGICAL & MEDICAL SCIENCES

# Project overview



- **Title** : Strengthening the Application of Stereotactic Body Radiation Therapy(SBRT) to Improve Cancer Treatment
- **Project Number** : RAS6065
- **Duration** : 2012~2015 (4 years)
- **Objectives** : To improve cancer treatment in the RCA region through strengthening the application of SBRT
- **Lead Country** : Republic of Korea
- **LCC** : President Dr. Chul-Koo Cho,  
Korea Institute of Radiological & Medical Sciences (KIRAMS)
- **IAEA PMO** : Mr. Sinh V. Hoang
- **IAEA TO** : Mr. Rajiv R. Prasad

# Technology overview



[ **Cancer epidemic** : it's Increasing & causing socio-economic damage ]

- **Cancer treatment** : Surgery, Chemotherapy, Radiotherapy
- **SBRT** : Stereotactic Body Radiation Therapy

Conventional Radiotherapy	SBRT
Relatively small doses	High dose
30~40 fractionations	Up to 5 fractionations

- **Benefits**

- Better treatment results
- Less side effects
- Enhanced quality of life (shorter overall treatment time)
  - : especially for a country with a few radiotherapy facilities available only in big cities

# Participating Countries



**18 MSs :** Australia  
Bangladesh  
Cambodia  
China  
India  
Indonesia  
Japan  
Korea, Republic of  
Malaysia  
Mongolia  
Myanmar  
Nepal  
Pakistan  
Philippines  
Singapore  
Sri Lanka  
Thailand  
Vietnam



# Strategies



**Regional level**

**Regional Training Course**

**Expert Mission**

**Guidelines**

**Sustainable network**



**National level**

**National Training Activities**

**Promotion of Awareness**



**Outreached target**

**RO  
MP  
RTT**

**Physician**

**Policy makers**

**General public**

# Work Plan



Year	Regional Activity
2012	Project Planning MTG(ROK) 1 <sup>st</sup> RTC(SIN)
2013	SBRT Guidelines on lung, liver cancer 2 <sup>nd</sup> RTC(ROK)
2014	Mid-term Review MTG(MON) 3 <sup>rd</sup> RTC(JPN) Sustainable Regional Network
2015	4 <sup>th</sup> RTC(AUL) Expert Missions Final Review MTG(ROK)

# Regional Activities in 2014



## [ Mid-term Review Meeting ]

- **Dates** : Jun 30~July 4, 2014
- **Venue & Organizer** : National Cancer Center of Mongolia
  - Supported by Nuclear Energy Agency of Mongolia
- **Participants** : 19 participants from 14 Member States  
(AUL, BGD, CPR, IND, JPN, KAM, MAL, MON, PHI, ROK, SIN, SRL, THA, VIE)
- **Purpose** : To review progress & revise work plan



# Mid-term Review Meeting (cont.)



- **Progress confirmed**

- SBRT newly introduced/applied in more centers  
: **survey at Final Review MTG & publish a paper**

- **Work Plan revised**

- Details reviewed, Specified the dates of regional events, SWOT analysis

- **Regional Training Hubs identified**

- 6 regional training hubs for sustainable network  
: **ROK(Coordinator), AUL, JPN, SIN, IND, CPR**
- An interactive website will be constructed by ROK in 2015
- Share training opportunities besides IAEA, useful materials, expert pool, clinical studies, protocol research, etc
- **A sense of responsibility** expressed as a technical donor

# Mid-term Review Meeting (cont.)



- **Strong network of participating MSs under TCDC**

- A sense of responsibility based on strong bond, mutual understanding



# Regional Activities in 2014



## [ IAEA/RCA Regional Training Course on Clinical Application of Stereotactic Body Radiation Therapy (SBRT) in Head and Neck, Spinal and Liver Cancers ]

- **Dates** : Oct 20~24, 2014
- **Venue** : Tokyo Metropolitan Kamagome Hospital, Japan
- **Participants** : 30 participants from 15 Member States  
(Radiation oncologists & medical physicists)
- **Program** : Lectures, practical activity with simulated planning



# Regional Training Course (cont.)



## Evaluation : Successfully completed and highly evaluated

**Applied Radiation Biology and Radiotherapy Section (ARBR)**  
Division of Human Health – IAEA  
Course Evaluation Form

**Purpose:** To collect feedback for improving the quality of future training and educational events.

Course title	Code	Venue (City, Country)	Date	Course Director	Host Institute	IAEA Technical Officer
SBRT in hn,sp,lv	6065/003	Tokyo, Japan	20-24, Oct.2024	Katsuyuki Karasawa	Komagome Hp.	Nazim SI Ahmed

**Section A: Course evaluation**  
**Instruction:** For each statement, please check ONLY one number that best describes your opinion. (1 = strongly disagree; 2 = disagree; 3 = unsure; 4 = agree; 5 = strongly agree)

	1	2	3	4	5
The management and organization of the course was appropriate.					✓
I received instructions and background materials to properly prepare for the training.					✓
The learning objectives for the course were clearly outlined.					✓
The course provided the goals and learning outcomes formulated by the organizers.					✓
The quality of the course materials was adequate.					✓
The course content was suitably comprehensive for my needs.					✓
The time scheduled for each session was adequate.					✓
The practical / demonstration sessions were useful.					✓
The information was relevant and useful to my routine work.					✓
My knowledge on the topic has been improved.					✓
My personal expectations were met.					✓
The information was well balanced and supported by evidence.					✓
Faculty demonstrated a thorough knowledge of the subjects.					✓
The programme allowed adequate time for questions and discussion.					✓
The facilities and venue for the course were acceptable.					✓
The audio-visual systems were adequate.					✓
The overall training experience was satisfactory.					✓

Please write your additional comments:  
*Some dosemetric planning for SBRT would have been helpful*

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The audio-visual systems were adequate.					✓
The overall training experience was satisfactory.					✓

Please write your additional comments:  
*Course was very well organized. Good slides great. Very organized approach to leader.*

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Please write your additional comments:  
*Dr. Karasawa organized the best course!*

**Dr. Karasawa organized the best course !**

# National Activities in 2014



## [ Overview ]

### ● Dissemination of knowledge

- National training event, educational site visit, conference/seminar

### ● Promotion of awareness

- Policy makers, physicians, general public

### ● Technical contributions

- Contribution by resource countries

### ● Establishment of infrastructure

- Installation of RT machine, building of cancer center

### ● Introduction/application of SBRT

- Newly started SBRT, expanded application of SBRT to other organ sites

# National Activities in 2014



## ● Dissemination of knowledge

- **AUL** : Organized SBRT training day 2014 with Sydney Univ. & professional associations. 160 Radiation Oncologists, Medical Physicists, Radiation Therapists attended the course
- **BGD** : Head & Neck cancer conference, Bangladesh Cancer Congress. Different training program periodically supported by Director General of Health



# National Activities in 2014



## ● Dissemination of knowledge

- **CPR** : Organized Global Advance Symposium of Therapeutic Radiology and Oncology (GASTRO)

- **IND** : ICRO Post graduate Teaching Course on



Lung cancer, Seminar on 'Hypofractionated Radiotherapy: Reduced time, Enhanced gains', Dedicated sessions of SBRT in lung cancer at HCG RADICON and the 36<sup>th</sup> Annual National Conference of Radiation Oncologist

Indian College of Radiation Oncology (ICRO)  
wing of  
Association of Radiation Oncologists of India (AROI)

TEACHING COURSE SERIES

17<sup>th</sup> ICRO PG Teaching Course on  
"Treatment of Lung Cancer"

12<sup>th</sup> & 13<sup>th</sup> July, 2014

Tata Medical Center, Kolkata

Fortis Radiation Oncology Annual - 2014

**HYPOFRACTIONATED RADIOTHERAPY: REDUCED TIME, ENHANCED GAINS**

30<sup>TH</sup> - 31<sup>ST</sup> AUGUST

"Hypofractionated Radiotherapy- Reduced Time, Enhanced Gains"

Venue: Meditarium, First Floor  
Fortis Memorial Research Institute (FMRI), Gurgaon

At its flagship hospital located in Gurgaon, Fortis Healthcare has missions to make Oncology services a centre of excellence. Two leaders in radiation oncology equipment, Elekta and Brainlab, have joined hands at our hospital for the first time in the world. This has resulted in treating tumours with extreme and unprecedented accuracy and precision.

Hypofractionated Radiotherapy has undergone a kind of renaissance in radiation therapy. It has emerged as a sound treatment modality for treatment of cancers at various sites of the body. While greatly shortening the treatment time, it has also increased overall outcomes and compliance of patients.

On the second anniversary of the start of radiation therapy clinical services at FMRI, the Department of Radiation Oncology is organising a CME, the second Fortis Radiation Oncology Annual.

The CME shall deal with various facets of hypofractionated radiotherapy (including SBRT and SRS).

**Topics to be covered in this CME:**

- Hypofractionation in Breast Cancer
- Hypofractionated SBRT for Lung Cancers
- SRS and Hypofractionated SRT for Brain Tumours
- Hypofractionated SBRT for Prostate Cancer
- Head & Neck Hypofractionation and Brachytherapy
- Physics and Radiobiology of Hypofractionated Radiotherapy
- QA Constraints for Hypofractionated Radiotherapy
- "Breakfast with the Professor" session

**Patron:**  
Dr. Dilpreet Brar  
Regional Director  
Fortis Memorial Research Institute

**Organising Committee:**  
Department of Radiation Oncology  
Fortis Memorial Research Institute, Gurgaon

Re-radiation  
From limits to options

HCG RADICON 2014

# National Activities in 2014



## ● Dissemination of knowledge

- **MON** : National Seminar co-organized with the department of neurosurgery of 3<sup>rd</sup> clinical hospital



- **PHI** : Conference on Multi-disciplinary Perspectives in the Innovative Approach to Metastatic Cancer: Radiobiological basis & current evidence (lecturers from SIN, ROK)



# National Activities in 2014



## ● Dissemination of knowledge

- **THA** : Annual Scientific Meeting of the Thai Society of Therapeutic Radiology and Oncology (THASTRO) at Dusit Thani, National Workshop on the immobilization for SBRT at Ramathibodi Hos. (Instructor from AUL National Team)

*Thai Society of Therapeutic Radiology and Oncology*

## Scientific Annual Meeting

**DUSIT THANI PATTAYA, THAILAND**

**14<sup>th</sup> - 16<sup>th</sup> MARCH 2014**

**Friday 14th March 2014**

- Practicing Thoracic Radiation Oncology : From Photon to Proton
- Carbon Ion Therapy
- Luncheon Symposium 1 sponsored by MSD
- Comprehensive Cancer Center
- 3D-CRT vs IMRT in Cervical Cancer
- IAEA training course : SBRT- Lung&Liver Guidelines**
- Quality Management in Radiotherapy
- Communication Skill: Breaking Bad News and Truth Telling in Cancer Patient
- Optimal Benefit with Targeted Therapy in Real Practice sponsored by Merck

**Saturday 15th March 2014**

- Adaptive Radiotherapy in Gynecological Cancer sponsored by BA
- Comprehensive Cancer Hospital
- Interactive Case Discussion : CA lung
- Effect of AEC to medical personnel
- RTT in the Era of Modernized Radiation Oncology
- Luncheon Symposium 2 - Sponsored by PBI
- Safety Consideration in Advanced Radiotherapy
- Proton Therapy in Thailand sponsored by Transmedic

ASTRO 2013



**IAEA Training Course:  
SBRT-Lung & Liver  
Guidelines**



# National Activities in 2014



## ● Dissemination of knowledge

### - **THA** : RTC materials at THASTRO website

หน้าแรก

### สารจากนายกสมาคมฯ เดือนเมษายน พ.ศ. 2557

เขียนโดย นายกสมาคมฯ | เผยแพร่เมื่อ 10 เมษายน 2557 | 13,141 | [แสดงความคิดเห็น](#)

**Resource of IAEA RTC-RAS6065 : Liver and Lung SBRT**

สวัสดีครับ... (text continues)

**Resource จาก IAEA RTC-RAS6065 : Liver and Lung SBRT**

2nd Regional Training Course of RAS6065, Focused on SBRT for Liver and Lung  
Date: Dec 2-6, 2013  
Venue: Korea Institute of Radiological & Medical Sciences (KIRAMS), Seoul, Republic of Korea  
IAEA/RCA Lung/Liver SBRT Course 2013

# National Activities in 2014



## ● Promotion of awareness

- **AUL** : Advocacy with the Ministry of Health to encourage further implementation of SBRT
- **IND** : Published 'Practice of Stereotactic body radiotherapy in a developing country: Perception, Aspiration and Limitation - A survey' in Indian Journal
- **MON** : Broadcasted the Mid-term Review Meeting at UBS  
Gov't officials invited to the meeting for the whole period
- **THA** : Proposed the reimbursement scheme for SBRT to the Govt. Waiting for final approval from the Ministry of Public Health, then, final judgement by the Ministry of Finance

# National Activities in 2014



## ● Technical contributions

- **Medical physicist of ROK** visited National Cancer Center of Mongolia to support the change of source for Cobalt 60 (The only RT machine)
- **Radiation oncologist and medical physicist of ROK** visited National Cancer Institute of Sri Lanka to provide lecture & technical consultation on SBRT
- **Experts of SIN, ROK** provided lectures at the International conference in PHI
- **Expert of AUL** provided lecture at the national workshop of Thailand
- **Radiation oncologists of JPN, CPR** participated in the 3<sup>rd</sup> Regional Training Course as invited lecturers



# National Activities in 2014



## ● Establishment of infrastructure

- **BGD** : Additional linear accelerator to the National Institute of Cancer Research and Hospital supported by the Ministry of Health
- **KAM** : Establishment of National Cancer Centre at Phnom Penh (3 LINACs), Launched the National Anticancer Policy

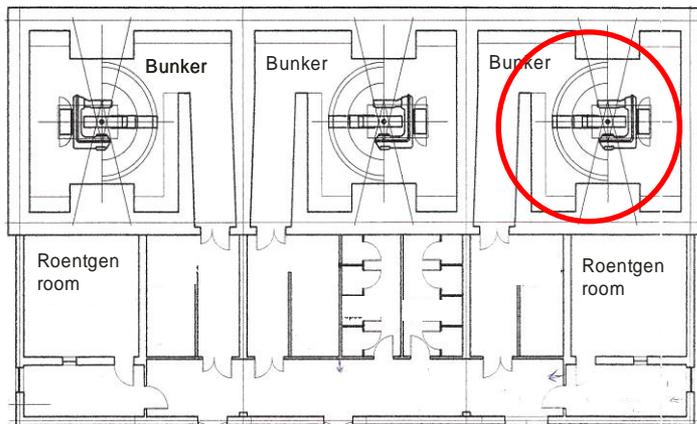


# National Activities in 2014



## ● Establishment of infrastructure

- **MON** : National project to install 2 new LINACs at National Cancer Center  
Proposed project titled 'Introduction of Stereotactic Radiation Treatment in Mongolia' to the Ministry of Health
- **SRL** : National plan to install 3 LINACS at Colombo, Galle, Kandy  
(One already installed at NCI in Feb 2014)
- **VIE** : National plan and Vision to 2020  
(1 RT machine/million – WHO recommendation)

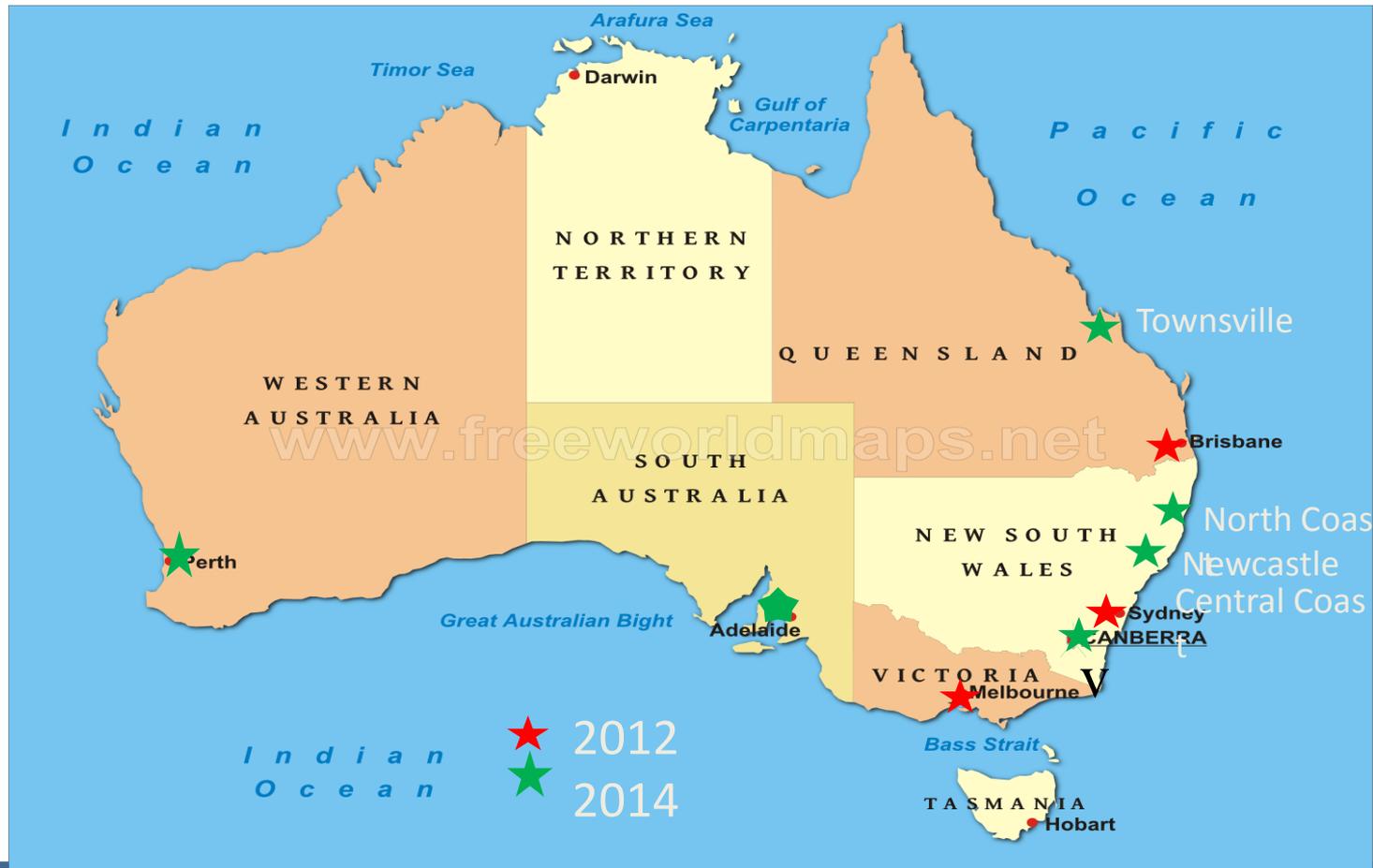


# National Activities in 2014



## ● Introduction/application of SBRT

- **AUL** : 6 more centers initiated SBRT in 2014



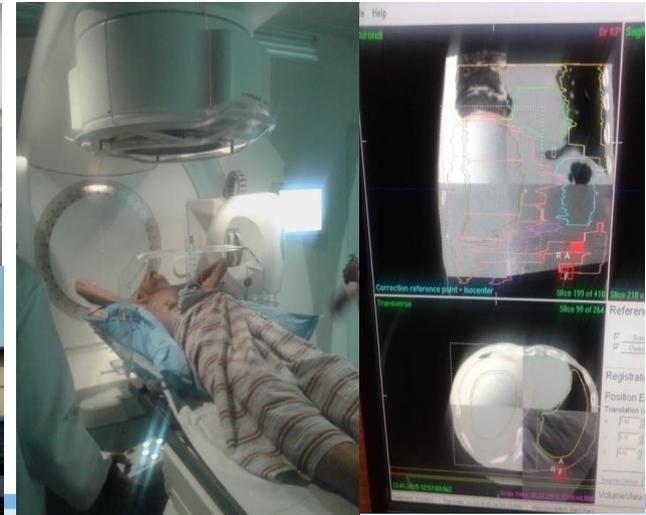
# National Activities in 2014



## ● Introduction/application of SBRT

- **BGD** : Initiated SBRT in private sector (5 patients)
- **SRL** : The 1<sup>st</sup> SBRT case of liver cancer with newly installed LINAC
- **IND, THA, INS, MAL, PHI** : Increased number of centers identified

<RTC> ➡ <Fellowship> ➡ <Expert Mission> ➡ <New machine> ➡ <1<sup>st</sup> SBRT>  
(On-line consultation throughout the period)



Go! Together!

# Work Plan of 2015



## ● **The 4<sup>th</sup> Regional Training Course**

- Dates & Venue : July 20~24, 2015, Sydney Univ.
- Target : Radiation Oncologist, Medical Physicist, Radiation Therapist
- Theme : SBRT for spine & prostate cancer

## ● **Expert Mission**

- TBD : To support newly started SBRT program

## ● **Final Progress Review Meeting**

- Dates & Venue : November 16~20, 2015, ROK
- Discussion : Review activities, evaluation of progress, survey & publication, regional training hubs
- **Project Planning Meeting of the new project in 16-17 TC cycle**  
: Enhancing Stereotactic Body Radiation Therapy for Frequent Cancers in the RCA Region (RAS2014011)

# Special Acknowledgement



- JPN hosted with a responsibility of technical donor & regional training hub



