Program at a Glance

May 30 (Saturday), 2015

ETD & EAT	Events
08 : 00	Chartered buses start out from JR Kyoto station 
10:05 – 10:25	Visit a posting station, *KUMAGAWA JUKU* 
11:30 – 12:20	Drive through the Rainbow Line of *MIKATAGOKO Lakes* 
13:10 – 14:10	Have a lunch at Wakasa Kaiyu Bazaar *CHIDORIEN* 
14:40 – 15:20	Visit the *Old TSURUGA Port* 
15:30 – 16:20	Stop by a dried kelp shop, *YAMATO TAKAHASHI* 
16:30 – 17:30	Tour of *the WAKASA WAN ENERGY RESEARCH CENTER* 
18:30 – 20:30	Welcome Dinner at *NEW SUNPIA TSURUGA*

May 31 (Sunday), 2015

ETD & EAT	Sessions & Events
08:00	Shuttle buses start out from JR Tsuruga station vicinity
08:50 – 09:00	**Opening Remarks**
09:00 – 10:00	**Session 1**: Heavy-Ion Microbeams
10:00 – 10:15	Coffee Break
10:15 – 11:55	**Session 2**: Cellular/Tissue Effects Ⅰ
11:55 – 13:10	**Luncheon Seminar 1**
13:10 – 14:00	**Special Lecture**
14:00 – 15:05	**Session 3**: Particle Microbeams Ⅰ
15:05 – 15:55	**Poster Session Ⅰ (P1 ~ P17, SP1, SP2, P39 ~ P47)** with Coffee Break
15:55 – 17:05	**Session 4**: Particle Microbeams Ⅱ
17:30	Shuttle buses leave for NEW SUNPIA TSURUGA
18:00 – 20:00	**Workshop Banquet** at NEW SUNPIA TSURUGA  

June 1 (Monday), 2015

ETD & EAT	Sessions & Events
08:00	Shuttle buses start out from JR Tsuruga station vicinity
08:40 – 09:50	**Session 5**: X-ray/Laser Microbeams
09:50 – 10:15	Coffee Break General Meeting of the Japan Microbeam Biology Research Association
10:15 – 11:55	**Session 6**: Cellular/Tissue Effects Ⅱ
11:55 – 13:10	**Luncheon Seminar 2**:
13:10 – 14:50	**Session 7**: Microbeam Radiation Therapy
14:50 – 15:40	**Poster Session Ⅱ (P18 ~ P38)** with Coffee Break
15:40 – 15:50	**Closing Remarks**
15:50 – 16:40	Group Photography & Preparing to set off
17:10	Chartered buses leave for JR Maibara station via JR Tsuruga station

Program

May 31 (Sunday), 2015

(T: Talk, SP: Special Poster, P: Poster)

08:50	**Opening Remarks**	President of the IWM2015 H. Matsumoto (Univ. Fukui, Japan)	
09:00 – 10:00	**Session 1: Heavy-Ion Microbeams**		
	Chairs: Y. Kobayashi (JAEA, Japan), R. Hirayama (NIRS, Japan)		
09:00 – 09:15	**T1** Focusing Heavy-ion Microbeam System of JAEA-Takasaki	T. Funayama (JAEA, Japan)	*37*
09:15 – 09:30	**T2** GSI heavy ion microprobe: sub-nuclear targeting and live cell imaging	G. Taucher-Scholz (GSI, Germany)	*38*
09:30 – 09:45	**T3** Live Cell Imaging System at IMP microbeam facility	N. Guo (Chinese Acad. Sci., China)	*39*
09:45 – 10:00	**P1** Patterning Irradiation for Contact Co-culture of Different Type Cells Using Heavy-ion Microbeam	H. Ikeda (JAEA, Japan)	*40*
	P2 Targeted Irradiation of cellular Substructures at SNAKE	C. Siebenwirth (TUM, Germany)	*41*
	P3 Targeted Mitochondrial Irradiation using Carbon Ions	D. W. M. Walsh (Univ. Bundeswehr Muenchen, Germany)	*42*
	P4 Biomedical Application of the IMP High Energy Heavy Ion Microbeam	G. Du (Chinese Acad. Sci., China)	*43*
10:00 – 10:15	**Coffee Break**		
10:15 – 11:55	**Session 2: Cellular/Tissue Effects I**		
	Chairs: H. Maezawa (KEK, Japan), E.I. Azzam (Rutgers NJMS., USA)		
10:15 – 10:40	**T4** Role of Endoplasmic Reticulum and Mitochondrion in proton microbeam irradiation induced bystander effect	C. Shao (Fudan Univ., China)	*47*
10:40 – 11:05	**T5** Radiation-stimulated ultraviolet signal generation and response by various cell lines	C. Seymour (McMaster Univ., Canada)	*48*

11:05 – 11:20	**T6** Development of a method of region-specific microbeam irradiation to *C. elegans* and analyses of effects on muscular movements	M. Suzuki (JAEA, Japan)	*49*
11:20 – 11:55	**SP1** Estrogen Receptor β-Mediated Inhibition of UVC-Induced DNA Damage Response and Repair* **This paper was awarded the Meeting Support Travel Award for Scholars-in-Training (SIT) from Radiation Research Society, USA.*	Yuan-Hao Lee (Cancer Biol. Program, Univ. Hawaii Cancer Centr., USA)	*50*
	P5 From energy deposition of ionizing radiation to cell damage signaling: Measured DNA damage yields after ion beam irradiation versus MC simulations	G. Gonon (ISRN, France)	*51*
	P6 Impact of ion focusing to sub-micrometer spots on dicentric formation: Simulations testing alternative hypotheses on DSB misrejoining	W. Friedland (German Res. Centr. Environ. Health, Germany)	*52*
	P7 Submicron focused low LET protons: a tool to understand the RBE of high LET ions	C. Greubel (Univ. Bundeswehr Muenchen, Germany)	*53*
	P8 Radiation Quality-Independent Bystander Effect and Its Molecular Mechanism	Y. Yokota (JAEA, Japan)	*54*
	P9 A mathematical model of modification of cell-cycle progression by radiation-induced bystander effects	Y. Hattori (JAEA, Japan)	*55*
	P10 Characterization of Microbeam Fields and Broadbeam Fields in the Same Framework Using Microdosimetric Probability Density	T. Sato (JAEA, Japan)	*56*
	P11 Responses of the Salt Chemotaxis Learning in Wild Type and Mutant *C. elegans* to Microbeam Irradiation	T. Sakashita (JAEA, Japan)	*57*
	P12 The systemic effects of irradiation revealed by the local irradiation to the medaka testis using carbon-ion microbeam system in TIARA	S. Oda (Univ. Tokyo, Japan)	*58*

11:55 – 13:10	**Luncheon Seminar 1**		
	Chair: M. Tomita (CRIEPI, Japan)		
12:15 – 12:55	**L1** Function of NBS1 protein in the pathways responding to DNA double strand breaks induced by ionizing radiation	H. Tauchi (Ibaraki Univ., Japan)	*29*
13:10 – 14:00	**Special Lecture**		
	Chair: H. Matsumoto (Univ. Fukui, Japan)		
	SL A Multidisciplinary Integrated Microbeam Training Course: The RARAF Experience	D. J. Brenner (Columbia Univ., USA)	*25*
14:00 – 15:05	**Session 3: Particle Microbeams I**		
	Chairs: K.D. Held (Harvard Med. Sch., USA), T. Ikeda (RIKEN, Japan)		
14:00 – 14:25	**T7** Current research at the Surrey Vertical Nanobeam	A.-C. Wera (Univ. Surrey, UK)	*61*
14:25 – 14:40	**T8** Development of a Super-Resolution Microbeam and Imaging System at Columbia University	G. Randers-Pehrson (Columbia Univ., USA)	*62*
14:40 – 15:05	**SP2** Quantification of tumor hypoxia in lung cancer patients undergoing stereotactic body radiotherapy using dynamic PET imaging*	O. J. Kelada (Yale Univ. Sch. Med., USA)	*63*
	**This paper was awarded the Meeting Support Travel Award for Scholars-in-Training (SIT) from Radiation Research Society, USA.*		
	P13 AMOEBA: Environmental control expanding the ability of vertical focused ion beams to explore environmental effects and radiation effects on cells	M. England (Univ. Surrey, UK)	*64*
	P14 A feasibility study on the design of an advanced end station for PIXE on living cells after targeted single ion irradiation using Geant4	N. T. Henthorn (Univ. Surrey, UK)	*65*
	P15 Direct analysis of DNA damage after irradiation in glioblastoma cell lines	N. Mayhead (Univ. Surrey, UK)	*66*

	P16 Detection of chromosome aberrations and micronuclei in CHO cells after alpha-particle microbeam irradiation within the BioQuaRT project	A. Testa (ENEA, Italy)	*67*
	P17 Endstation Updates and preliminary cell irradiation of FUDAN Microbeam	X. Wang (Fudan Univ., China)	*68*
15:05 – 15:55	**Poster session I (SP1, SP2, P1 ~ P17, P39 ~ P47) with Coffee Break**		
15:55 – 17:05	**Session 4: Particle Microbeams II**		
	Chairs: K. J. Kirkby (Univ. Surrey, UK), P. Barberet (CENBG, France)		
15:55 – 16:20	**T9** SPICE-NIRS Microbeam: a focused vertical system for proton irradiation of a single cell for radiation biology	T. Konishi (NIRS, Japan)	*71*
16:20 – 16:35	**T10** Application of particle microbeam for radiation sensitivity studies	G. Muggiolu (Univ. Bordeaux, France)	*72*
16:35 – 16:50	**T11** Observation of Ion Tracks in Cell Nuclei Irradiated by He Ion Microbeams Produced by Glass Capillaries	T. Ikeda (RIKEN, Japan)	*73*
16:50 – 17:05	**P18** A Method to Estimate the Divergence of Microbeam Produced with Glass Capillaries for Biological Use	R. J. Bereczky (RIKEN, Japan)	*74*
	P19 Single Proton Irradiation Using Newly Developed Tapered Glass Capillaries	V. Mäckel (RIKEN, Japan)	*75*
	P20 Study of Fucci-expressing HeLa cells irradiated with proton microbeam at RIKEN	N. Puttaraksa (RIKEN, Japan)	*76*
	P21 Recent developments on the CENBG micro-irradiation beam line	P. Barberet (CENBG, France)	*77*
17:30	**Shuttle buses leave for NEW SUNPIA TSURUGA**		
18:00 – 20:00	**Workshop Banquet at NEW SUNPIA TSURUGA** Addresses, Toast, and Jazz performance *etc*.		

08:40 – 09:50	**Session 5: X-ray/Laser Microbeams**		
	Chairs: K. Kobayashi (KEK, Japan), N. Autsavapromporn (Chiang Mai Univ., Thailand)		
08:40 – 08:55	**T12** Current status of the synchrotron X-ray microbeam irradiation system at the Photon Factory, KEK	N. Usami (KEK, Japan)	*81*
08:55 – 09:10	**T13** Biodosimetry for synchrotron microbeam radiation therapy at the European Synchrotron Radiation Facility	J. C. Crosbie (RMIT Univ., Australia)	*82*
09:10 – 09:25	**T14** A mechanistic study of gold nanoparticle radiosensitisation and targeted microbeam irradiation	M. Ghita (Queen's Univ. Belfast, UK)	*83*
09:25 – 09:40	**T15** Development of laboratory-based single cell irradiation facility (SCIF) with X-ray microbeam	M. Cholewa (Univ. Rzeszow, Poland)	*84*
09:40 – 09:50	**P22** Cell-killing effect for targeted cell nuclear irradiation with synchrotron X-ray microbeam	M. Suzuki (NIRS, Japan)	*85*
	P23 Cell Responses Induced by He-Ne Laser in Mice *in vivo* Depending of a Irradiation Dose and Localization of Exposure	A. Dyukina (Russian Acad. Sci., Russia)	*86*
09:50 – 10:15	**Coffee Break** **General Meeting of the japan Microbeam Biology Research Association**		
10:15 – 11:55	**Session 6: Cellular/Tissue Effects II**		
	Chairs: A. Ito (Tokai Univ., Japan), L. Wu (Chinese Acad. Sci., China)		
10:15 – 10:40	**T16** Oxidative Stress and the Propagation of Ionizing Radiation-Induced Bystander Effects	E. I. Azzam (Rutgers NJMS., USA)	*89*
10:40 – 11:05	**T17** Use of 3D Models to Study Radiation-Induced Bystander Effects	K. D. Held (Mass. Genl. Hosp., Harvard Med. Sch., USA)	*90*
11:05 – 11:55	**P24** Biological Implications of the Low-LET Photon-Induced Bystander Responses	M. Tomita (CRIEPI, Japan)	*91*

P25
DNA Damages Induced by Radiation Bystander Effect — T. Ushiroda (Tokai Univ., Japan) — *92*

P26
Live-cell imaging of 53BP1 foci during cell competition — K. Otsuka (CRIEPI, Japan) — *93*

P27
Biphasic ATP release through two different pathways after X-ray microbeam irradiation — M. Tsukimoto (Tokyo Univ. Sci., Japan) — *94*

P28
Suppression of the Mutagenesis in Bystander Cells Caused by Selective Cell Killing via Nitric Oxide-Mediated Bystander Response — M. Maeda (WERC, Japan) — *95*

P29
Late Effects in the Progeny of Bystander Human Cells are Dependent on Radiation Quality: The Relevance to Cancer Risk — N. Autsavapromporn (Chiang Mai Univ., Thailand) — *96*

P30
Transmission and repair of DNA damage signal to bystander cells from the population of proton microbeam irradiated human cells — B. N. Pandey (Bhabha Atomic Res. Centr., India) — *97*

P31
An examination of how neighboring un-irradiated normal cells inhibit repair of irradiated cancer cells — A. Kobayashi (NIRS, Japan) — *98*

P32
Target irradiation induced bystander effects between stem-like and non stem-like cancer cells — Y. Lui (Peking Univ., China) — *99*

P33
Activation of Nrf2 Antioxidative Response in Normal Human Lung Fibroblast WI38 By Cytoplasm Targeted Irradiation With Proton Microbeam in NIRS — J. Wang (Chinese Acad. Sci., China) — *100*

P34
Effect of a Histone Deacetylase Inhibitor (SAHA) on the Profile of γ-H2AX Foci after Microbeam Irradiation — M. J. Merchant (The Christie NHS Foundation Trust, UK) — *101*

P35
Function of miR-663 in regulating bystander effect — W. Hu (Chinese Acad. Sci., China) — *102*

11:55 – 13:10	**Luncheon Seminar 2**		
	Chair: K. Kume (WERC, Japan)		
12:15 – 12:55	**L2** Proton Beam Cancer Therapy in Fukui Prefectural Hospital	K. Yamamoto (Fukui Pref. Hosp., Japan)	*33*
13:10 – 14:50	**Session 7: Microbeam Radiation Therapy**		
	Chairs: Y. Furusawa (NIRS, Japan), K. Prise (Queen's Univ. Belfast, UK)		
13:10 – 13:35	**T18** Synchrotron Broad Beam and MRT Radiation-Induced Non-Targeted Effects	O. A. Martin (Peter MacCallum Cancer Centr., Australia)	*105*
13:35 – 14:00	**T19** Microbeam Radiation Therapy	G. Le Duc (ESRF Biomed. Beamline, France)	*107*
14:00 – 14:25	**T20** Abscopal and bystander effects following exposure of rodent brains to synchrotron medical microbeam irradiation	C. Mothersill (McMaster Univ., Canada)	*108*
14:25 – 14:40	**T21** Tumor Growth and Skin Reaction in Mice by Synchrotron Microplanar Beam	Y. Furusawa (NIRS, Japan)	*109*
14:40 – 14:50	**P36** Proton microchannel radiotherapy reduces side effects in an *in-vivo* mouse ear model	S. Girst (Univ. Bundeswehr Muenchen, Germany)	*110*
	P37 Localization of CD47 protein on cancer cells controlled by interplay of a peptide with X-ray irradiation	N. B. Kobayashi (Toagosei Co., Ltd., Japan)	*111*
	P38 X-ray microbeam irradiations on Beam line BL27B2 at the Photon Factory synchrotron facility	J. C. Crosbie (RMIT Univ., Australia)	*112*
14:50 – 15:40	**Poster session II (P18 ~ P38) with Coffee Break**		
15:40 – 15:50	**Closing Remarks**	Sec'y. Genl. of the IWM2015 M. Tomita (CRIEPI, Japan)	
15:50 – 16:40	**Group Photography & Preparing to set off**		
17:10	**Chartered buses leave for JR Maibara station via JR Tsuruga station**		