

PROGRAM

August 28 (Tue.)

Room A

Opening and Award Ceremony (16:00-18:30)

General Chairperson: Satoshi Kokura, Secretary General

Opening Remarks	16:00-16:05
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Toshikazu Yoshikawa, Kyoto Pref. Univ. of Med.

Keynote Lecture	16:05-16:30
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Chairperson: Toshikazu Yoshikawa, President of ICHO2012

KL Hyperthermia & chemotherapy; from sarcoma to pancreatic cancer - a path for mainline of tumor treatment?

Rolf D. Issels

Med. Clinic III, Univ. of Munich - Campus Grosshadern

Sugahara Award Ceremony of IAHO	16:30-16:35
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Chairperson: Rolf D. Issels, Univ. of Munich

Sugahara Award Lecture	16:35-17:00
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Chairperson: Rolf D. Issels, Univ. of Munich

Hyperthermia anno 2012: quality must be controlled and accurately documented

Gerard C. van Rhoon

Erasmus MC Daniel den Hoed, Dept. Radiat. Oncol., Unit Hyperthermia

Award Ceremony of ASHO	17:00-17:05
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Chairperson: Hiroyuki Kuwano, President of ASHO

ASHO Award Lecture	17:05-17:20
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Chairperson: Hiroyuki Kuwano, President of ASHO

Roles of intracellular oxidative stress in the enhancement of hyperthermia-induced apoptosis

Takashi Kondo

Dept. of Radiol. Sci., Grad. Sch. of Med. and Pharm. Sci., Univ. of Toyama

Welcome Remarks	17:20-17:25
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Takeo Ohnishi, Honorary President of ICHO&JCTM 2012, President of JSTM

Award Ceremony of Abe Award and JSTM Young Investigator Award**17:25-17:30**

Chairperson: Koichi Ito, Grad. Sch. of Eng., Chiba Univ.

Award Ceremony of Excellent Paper in Thermal Medicine and Int J Hyperthermia**17:30-17:35**

Chairperson: Akihisa Takahashi, ASRLD Unit, Gunma Univ.

Abe Award Lecture**17:35-17:50**

Chairperson: Koichi Ito, Grad. Sch. of Eng., Chiba Univ.

Surgery and hyperthermiaKanji Katayama¹, Makoto Murakami², Mitsuhiro Morikawa², Katsuji Sawai², Kenji Koneri², Yasuo Hirono², Takanori Goi², Atsushi Iida², Akio Yamaguchi²¹Cancer Care Promotion Center, Univ. of Fukui, ²Surgery 1, Univ. of Fukui**Report of JSTM Young Investigator Award****17:50-18:10**

Chairperson: Koichi Ito, Grad. Sch. of Eng., Chiba Univ.

JSTM-YIA1**Hyperthermia enhances the efficacy of adoptive naive T-cell therapy**

Satoko Adachi, Sotoshi Kokura, Takeshi Ishikawa, Naoyuki Sakamoto, Tetsuya Okayama, Reiko Tsuchiya, Yuji Naito, Toshikazu Yoshikawa

Dept. of Molecular Gastroenterology and Hepatology, Kyoto Pref. Univ. of Med.

JSTM-YIA2**Re-irradiation plus regional hyperthermia for recurrent non-small cell lung cancer: A potential modality for inducing long-term survival in selected patients**Takayuki Ohguri¹, Hajime Imada², Katsuya Yahara¹, Yukunori Korogi¹¹Dept. of Radiology, Univ. of Occupational and Environmental Health, ²Dept. of Cancer Therapy Center, Tobata Kyoritsu Hosp.**Award Lecture for Excellent Paper in Thermal Medicine****18:10-18:20**

Chairperson: Akihisa Takahashi, ASRLD Unit, Gunma Univ.

¹⁸F-fluorodeoxyglucose positron tomography is useful in evaluating the efficacy of multidisciplinary treatments for so-called borderline unresectable pancreatic head cancers

Makoto Murakami, Kanji Katayama, Kenji Koneri, Yasuo Hirono, Takanori Goi, Atsushi Iida, Akio Yamaguchi

First Dept. of Surg., Univ. of Fukui, Sch. of Med.

Award Lecture for Excellent Paper in Int J Hyperthermia
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18:20-18:30

Chairperson: Akihisa Takahashi, ASRLD Unit, Gunma Univ.

Hyperthermia enhances the effect of β -lapachone to cause γ H2AX formations and cell death in human osteosarcoma cells

Takeshi Hori¹, Takashi Kondo², Chang W Song³

¹Dept. of Orthop. Surg., Fac. of Med., Univ. of Toyama, ²Dept. of Radiological Sci., Grad. Sch. of Med. and Pharm. Sci., Univ. of Toyama, ³Radiat. Biology Lab., Dept. of Therapeutic Radiology, Univ. of Minnesota Med. Sch.

Special Performance of Music

18:30-19:00

ESHO BSD Award Session**9:10-9:40****Chairperson: Michael R. Horsman**Dept. Experimental Clinical Oncol., Aarhus Univ.
Hosp.**Ceremony & Lecture****Break****9:40-9:50****Symposium 1****9:50-11:50****HIPEC for peritoneal dissemination today****Chairpersons: Yutaka Yonemura**

Org. to Support Peritoneal Dissemination Treatment

Shigeki KusamuraDept. of Surg., Fondazione IRCCS Istituto
Nazionale dei Tumori di Milano**S01-1 Hyperthermic intraperitoneal chemotherapy with gastrectomy and lymphadenectomy for the treatment of gastric cancer patients with peritoneal carcinomatosis**

Hiroshi Yamamoto, Satoshi Murata, Tsuyoshi Yamaguchi, Eiji Mekata, Tomoharu Shimizu, Hiromichi Sonoda, Hisanori Shiomi, Shigeyuki Naka, Hiroya Akabori, Koichiro Murakami, Tohru Tani

Dept. of Surg., Shiga Univ. of Med. Sci.

S01-2 MUC2 protein expression status is useful in judging the effects of HIPEC for peritoneal dissemination of colon cancer

Takanori Goi, Kanji Katayama, Toshiyuki Nakazawa, Katsuji Sawai, Mitsuhiro Morikawa, Atsushi Iida, Akio Yamaguchi

First Dept. of Surg., Univ. of Fukui

S01-3 Laparoscopy assisted hyperthermic intraperitoneal chemotherapy and gastrectomy combined peritonectomy for advanced gastric cancer with peritoneal carcinomatosisMasumi Ichinose¹, Yutaka Yonemura², Nobuyuki Takao¹, Akiyoshi Mizumoto¹, Masamitsu Hirano¹¹Dept. of General Surg., Kusatsu General Hosp., ²NPO Org. to Support Peritoneal Dissemination Treatment**S01-4 Safety and survival after cytoreductive surgery with peritonectomy procedures and hyperthermic intraperitoneal chemotherapy**

Emel Canbay, Yutaka Yonemura

Peritoneal Surface Malignancy Treatment Center, Kishiwada Tokushukai Hosp., Kishiwada City,
Osaka Japan

S01-5 Clinical outcomes of laparoscopic hyperthermic intraperitoneal chemotherapy (LHIPEC) in stomach and colorectal cancer patients with peritoneal carcinomatosis

Chai Young Lee¹, Hyun Choon Shin², Yoon Hee Park², Jeong Ho Lee³, Jin Ho Choi², Jeong Ho Seo², Seh Jong Park², Dae Hee Lee²

¹Dept. of Oncologic Surg., Anyang Sam Hosp. Integrative Cancer Center, ²Dept. of Hematology and Oncol., Anyang Sam Hosp. Integrative Cancer Center, ³Dept. of Family Med., Anyang Sam Hosp. Integrative Cancer Center

S01-6 Cytoreductive surgery and hyperthermic intraperitoneal chemotherapy for peritoneal metastases from appendix and colon cancer: Current perspectives and future trends

Lana Bijelic

Dept. of Surg., Washington Hosp. Center, Washington DC

S01-7 Cytoreductive surgery with HIPEC in diffuse malignant peritoneal mesothelioma, epithelial ovarian cancer and peritoneal sarcomatosis: current evidence

Shigeki Kusamura, Dario Baratti, Marcello Deraco

Dept. of Surg., Fondazione IRCCS Istituto Nazionale dei Tumori di Milano

Break	11:50-12:00
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Luncheon Seminar 1	12:00-13:00
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Chairperson: Kazuhide Higuchi

2nd Dept. of Internal Med., Osaka Med. Coll.

LS1 Protective role for HSP70 against various gastrointestinal diseases and other diseases

Tohru Mizushima

Dept. of Analytical Chem., Fac. of Pharm., Keio Univ.

Sponsored by Eisai Co., Ltd.

Symposium 2	13:00-15:00
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Clinical aspects of regional hyperthermia combined with radiotherapy

Chairpersons: Yasumasa Nishimura

Dept. of Radiat. Oncol. Kinki Univ. Fac. of Med.

Jacoba van der Zee

Hyperthermia Unit, Dept. Radiat. Oncol., Erasmus MC - Daniel den Hoed Cancer Center

S02-1 Review of clinical experience with radiotherapy and hyperthermia in pelvic tumours

Jacoba van der Zee

Hyperthermia Unit, Dept. Radiat. Oncol., Erasmus MC - Daniel den Hoed Cancer Center

- S02-2 Hyperthermo-chemoradiotherapy with regional hyperthermia, pelvic radiotherapy, infusional 5-fluorouracil and l-leucovorin for patients with locally advanced lower rectal carcinoma**
Jun-ichi Saitoh¹, Hiroki Kiyohara¹, Mariko Shioya¹, Yoshiyuki Suzuki¹, Takashi Nakano¹, Hideyuki Sakurai², Takeo Takahashi³, Souichi Tsutsumi⁴, Takayuki Asao⁴, Hiroyuki Kuwano⁴
¹Dept. of Radiat. Oncol., Gunma Univ. Grad. Sch. of Med., ²Dept. of Radiat. Oncol., Univ. of Tsukuba, ³Dept. of Radiat. Oncol., Saitama Med. Center, ⁴Dept. of General Surg. Sci., Gunma Univ. Grad. Sch. of Med.
- S02-3 Six long-term survivors among 14 cases with malignant pleural mesothelioma (MPM) treated with intrathoracic chemotherapy, hyperthermia and radiation therapy**
Katsuyuki Karasawa, Takuya Shimizuguchi, Shun-ichirou Kageyama, Hiroshi Tanaka, Hiromi Izawa, Yumiko Machitori, TaChen Chang, Masakatsu Onozawa, Keiji Nihei, Nahoko Hanyu
Dept. of Radiology, Tokyo Metropolitan Cancer and Infectious diseases Center Komagome Hosp.
- S02-4 The role of hyperthermia in the treatment of locally advanced prostate cancer**
Sergio Maluta, Stefano Dall'Oglio, Mario Palazzi, Fabio Pioli, Antonio Grandinetti, Mario Romano, Nadia Marciai, Milena Gabbani, Anna D'Amico
Dept. of Radiotherapy Univ. Hosp. of Verona
- S02-5 Gemcitabine, cisplatin combined with hyperthermia in pancreatic cancer: Retrospective data and two ongoing clinical trials**
Katharina E. Lechner^{1,2}, Christiane Bruns³, Nelli Dieterle¹, Lars Lindner^{1,2}, Sultan Abdel-Rahman¹, Christoph Salat⁴, Volker Heinemann¹, Ulrich Mansmann⁵, Wolfgang Hiddemann¹, Rolf D. Issels^{1,2}
¹Med. clinic III, Univ. of Munich, LMU, ²Clinical Cooperation Group Hyperthermia, Helmholtz Zentrum, Munich, ³Dept. of Surg., Univ. of Munich, LMU, ⁴HäCmato-Onkologische Schwerpunktpraxis, Munich, ⁵IBE, Univ. of Munich, LMU

Break	15:00-15:15
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Poster-Short Oral pr. 01	15:15-18:00
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Chairperson: Hiromasa Kurosaki

Dept. of Radiat. Oncol., Tokyo Kousei Nenkin Hosp.

- Pa-01 A case of submandibular gland carcinoma treated with chemo-radiotherapy plus hyperthermia using magnetite nanoparticle-loaded liposome**
Shin Ohta¹, Hajime Imada¹, Hiroyuki Narisada¹, Yoshinori Tomoda¹, Katsuya Yahara², Takayuki Ohguri², Takeshi Kobayashi³
¹Cancer Therapy Center, Tobata Kyoritsu Hosp., ²Dept. of Radiology, Univ. of Occupational and Environmental Health, Kitakyushu, Japan, ³Chubu Univ.
- Pa-02 Hyperthermia for protruded tumor from the skin**
Shin Ohta¹, Hajime Imada¹, Hiroyuki Narisada¹, Yoshinori Tomoda¹, Katsuya Yahara², Takayuki Ohguri²
¹Cancer Therapy Center, Tobata Kyoritsu Hosp., ²Dept. of Radiology, Univ. of Occupational and Environmental Health, Kitakyushu, Japan

- Pa-03 Novel hyperthermia using magnetic materials for metastatic bone tumors**
Kunihiro Asanuma, Akihiko Matsumine, Takao Matsubara, Toru Ooi, Atsumasa Uchida, Akihiro Sudo
Dept. of Orthop. Surg. Mie Univ. Grad. Sch. of Med.
- Pa-04 Palliative chemo-hyperthermia for primary or post-operative gastric carcinoma with organ metastasis or peritoneal dissemination**
Hajime Imada, Hiroyuki Narisada, Yoshinori Tomoda, Shin Ohta
Cancer Therapy Center, Tobata Kyoritsu Hosp.
- Pa-05 The investigation of cases with long term chemo-hyperthermia of same regimen**
Hiroyuki Narisada, Hajime Imada, Yoshinori Tomoda, Shin Ohta
Cancer Therapy Center, Tobata Kyoritsu Hosp.
- Pa-06 Chemo-hyperthermia for pre-end stage recurrent ovarian cancer**
Hiroyuki Narisada, Hajime Imada, Yoshinori Tomoda, Shin Ohta
Cancer Therapy Center, Tobata Kyoritsu Hosp.
- Pa-07 Retrospective analysis of combined modality therapy for unresectable soft tissue sarcoma, clinical outcome of 14 cases**
Takuya Shimizuguchi, Katsuyuki Karasawa
Cancer and Infectious Disease Center Tokyo Metropolitan Komagome Hosp.

Poster-Short Oral pr. 02	15:15-18:00
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Chairperson: Hideaki Takahashi

Section of Neurosurgery, Niigata Cancer Center
Hosp.

- Pa-08 An advanced pancreatic cancer patient treated with a combination of proton beam therapy, chemotherapy and hyperthermia: Case report**
Mikako Harada, Takeshi Arimura, Takashi Ogino, Yoshio Hishikawa
Medipolis Proton Therapy and Res. Center
- Pa-09 Intraoperative hyperthermia for metastatic brain tumors**
Seung Hoon Lee¹, Heon Yoo¹, Yung Ho Jo², Ho Shin Gwak¹, E Suk Yang¹, Sang Hoon Shin¹
¹Neurooncology Clinic, Nat'l Cancer Center, ²Branch of Biomed. Eng., Nat'l Cancer Center
- Pa-10 Survival analysis of radiofrequency ablation combined with liver resection for dual lobe multifocal hepatocellular carcinoma**
Kuansheng Ma, Jun Yan, Xiaowu Li, Feng Xia, Xiaobin Feng, Li Liu, Ping Bie
The Inst. of Hepatobiliary Surg., Southwest Hosp., Third Military Med. Univ, Chongqing, P.R.China

- Pa-11 Early tolerance of interstitial prostate hyperthermia in combination with HDR brachytherapy**
Andrzej Kukielka^{1,2}, Piotr Brandys², Tomasz Dabrowski^{1,2}, Tomasz Walasek^{1,2}
¹Dept. of Brachytherapy, Centrum Onkologii - Instytut im. M. Skłodowskiej-Curie, Oddzial Krakow,
²Dept. of Radiotherapy, Centrum Onkologii - Instytut im. M. Skłodowskiej-Curie, Oddzial Krakow
- Pa-12 Efficacy of intrathoracic thermochemotherapy for the treatment of malignant effusion in patients with non-small cell lung cancer**
Akira Mogi, Takayuki Kosaka, Ei Yamaki, Shigebumi Tanaka, Hiroyuki Kuwano
Dept. of General Surgical Sci., Gunma Univ. Grad. Sch. of Med.
- Pa-13 Castration-resistant prostate cancer treated with combining low dose chemotherapy and regional hyperthermia for obtaining long survival**
Kosuke Ueda¹, Fumiko Maeda¹, Yasuhiko Ito²
¹Nagoya Prostatic Center, Hachiya Orthop. Hosp., ²Dept. of Urology, Holy Spirit Hosp.
- Pa-14 Immunological enhancement and long term remissions achieved in HIV patients receiving HL-WBH 'heatheal' hyperthermia treatment**
Alexei Suvernev^{1,2}, George Ivanov¹, Milton Yatvin^{2,3}
¹Siberian Sci. Res. Inst. of Hyperthermia, ²Heatheal, Washington DC, USA, ³Biology Dept. Reed Coll., Portland OR, USA

Poster-Short Oral pr. 03**15:15-18:00****Chairperson: Takayuki Asao**Dept. of General Surgical Sci., Grad. Sch. of Med.,
Gunma Univ.

- Pa-15 Thermochemoradiotherapy using superselective intra-arterial infusion via superficial temporal and occipital arteries for oral cancer with N3 cervical lymph node metastases**
Kenji Mistudo¹, Toshiyuki Koizumi¹, Masaki Iida¹, Toshinori Iwai¹, Senri Oguri¹, Noriyuki Yamamoto², Minoru Ueda², Mitomu Kioi¹, Makoto Hirota¹, Iwai Tohnai¹
¹Dept. of Oral and Maxillofacial Surg., Yokohama City Univ. Grad. Sch. of Med., ²Dept. of Oral and Maxillofacial Surg., Nagoya Univ. Grad. Sch. of Med.
- Pa-16 Clinical application of oncothermia against the tumors developed in the deep tissues in veterinary medicine**
Yoshiharu Okamoto, Gabor Andocs, Tomohiro Osaki, Takeshi Tsuka, Tomohiro Imagawa, Saburo Minami
Dept. of Veterinary Clinical Med., Fac. of Agric., Tottori Univ.
- Pa-17 Chemo-hyperthermia for non-small cell lung cancer with multiple pulmonary metastases**
Hajime Imada¹, Hiroyuki Narisada¹, Yoshinori Tomoda¹, Shin Ohta¹, Katsuya Yahara², Takayuki Ohguri²
¹Cancer Therapy Center, Tobata Kyoritsu Hosp., ²Dept. of Radiology, Univ. of Occupational and Environmental Health, Kitakyushu, Japan

- Pa-18 Superficial hyperthermia in head and neck malignancies. A review of 164 patients**
Stefano Dall'Oglio¹, Mario Palazzi¹, Andrea Fior², Mario Romano¹, Nadia Marciai¹, Sergio Maluta¹
¹Dept. of Radiat. Oncol., Univ. Hosp., Verona, Italy, ²Section of Oral and Maxillo-facial Surg., Dept. of Surg., Univ. Hosp., Verona, Italy
- Pa-19 Results of chemothermoradiation therapy for locally advanced laryngeal cancer**
Orazakhmet Kurpeshev¹, Vyacheslav Andreyev², Vladimir Pankratov², Igor Gulidov³, Kamila Strelkova¹
¹Dept. of Hyperthermia, Med. Radiological Res. Center, ²Dept. of Oncological Oto-Rhino-Laryngology, Med. Radiological Res. Center, ³Dept. of Radiat. Therapy, Med. Radiological Res. Center
- Pa-20 Clinical evaluation of thermochemoradiotherapy for advanced head and neck cancer**
Masaki Iida¹, Kenji Mitsudo¹, Toshiyuki Koizumi^{1,2}, Toshinori Iwai¹, Senri Oguri¹, Mitomu Kioi¹, Makoto Hirota¹, Hideyuki Nakashima¹, Iwai Tohnai¹
¹Dept. of Oral and Maxillofacial Surg., Yokohama City Univ. Grad. Sch. of Med., ²Dept. of Oral and Maxillofacial Surg., Tokyo Med. Univ.
- Pa-21 Thermochemoradiotherapy using superselective intra-arterial infusion via superficial temporal and occipital arteries for advanced oral cancer with cervical lymph node metastases**
Toshiyuki Koizumi¹, Kenji Mitsudo², Masaki Iida², Toshinori Iwai², Senri Oguri², Mitomu Kioi², Makoto Hirota², Iwai Tohnai²
¹Dept. of Oral and Maxillofacial Surg., Fac. of Med., Tokyo Med. Univ., ²Dept. of Oral and Maxillofacial Surg., Yokohama City Univ. Grad. Sch. of Med.

Poster-Short Oral pr. 04	15:15-18:00
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Chairperson: Hideo Baba

Dept. of Gastroenterological Surg. Grad. Sch. of
Med. Sci. Kumamoto Univ.

- Pa-22 Multidisciplinary therapy including hyperthermia for colorectal cancer**
Hiroyuki Narisada, Hajime Imada, Yoshinori Tomoda, Shin Ohta
Cancer Therapy Center, Tobata Kyoritsu Hosp.
- Pa-23 Chemo-radiotherapy plus regional hyperthermia and hyperbaric oxygen therapy for locally advanced pancreatic carcinoma**
Hiroyuki Narisada¹, Hajime Imada¹, Yoshinori Tomoda¹, Shin Ohta¹, Katsuya Yahara², Takayuki Ohguri²
¹Cancer Therapy Center, Tobata Kyoritsu Hosp., ²Dept. of Radiology, Univ. of Occupational and Environmental Health, Kitakyushu, Japan
- Pa-24 Efficacy of neoadjuvant thermochemotherapy in localized and locally advanced breast cancers**
Orazakhmet Kurpeshev
Dept. of Hyperthermia, Med. Radiological Res. Center

- Pa-25 Local control rate after the combination of re-irradiation and hyperthermia for recurrent breast cancer: Results in 250 patients**
 Marianne Linthorst¹, Albert N van Geel², Margreet Baaijens³, Wendim Ghidey⁴, Gerard C van Rhoon¹, Jacoba van der Zee¹
¹Dept. of Radiat. Oncol., Hyperthermia Unit, Erasmus MC-Daniel den Hoed Cancer Center, ²Dept. of Surgical Oncol., Erasmus MC-Daniel den Hoed Cancer Center, ³Dept. of Radiat. Oncol., Erasmus MC-Daniel den Hoed Cancer Center, ⁴Dept. of Trial and Med. Statistics, Erasmus MC-Daniel den Hoed Cancer Center
- Pa-26 Radio-hyperthermia (RT-HT) in the retreatment of superficial breast cancer recurrences**
 Giovanni De Pascalis, Alessia Monaco, Cristina Caruso, Michele Cianciulli, Cinzia Chiostrini, Vittorio Donato
 Dept. of Radiat. Oncol., San Camillo Forlanini Hosp., Rome
- Pa-27 Chemo-radiation using paclitaxel and carboplatin plus regional hyperthermia for stage III non-small cell lung cancer**
 Hajime Imada¹, Hiroyuki Narisada¹, Yoshinori Tomoda¹, Shin Ohta¹, Katsuya Yahara², Takayuki Ohguri²
¹Cancer Therapy Center, Tobata Kyoritsu Hosp., ²Dept. of Radiology, Univ. of Occupational and Environmental Health, Kitakyushu, Japan
- Pa-28 Chemo-radiotherapy plus regional hyperthermia and hyperbaric oxygen therapy for locally advanced or post-operative loco-regional recurrence of gastric carcinoma**
 Hajime Imada, Hiroyuki Narisada, Yoshinori Tomoda, Shin Ohta
 Cancer Therapy Center, Tobata Kyoritsu Hosp.

Poster-Short Oral pr. 05	15:15-18:00
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Chairperson: Takefumi Ohga

Fukuoka Higashi Med. Center, Dept. of Surg.

- Pa-29 Usefulness of combined treatment with continuous tirapazamine administration and mild temperature hyperthermia in gamma-Ray irradiation, referring to lung metastatic potential**
 Shin-ichiro Masunaga¹, Yoshinori Sakurai², Hiroki Tanaka², Minoru Suzuki¹, Natsuko Kondo¹, Masaru Narabayashi¹, Akira Maruhashi², Koji Ono¹
¹Particle Radiat. Oncol. Res. Center, Res. Reactor Inst., Kyoto Univ., ²Radiat. Med. Phys., Res. Reactor Inst., Kyoto Univ.
- Pa-30 Re-irradiation plus hyperthermia for recurrent breast cancer in previously irradiated area; size matters!**
 Sabine Oldenburg¹, Vanessa Griesdoorn¹, Yoka Kusumanto¹, Rob van Os¹, Bing Oei², Jack Venselaar², Hans Crezee¹, Paul Zum Vorde¹, Coen Rasch¹, Geertjan van Tienhoven¹
¹Academic Med. Center, Dept. of Radiat. Oncol., Amsterdam, ²Inst. Verbeeten, Dept. of Radiat. Oncol., Tilburg, the Netherlands

Pa-31 Comparison of 4 to 8 hyperthermia treatments combined with re-irradiation for breast cancer

Marianne Linthorst¹, Gerard C van Rhoon¹, Margreet Baaijens², Wendim Ghidey³, Jacoba van der Zee¹

¹Dept. of Radiat. Oncol., Hyperthermia Unit, Erasmus MC-Daniel den Hoed Cancer Center, ²Dept. of Radiat. Oncol., Erasmus MC-Daniel den Hoed Cancer Center, ³Dept. of Trial and Med. Statistics, Erasmus MC-Daniel den Hoed Cancer Center

Pa-32 Whole body hyperthermia combined with chemotherapy and radiotherapy for the treatment of patients with advanced stage nasopharyngeal carcinoma

Xunfan Shao, Jingfeng Deng, Naiying Zheng, Jianjun Shi, Zhiwen Mo

Dept. of Radiat. Oncol., Guangzhou Med. Coll. affiliated Cancer Hosp.

Pa-33 Efficacy of sequential combination of hyperthermia and gemcitabine in the treatment of advanced pancreatic cancer: Phase II study

Takeshi Ishikawa^{1,2}, Satoshi Kokura^{1,2}, Naoyuki Sakamoto³, Reiko Tsuchiya², Manabu Okajima², Tatsuzo Matsuyama², Satoko Adachi¹, Tetsuya Okayama^{1,2}, Nobuaki Yagi², Yuji Naito², Toshikazu Yoshikawa¹

¹Dept. of Cancer Immunocell Regulation, Kyoto Pref. Univ. of Med., ²Dept. of Gastroenterology and Hepatology, Kyoto Pref. Univ. of Med., ³Iseikai Hyakumanben Clinic

Pa-34 Clinical research of hyperthermic intraperitoneal perfusion chemotherapy combined with vein chemotherapy in treating advanced colon cancer

Shenglin Ma, Zhibing Wu, Xiadong Li, Yuelong Pan

Dept. of Radiat. Oncol., The first People's Hosp. of Hangzhou

Poster-Short Oral pr. 06

15:15-18:00

Chairperson: Masaru Morita

Dept. of Surg. and Sci., Kyushu Univ.

Pa-35 Radiotherapy of cervical carcinoma: combined with hyperthermia or chemotherapy? Results of the RADCHOC study

Ludy C Lutgens¹, Jan J Jobsen², Elzbieta M van der Steen³, Helena C van Doorn⁴, Gerard C van Rhoon⁵, Jacoba van der Zee⁵

¹Maastric Clinic, Maastricht, ²Dept. of Radiat. Oncol., Medisch Spectrum Twente, Enschede, the Netherlands, ³ARTI, Arnhem, the Netherlands, ⁴Dept. of Gynaecologic Oncol., Erasmus MC, Rotterdam, the Netherlands, ⁵Dept. of Radiat. Oncol., Hyperthermia Unit, Erasmus MC, Rotterdam, the Netherlands

Pa-36 Long-term outcome and efficacy of hyperthermochemotherapy for residual recurrence esophageal cancer after definitive chemoradiotherapy

Yasue Kimura¹, Masaru Morita², Koji Ando¹, Satoshi Ida¹, Hiroshi Saeki¹, Eiji Oki¹, Tetsuya Kusumoto¹, Yoshiyuki Shioyama², Yoshihiko Maehara¹

¹Dept. of Surg. and Sci., Grad. Sch. of Med. Sci., Kyushu Univ., ²Dept. of Clinical Radiology, Grad. Sch. of Med. Sci., Kyushu Univ.

- Pa-37 Early response to neo-adjuvant chemotherapy (NAC) in combination with regional hyperthermia (RHT) predicts long-term survival**
Lars H. Lindner¹, Eric Kampmann¹, Nelli Dieterle¹, Ulrich Mansmann², Thomas Kirchner³, Rolf D. Issels¹
¹Univ. Hosp. Med. Center - Medizinische Klinik III, ²Inst. of Med. Informatics, Biostatistics, and Epidemiology, Univ. of Munich, ³Inst. of Pathology, Ludwig-Maximilian-Univ. Munich
- Pa-38 The clinical study of tumor local hyperthermia treatment for 808 cases**
Yingquan Cai
Dept. of Radiotherapy Center, Shanxi Provincial Tumor Hosp.
- Pa-39 Local control rate after the combination of surgery, re-irradiation and hyperthermia for radio-induced angiosarcoma of the chest wall**
Marianne Linthorst¹, Albert N van Geel², Cees Verhoef², Elizabeth Baartman³, Bing Oei⁴, Wendim Ghidey⁵, Gerard C van Rhoon¹, Jacoba van der Zee¹
¹Dept. of Radiat. Oncol., Hyperthermia Unit, Erasmus MC-Daniel den Hoed Cancer Center, ²Dept. of Surgical Oncol., Erasmus MC-Daniel den Hoed Cancer Center, ³Dept. of Radiat. Oncol., Erasmus MC-Daniel den Hoed Cancer Center, ⁴Dept. of Radiat. Oncol., Verbeeten Inst., ⁵Dept. of Trial and Med. Statistics, Erasmus MC-Daniel den Hoed Cancer Center
- Pa-40 A methodological approach to the treatment of multiple/large lesions with 434 MHz hyperthermia and tomotherapy**
Rocco Panaia, Amalia Di Dia, Gabriele Petrilli, Giovanni Penduzzu, Pietro Gabriele
Inst. for Res. and Treatment of Cancer, Candiolo (TO) Italy
- Pa-41 Introduction of HIPEC for treating peritoneal surface malignancy at a community hospital**
Toshiyuki Kitai, Masafumi Kogire, Katusyoshi Furumoto, Daisuke Ito, Tomohiko Mori, Hidenobu Kojima, Yuya Miyauchi, Daisuke Nagashima
Dept. of Surg., Kishiwada City Hosp.

Poster-Short Oral pr. 07	15:15-18:00
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Chairperson: Erito Mochiki

Dept. of General Surg. Sci., Gunma Univ.

- Pa-42 Hyperthermic intraperitoneal chemotherapy (HIPEC) following a curative resection of advanced gastric cancer**
Satoshi Murata¹, Hiroshi Yamamoto¹, Tsuyoshi Yamaguchi¹, Hiroyuki Naitoh², Tomoharu Shimizu¹, Hisanori Shiomi¹, Shigeyuki Naka¹, Hiromichi Sonoda¹, Eiji Mekata¹, Hajime Abe¹, Tohru Tani¹
¹Dept. of Surg., Shiga Univ. of Med. Sci., ²Dept. of Surg., Hino Memorial Hosp.

- Pa-43 Temperature dependence of magnetic resonance signals of lipid proton components and its application to fat thermometry**
 Kagayaki Kuroda^{1,2}, Shuhei Morita¹, Khalid Albarodi², Makoto Obara³, Paul Baron⁴, Mie Kee Lam⁴, Wilbert Bartels⁴, Masatoshi Honda³, Tomohiko Horie⁵, Yutaka Imai⁵
¹Dept. of Human and Information Sci., Sch. of Information Sci. and Tech., Tokai Univ., ²Course of Information Sci. and Tech., Grad. Sch. of Eng., Tokai Univ., ³MR Marketing, Philips Electronics Japan Med. Systems, Shinagawa, Tokyo, Japan, ⁴Image Sci. Inst., Univ. Med. Center Utrecht, Utrecht, Netherlands, ⁵Dept. of Radiology, Tokai Univ., Japan
- Pa-44 Clinically significant urethral stricture and/or subclinical urethral stricture after HIFU paradoxically correlates with disease-free survival in patients with prostate cancer**
 Teruo Inamoto¹, Hiroshi Masuda^{1,4}, Kazumasa Komura¹, Yutaka Fujisue¹, Peter Black², Toshikazu Watsuji³, Haruhito Azuma¹
¹Dept. of Urology, Osaka Med. Coll., Osaka, Japan, ²Dept. of Urologic Sci., Univ. of British Columbia, Vancouver, British Columbia, Canada, ³Dept. of Urology, Hirakata City Hosp., Osaka, Japan, ⁴Dept. of Urology, Aino Hosp., Osaka, Japan
- Pa-45 The thermal combinational therapy with whole body hyperthermia and thermal coagulation for metastatic tumor**
 Akira Takeuchi, Hiromi Hasumura, Masakazu Shirahige, Sachiko Kotoyori, Kimiko Kume, Yoko Okawa, Takashi Takeuchi
 Dept. of Thermo-therapy, Luke Clinic
- Pa-46 Enhancement of ultrasound- or hyperthermia-induced cancer cell killing by antibacterial agents**
 Loreto B. Feril¹, Katsuro Tachibana¹, Takashi Kondo², Ryohei Ogawa², Zheng-Guo Cui³
¹Dept. of Anatomy, Fukuoka Univ. Sch. of Med., ²Dept. of Radiological Sci., Fac. of Med., Univ. of Toyama, ³Dept. of Public Health, Fac. of Med., Univ. of Toyama
- Pa-47 Improved intratumoral distribution of temperature sensitive liposomes and doxorubicin after combined hyperthermia and ablation treatment**
 Nicole Hijnen¹, Mariska de Smet¹, Holger Gruell^{1,2}
¹Eindhoven Univ. of Tech., ²Philips Res. Eindhoven, the Netherlands

Room P

Poster Viewing & Discussion	18:00-19:00
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Morning Lecture 1**8:40-9:10****Chairperson: Hiroyuki Kato**

Dokkyo Med. Univ. First Dept. of Surg.

ML01 Cancer hyperthermia using magnetite nanoparticles

Takeshi Kobayashi

Sch. of Biosci. and Biotech., Chubu Univ.

Morning Lecture 2**9:10-9:40****Chairperson: Norio Mitsuhashi**

Dept. of Radiat. Oncol., Tokyo Women's Univ. Sch. of Med.

ML02 Influence of thermal therapy on the tumor microenvironment, vascular function and vice-versa

Robert J. Griffin

Univ. of Arkansas for Med. Sci.

Break**9:40-9:50****Symposium 3****9:50-11:50****Hyperthermia and nanotechnology / nanomedicine****Chairpersons: Hiroyuki Honda**

Dept. of Biotech., Grad. Sch. of Eng., Nagoya Univ.

Nicholas Borys

Celsion Corp.

S03-1 Magnetic anti-cancer compound in hyperthermic therapyYoshihiro Ishikawa¹, Haruki Eguchi²¹Cardiovascular Res. Inst., Yokohama City Univ., Grad. Sch. of Med., ²Advanced Applied Sci. Dept., Res. Lab., IHI Co., Yokohama, Japan**S03-2 Proteins and cholesterol lipid vesicles are mediators of drug release from thermosensitive liposomes**Martin Hossann^{1,2}, Zulfya Syunyaeva¹, Rebecca Schmidt¹, Anja Zengerle¹, Hansjoerg Eibl³, Rolf D. Issels^{1,2}, Lars H. Lindner^{1,2}¹Dept. of Internal Med. III, Univ. Hosp. Grosshadern, Ludwig-Maximilians Univ., Munich, ²CCG Hyperthermia, Helmholtz Zentrum Muenchen, German Res. Center for Environmental Health, Munich, Germany, ³Max-Planck-Inst. for Biophysical Chem., Goettingen, Germany**S03-3 Heat sensitive nanomedicine in oncology: A clinical review of lyso-thermosensitive liposomal doxorubicin**

Nicholas Borys

Celsion Corp.

S03-4 Combined therapy of magnetite nanoparticles and NPrCAP, melanogenesis substrate, provides melanoma-targeted in situ vaccine by chemo-thermo-immunotherapy

Kowichi Jimbow¹, Akihiro Yoneta¹, Yasuaki Tamura¹, Toshiharu Yamashita¹, Akira Ito², Hiroyuki Honda², Kazumasa Wakamatsu³, Shosuke Ito³, Satoshi Nohara⁴, Takeo Hasegawa⁵, Itsuo Yamamoto⁵

¹Sapporo Med. Univ. Sch. of Med., ²Sch. of Eng., Nagoya Univ., ³Fujita Health Univ. Sch. of Health Sci., ⁴Meito Sangyo Co., Ltd., ⁵Yamamoto Vinita Co., Ltd.

S03-5 A novel two-step of local mild hyperthermia approach for advanced liposomal drug delivery to solid tumors

Li Li¹, Timo LM Ten Hagen¹, Astrid Gasselhuber², Jeremy Yatvin², Michiel Bolkestein¹, Gerard van Rhoon³, Alexander MM Eggermont^{1,4}, Martin Hossann⁵, Dieter Haemmerich², Gerben A Koning¹

¹Dept. of Surg., Erasmus Med. Center, ²Dept. of Pediatrics, Coll. of Med., Med. Univ. of South Carolina, ³Dept. of Radiotherapy, Erasmus Med. Center - Daniel den Hoed Cancer Center, ⁴Inst. of Cancerology Gustave Roussy, ⁵Dept. of Internal Med. III, Univ. Hosp. Grosshadern

S03-6 Effects of platinum nanoparticles on LPS-induced inflammatory response and hyperthermia-induced apoptosis

Mati Ur Rehman¹, Yoko Yoshihisa¹, Yusei Miyamoto², Tadamichi Shimizu¹

¹Dept. of Dermatology, Grad. Sch. of Med. and Pharm. Biosci. Univ. of Toyama, Japan, ²Dept. of Integrated Biosci., Grad. Sch. of Frontier Sci., Univ. of Tokyo, Chiba, Japan

S03-7 Drug-loaded magnetic nanocomposite devices for cancer thermochemotherapy

Lingyun Zhao¹, Zhu Yao², Li Li³, Jingdingsha Li², Jintian Tang¹

¹Inst. of Med. Physics and Eng., Dept. of Eng. Physics, Tsinghua Univ., Beijing, ²Dept. of Biopharmaceutical, Beijing Univ. of Chinese Med., Beijing, 100102, China, ³Dept. of Oncol., Xiangya Hosp., Central South Univ., Changsha, Hunan Province, PR China, 410008

S03-8 A novel intravesical magnetic nanoparticle hyperthermia system for treatment of bladder cancer

Alireza Mashal, Martin Huisjen, Kate McNerny, Karl Frantz, Mike Susedik, Carolyn Adams, Andrew Updegrave, Marvin Ross, Dan McKenna

Actium Biosystems

Break	11:50-12:00
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Symposium 4	13:00-15:00
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JSIR joint symposium: Heat stress and inflammation / regeneration

Chairpersons: Ikuo Morita

Dept. of Cellular Physiological Chem., Tokyo Med. and Dental Univ.

Toshikazu Yoshikawa

Kyoto Pref. Univ. of Med.

S04-1 Heat shock factors negatively regulate the inflammatory response

Akira Nakai, Ryosuke Takii, Naoki Hayashida, Eiich Takaki, Mitsuaki Fujimoto

Dept. of Biochem. and Molecular Biology, Yamaguchi Univ. Sch. of Med.

- S04-2 Effects of application of heat stress on the regeneration of injured skeletal muscle**
Yoshinobu Ohira
Grad. Sch. Med. & Front. Biosci., Osaka Univ.
- S04-3 Identification of genes responsive to mild hyperthermia in normal human fibroblastic cells**
Yoshiaki Tabuchi¹, Yukihiro Furusawa², Ayako Kariya², Shigehito Wada², Kenzo Ohtsuka³, Takashi Kondo²
¹Life Sci. Res. Ctr., Univ. of Toyama, ²Grad. Sch. of Med. and Pharm. Sci., Univ. of Toyama, ³Dept. of Environmental Biol., Chubu Univ.
- S04-4 Heating in nano-scale: Oncothermia**
Andras Szasz
St. Istvan Univ., Fac. of Eng., Biotechnics Dept.
- S04-5 Effects of a HSP70 inducer, alkannin on apoptosis in UVB-exposed human keratinocytes**
Yoko Yoshihisa¹, Mariame Ali Hassan², Yukihiro Furusawa², Takashi Kondo², Tadamichi Shimizu¹
¹Dept. of Dermatology, Grad. Sch. of Med. and Pharm. Sci., Univ. of Toyama, ²Dept. of Radiological Sci., Grad. Sch. of Med. and Pharm. Sci., Univ. of Toyama

Break**15:00-15:15****Poster-Short Oral pr. 01****15:15-18:00****Chairperson: Hitoshi Ishikawa**

Dept. of Radiat. Oncol., Fac. of Med., Grad. Sch. of Comprehensive Human Sci., Univ. of Tsukuba

- Pb-01 Reactivation of heat-inactivated Ku proteins by heat shock protein HSP73**
Makoto Ihara¹, Kenzo Ohtsuka², Yutaka Okumura¹, Takeo Ohnishi³
¹Dept. of RI Med., Atomic Bomb Disease Inst., Nagasaki Univ., ²Lab. of Cell and Stress Biol., Coll. of Biosci. and Biotechnol., Chubu Univ., ³Dept. of Rad. Oncol., Nara Med. Univ.
- Pb-02 Heat-inducible gene expression system using hybrid HSP70 promoter for hyperthermia gene therapy**
Masaki Yamaguchi, Akira Ito, Noriaki Okamoto, Yoshinori Kawabe, Masamichi Kamihira
Dept. of Chem. Eng., Fac. of Eng., Kyushu Univ.
- Pb-03 Heat treatment as well as X-ray-irradiation depresses gastric mucosal damage induced with restraint plus water-immersion stress through HSP-induction in mice**
Akihisa Takahashi¹, Xiaoming Su², Rikio Yamagata³, Takeo Ohnishi⁴
¹ASRLD Unit, Gunma Univ., ²306th Hosp. of PLA, ³Himeji Dokkyo Univ., ⁴Dept. of Radiat. Oncol., Nara Med. Univ.

Pb-04 Inactivation of DNA-dependent protein kinase promotes heat-induced apoptosis independently of heat-shock proteins in human cancer cell line

Seisuke Okazawa^{1,2}, Yukihiro Furusawa^{2,3}, Ayako Kariya², Mariame Ali Hassan², Mie Arai², Yoshiaki Tabuchi⁴, Ryuji Hayashi¹, Takashi Kondo², Kazuyuki Tobe¹

¹Dept. of First Internal Med., Univ. of Toyama, ²Dept. of Radiological Sci., Univ. of Toyama, ³Lab. for Bioenvironmental Epigenetics, Res. Center for Allergy and Immunology, ⁴Div. of Molecular Genetics Res., Life Sci. Res. Center, Univ. of Toyama

Pb-05 Pifithrin-mu, a new HSP70 inhibitor, sensitizes human prostate cancer cells to hyperthermia

Kazumasa Sekihara^{1,4}, Nanae Harashima¹, Hiroyuki Monma^{1,2}, Nobue Uchida³, Taisuke Inomata⁴, Mamoru Harada¹

¹Dept. Immunol. Shimane Univ. Facult. Med., ²Dept. of General Surg. Shimane Univ. Facult. Med., ³Dept. Rad. Oncol. Tottori Prefect. Center Hosp., ⁴Dept. Rad. Oncol. Shimane Univ. Facult. Med.

Pb-06 A priming heat treatment can induce the development of heat- and radio-resistance *via* HSPs, regardless of *p53*-gene status

Akihisa Takahashi¹, Takeo Ohnishi²

¹ASRLD Unit, Gunma Univ., ²Dept. of Radiat. Oncol., Nara Med. Univ.

Poster-Short Oral pr. 02

15:15-18:00

Chairperson: Ichiro Ota

Dept. of Otolaryngology-Head and Neck Surg., Nara Med. Univ.

Pb-07 Heat induced cell death and HSPs in human leukemia cell lines

Qing-Li Zhao, Yoshisada Fujiwara, Takashi Kondo

Dept. Radiol. Sci., Univ. of Toyama, Grad. Sch. Med. Pharm

Pb-08 Gene expression profiling in HSF1-knockdown human oral squamous cell carcinoma HSC-3 cells

Tatsuya Yunoki¹, Yoshiaki Tabuchi², Ayako Kariya¹, Takashi Kondo¹

¹Grad. Sch. of Med. and Pharm. Sci., Univ. of Toyama, ²Life Sci. Res. Ctr., Univ. of Toyama

Pb-09 Beneficial effects of molecular chaperone inducers

Kenzo Ohtsuka

Lab. Cell & Stress Biol., Dept. Environmental Biol., Chubu Univ.

Pb-10 Immunomolecular characteristics of triple-negative breast cancer stem cells

Punit Kaur¹, Sunil Krishnan², Alexzander Asea¹

¹Dept. of Pathology, Scott & White Memorial Hosp. and Clinic, and the Texas A&M Health Sci. Center, ²Dept. of Radiat. Oncol., MD Anderson Cancer Center

Pb-11 TGF- β -induced Epithelial-Mesenchymal Transition (EMT) is suppressed by heat treatment in human colon adenocarcinoma cell line

Satoko Adachi, Sotoshi Kokura, Takeshi Ishikawa, Naoyuki Sakamoto, Tetsuya Okayama, Manabu Okajima, Tatzuo Matsuyama, Reiko Tsuchiya, Yuji Naito, Toshikazu Yoshikawa

Dept. of Molecular Gastroenterology and Hepatology, Kyoto Pref. Univ. of Med.

- Pb-12 A role for Ctr1 in the synergistic interaction between hyperthermia and cisplatin**
Chelsea D. Landon, Sarah Benjamin, Mark W. Dewhirst
Dept. of Pathology, Duke Univ. Med. Center
- Pb-13 Rad9 and Rad17 are required for heat-induced activation of ATR-Chk1 signaling pathway and heat tolerance**
Munkhbold Tuul¹, Hiroyuki Kitao², Kazuaki Matsuoka², Makoto Iimori², Shinichi Kiyonari², Hiroshi Saeki¹, Eiji Oki¹, Masaru Morita¹, Yoshihiko Maehara¹
¹Dept. of Surg. and Sci., Kyushu Univ., ²Dept. of Molecular Oncol., Kyushu Univ.

Poster-Short Oral pr. 03**15:15-18:00****Chairperson: Valentina Ostapenko**

Dept. of Internal Med., Higashiyamoto Hosp.

- Pb-14 Global microRNA expression profiling of human oral squamous cell carcinoma cell lines in response to hyperthermia**
Ayako Kariya¹, Yukihiro Furusawa¹, Ryohei Ogawa¹, Takashi Kondo¹, Yoshiaki Tabuchi²
¹Grad. Sch. of Med. and Pharm. Sci., Univ. of Toyama, ²Grad. Sch. of Med. and Pharm. Sci., Univ. of Toyama
- Pb-15 Enhancement of anti-tumor effect by the combination of ultrasound mediated mild hyperthermia and immunotherapy**
Ryo Suzuki, Yusuke Oda, Daiki Omata, Yoshikazu Sawaguchi, Kazuo Maruyama
Lab. of Drug and Gene Delivery, Fac. of Pharma-Sci., Teikyo Univ.
- Pb-16 Low-intensity ultrasound enhances anti-cancer effect of cetuximab on human head and neck cancer cells**
Ichiro Ota¹, Takashi Masui¹, Masatoshi Kanno², Hiroshi Hosoi¹
¹Dept. of Otolaryngology-Head and Neck Surg., Nara Med. Univ., ²Cancer Center, Nara Med. Univ.
- Pb-17 Moderate heat treatment enhances activities of human cytotoxic T lymphocytes**
Akari Takahashi, Toshihiko Torigoe, Yoshihiko Hirohashi, Yasuaki Tamura, Takayuki Kanaseki, Noriyuki Sato
1st Dept. of Pathology., Sapporo Med. Univ., Sch. Med.
- Pb-18 The enhancement of hyperthermia-induced apoptosis by Shikonin and its underlying molecular mechanism**
Jin-Lan Piao¹, Zheng-Guo Cui², Takashi Kondo¹
¹Dept. of Radiological Sci., Grad. Sch. of Med. and Pharm. Sci., Univ. of Toyama, ²Dept. of Public Health, Grad. Sch. of Med. and Pharm. Sci., Univ. of Toyama
- Pb-19 Apoptotic cell death by the novel natural compound, cinobufotalin**
Heba Emam, Qing-Li Zhao, Takashi Kondo
Dept. of Radiological Sci., Univ. of Toyama

- Pb-20 Molecular mechanisms involved in the enhancement of hyperthermia-induced apoptosis by docosahexaenoic acid, -Implication for cancer therapy-**
 Zheng-Guo Cui¹, Loreto Jr., Bando Feril², Hidekuni Inadera¹
¹Dept. of Public Health, Grad. Sch. of Med. and Pharm. Sci., Univ. of Toyama, ²Dept. of Anatomy, Fukuoka Univ. Sch. of Med.

Poster-Short Oral pr. 04

15:15-18:00

Chairperson: Shin-ichiro Masunaga

Particle Radiat. Oncol. Res. Center, Res. Reactor
 Inst., Kyoto Univ.

- Pb-21 Treatment enhancement of ultrasound-mediated nanodrug delivery in combination with hyperthermia**
 Chi-Feng Chiang¹, Heng-Ruei Shiu¹, Hsiao-Ching Tseng¹, Fu-Hsiung Chang², Win-Li Lin¹
¹Inst. of Biomed. Eng., Nat'l Taiwan Univ., ²Inst. of Biochem. and Molecular Biology, Nat'l Taiwan Univ.
- Pb-22 The therapeutic potential of combining OXi4503, radiation and mild temperature hyperthermia**
 Michael R. Horsman
 Dept. Experimental Clinical Oncol., Aarhus Univ. Hosp.
- Pb-23 Novel cationic thermosensitive liposomes for targeted and controlled drug delivery to tumor vasculature and tumor cells**
 Bilyana M. Dicheva¹, Timo LM Ten Hagen¹, Li Li¹, Debby Schipper¹, Ann L.B. Seynhaeve¹, Gerard C van Rhooen⁵, Alexander MM Eggermont^{1,2}, Lars H Lindner^{1,3,4}, Gerben A Koning¹
¹Dept. of Surgical Oncol., Rotterdam, Erasmus MC, ²Cancer Inst. Gustave Roussy, Paris, ³Dept. of Internal Med. III, Munich, Ludwig-Maximilians Univ., ⁴CCG-Hyperthermia, Munich, German Res. Center for Environmental Health, ⁵Dept. Radiotherapy, Rotterdam, Erasmus Med. Center
- Pb-24 Antitumor effects of nano-bubble hydrogen-dissolved water are enhanced by coexistent platinum colloid and the combined hyperthermia concurrently with Apoptosis -like cell death**
 Ryoko Asada¹, Katsuhiko Kageyama², Hiroshi Tanaka², Masanori Takeshita², Masatsugu Kimura³, Yasukazu Saitoh⁴, Nobuhiko Miwa²
¹Dept. of Radiological Tech., Osaka Butsuryo Coll., ²Fac. of Health Sci., Butsuryo Coll. of Osaka, ³Radioisotope Center, Osaka City Univ., ⁴Fac. of Life and Environmental Sciences, Pref. Univ. of Hiroshima
- Pb-25 Cancellation of hyperthermia induced reactive oxygen species in rat plasma**
 Megumi Ueno¹, Minako Nyui¹, Ikuo Nakanishi¹, Kazunori Anzai^{1,2}, Toshihiko Ozawa^{1,3}, Ken-ichiro Matsumoto¹, Yoshihiro Uto⁴
¹Res. Center for Charged Particle Therapy, Nat'l Inst. of Radiological Sci., ²Nihon Pharm. Univ., ³Yokohama Coll. of Pharm., ⁴Inst. of Tech. and Sci., The Univ. of Tokushima
- Pb-26 Screening of phytochemicals sensitizing heat sensitivity of cancer cells**
 Shin-ichi Bando¹, Osamu Hatano², Hiroshi Takemori³, Nobuo Kubota⁴, Ken Ohnishi¹
¹Dept. Biol. Ibaraki Pref. Univ. Health Sci., ²Dept. Anat., Nara Med. Univ., ³Natl Inst. Biomed. Innovat., Lab. Cell Signal. Metabo. Disord., ⁴Dept. Radiol. Sci., Ibaraki Pref. Univ. Health Sci.

Chairperson: Yasushi Toh

Nat'l Kyushu Cancer Center, Dept. of
Gastroenterological Surg.

- Pb-27 A new cancer treatment strategy with magnetic anti-cancer compound with hyperthermia**
Xianfeng Feng¹, Hidenobu Fukumura¹, Itaru Sato¹, Haruki Eguchi², Yoshihiro Ishikawa¹
¹Dept. of Cardiovascular Res. Inst., Yokohama City Univ. of Med., ²IHI Co.
- Pb-28 Hyperthermia using magnetic nanoparticles combined with intratumoral dendritic cells enhance antitumor effect**
Noriyuki Yamamoto¹, Koushi Matsumoto¹, Hiroki Furue¹, Sumitaka Hagiwara¹, Masaya Nishikawa¹, Hideharu Hibi¹, Toshio Shigetomi², Kenji Mitsudo³, Iwai Tohnai³, Takeshi Kobayashi⁴, Minoru Ueda¹
¹Dept. of Oral and Maxillofacial Surg., Nagoya Univ. Grad. Sch. of Med., ²Dept. of Oral and Maxillofacial Surg., Nagoya City Univ. Grad. Sch. of Med. Sci., ³Dept. of Oral and Maxillofacial Surg., Yokohama City Univ. Grad. Sch. of Med., ⁴Coll. of Biosci. and Biotech., Chubu Univ.⁵
- Pb-29 TAK1 promotes cell survival of HeLa cells exposed to heat stress dependently on TNFAIP3 and IL-8 inductions but independently of NF-κB phosphorylations**
Peng Li¹, Yukihiro Furusawa¹, Zheng-Li Wei¹, Hiroaki Sakurai², Yoshiaki Tabuchi³, Qing-Li Zhao¹, Takaharu Nomura⁴, Ikuo Saiki⁵, Takashi Kondo¹
¹Dept. of Radiological Sci. of Toyama Univ., ²Dept. of Cancer Cell Biology, Toyama Univ., ³Dept. of Div. of Molecular Genetics Res., Toyama Univ., ⁴Dept. of Low Dose Radiat. Res. Center, Komae, ⁵Dept. of Div. of Pathogenic Biochem., Toyama Univ.
- Pb-30 Thermosensitization and induction of apoptosis or cell-cycle arrest via the MAPK cascade by parthenolide, an NF-κB inhibitor, in human prostate cancer cell lines**
Sachiko Hayashi¹, Ken Koshiba², Hisaya Shiozaki², Masanori Hatashita³, Takefumi Sato⁴, Yutaka Jujo², Ryuta Suzuki²
¹Dept. of Expt'l Radiol. and Health Phys., Fac. of Med. Sci., Univ. of Fukui, ²The Center for Urology and Nephrology, Saitamaken-oh Hosp., ³Res. and Development, The Wakasa-wan Energy Res. Center, ⁴Dept. of Urology, Kitasato Univ. Sch. of Med.
- Pb-31 Hyperthermia sensitizes resistant human oral cancer cells to IL-13 cytotoxin**
Hideyuki Nakashima^{1,2}, Mitomu Kioi^{1,2}, Makiko Sugiura¹, Kei Sugiura¹, Itaru Sato¹, Masaki Iida¹, Kenji Mitsudo¹, Syed R Husain², Raj K Puri², Iwai Tohnai¹
¹Dept. of Oral and Maxillofacial Surg., Yokohama City Univ. Grad. Sch. of Med., ²Tumor Vaccines and Biotech. Branch, Div. of Cellular and Gene Therapies, CBER, FDA
- Pb-32 Controlling gene expression in human prostate cancer cells by ultrasound-responsive promoters**
Akihiro Mori¹, Ryohei Ogawa², Akihiko Watanabe¹, Takashi Kondo², Hideki Fuse¹
¹Dept. Urology, Grad Sch. Med. Pharm. Sci., Univ. Toyama, ²Dept. Radiol. Sci., Grad Sch. Med. Pharmaceut. Sci., Univ. Toyama
- Pb-33 Hyperthermia regulates HSP expression in human keratinocytes exposed to ultraviolet B**
Paras Jawaid¹, Yoko Yoshihisa², Mriame Ali Hassan¹, Mati Ur Rehman², Tadamichi Shimizu², Takashi Kondo¹
¹Dept. of Radiological Sci. Toyama Univ., ²Dept. of Dermatology Toyama Univ.

Chairperson: Akira Mogi

Dept. of General Surgical Sci., Gunma Univ. Grad.
Sch. of Med.

Pb-34 HIFU-based sonodynamic therapy of melanoma cells with verteporfin

Katsuro Tachibana¹, Seyedeh M. Nejad¹, Reiko Naito³, Hamid R. Hosseini², Hitomi Endo¹, Koichi Ogawa¹, Juichiro Nakayama³

¹Dept. of Anatomy, Fukuoka Univ. Sch. of Med., ²Bioelectrics Res. Center, Kumamoto Univ.,
³Dept. of Dermatology, Fukuoka Univ. Sch. of Med.

Pb-35 The dual aspects of ATM-Chk2 pathway for the regulation of heat stress induced apoptosis

Takashi Iizumi¹, Li Peng¹, Yukihiko Furusawa¹, Ayako Kariya¹, Qing-Li Zhao¹, Yoshiaki Tabuchi²,
Takashi Kondo¹

¹Dept. of Radiological Sci., Toyama Univ., ²Div. of Molecular Genetics Res., Life Sci. Res. Center,
Toyama Univ.

Pb-36 The significance of stress-responsive transcription factors in cancer stem cells

Kazuyo Yasuda, Toshihiko Torigoe, Yoshihiko Hirohashi, Takahumi Kuroda, Akari Takahashi,
Noriyuki Sato

First Dept. of Pathology Sapporo Med. Univ. Sch. of Med.

Pb-37 Evaluation of ghost cell survival in the area of radiofrequency ablation

Kuansheng Ma, Qi Wang, Jiansheng Huang, Tingjun Li, Feng Xia, Ming Chen, Shuguang Wang,
Ping Bie, Zhenping He

The Inst. of Hepatobiliary Surg., Southwest Hosp., Third Military Med. Univ, Chongqing,
P.R.China

Pb-38 Pentoxifylline enhance the efficacy of thermochemotherapy using thermosensitive liposomes

Kotaro Morita¹, Kenichi Kakinuma², Friedrich Zywiets³, Masashi Kato⁴

¹Dept. of Neurosurgery, Tachikawa General Hosp., ²Dept. of Neurosurg, Niigata Rosai Hosp., ³Inst.
of Biophysics and Radiobiology Univ. Hosp. Eppendorf, ⁴Dept. of Pharm. Niigata Iryo Center

Pb-39 Effects of whole-body heat treatment on the function of T cells in human system

Yasunobu Kobayashi¹, Yusuke Ito¹, Yuri Yoshimoto¹, Ayako Suzuki¹, Valentina V. Ostapenko¹,
Norimasa Matsushita^{1,3}, Kenichiro Imai^{1,3}, Ryuji Okuyama^{1,3}, Koichi Shimizu^{1,2}, Atsushi Aruga^{1,4},
Keishi Tanigawa¹

¹Bio-Thera Clinic, ²Shin-Itabashi Clinic, ³Inst. of Gastroenterology, Tokyo Women's Med. Univ.,
⁴Inst. of Advanced Biomed. Eng. and Sci., Tokyo Women's Med. Univ.

Pb-40 Bystander effect of oncothermia

Gabor Andocs, Yoshiharu Okamoto, Tomohiro Osaki, Takeshi Tsuka, Tomohiro Imagawa, Saburo
Minami

Dept. of Veterinary Clinical Med., Fac. of Agric., Tottori Univ.,

Chairperson: Masashi Kawamura

Kyoto Coll. of Med. Sci. (Kyoto-MS)

- Pb-41 High intensity focused ultrasound therapy for metastatic hepatic cancer**
Ihl Bohng Choi, Hyun Ho Choi
Dept. of Radiat. Oncol., Comprehensive Hosp. for Cancer, Coll. of Med., Catholic Univ.
- Pb-42 Tumor response and resection margins of rectal cancer after hyperthermochemoradiation therapy**
Soichi Tsutsumi¹, Takaaki Fujii¹, Hiroki Morita¹, Toshinaga Suto¹, Jun-ichi Saito², Takayuki Asao¹, Takashi Nakano², Hiroyuki Kuwano¹
¹Dept. of General Surgical Sci., Gunma Univ., Grad. Sch. of Med., ²Dept. of Radiat. Oncol., Gunma Univ., Grad. Sch. of Med.
- Pb-43 Mild electrical stimulation with heat shock (BioMetronome) ameliorates diabetic nephropathy**
Yuka Okamoto, Saori Morino-Koga, Tomoaki Koga, Kohei Omachi, Mary Ann Suico, Tsuyoshi Shuto, Hirofumi Kai
Dept. of Molecular Med., Grad. Sch. of Pharm. Sci., Kumamoto Univ.
- Pb-44 Cancer Prevention Using SOARA Therapy: A hot bath whole-body hyperthermia treatment**
Tomonobu Fukuda, Chiyoko Nukuzuma, Kazuhiko Atsumi
Tokyo SOARA Clinic
- Pb-45 A comparison of radiofrequency and microwave hyperthermia on knee osteoarthritis**
Kenji Takahashi¹, Sanshiro Hashimoto², Hiromasa Kurosaki³, Kenji Takenouchi¹, Hiroshi Nakamura¹, Shinro Takai¹
¹Dept. of Orthop., Nippon Med. Sch., ²Hashimoto Clinic, ³Dept. of Radiat. Therapy, Tokyo Kousei Nenkin Hosp.
- Pb-46 Biodistribution of temperature-sensitive liposomes for MR-image guided drug delivery**
Mariska de Smet¹, Nicole M Hijnen¹, Sander Langereis², Edwin Heijman², Holger Gruell^{1,2}
¹Eindhoven Univ. of Tech., Dept. of Biomed. Eng., Eindhoven, the Netherlands, ²Philips Res. Eindhoven, Dept. of Minimally Invasive Healthcare, Eindhoven, the Netherlands
- Pb-47 Comparison of Gd-based contrast agents encapsulated in thermosensitive liposomes for MRI guided hyperthermia**
Michael Peller¹, Martin Hossann^{2,3}, Tungte Wang^{2,3}, Zulfiya Syunyaeva², Anja Zengerle², Rolf D. Issels^{2,3}, Maximilian Reiser¹, Lars H. Lindner^{2,3}
¹Inst. for Clinical Radiology, Univ. Hosp. Munich, Ludwig-Maximilians Univ., Munich, ²Dept. of Med. III, Univ. Hosp. Munich, Ludwig-Maximilians Univ., Munich, Germany, ³CCG Tumor Therapy through Hyperthermia, Helmholtz Zentrum Muenchen, Germany
- Pb-48 Comparison of full bath and half bath in bathing style of Japan on induction of HSP 70, NK cell activity and physical index**
Youko Itoh¹, Kazuki Torii², Taichi Ishizawa², Shingo Yano²
¹Dept. of Nutrition, Shubun Univ. Fac. of Health and Nutrition, ²Dept. of Products Development, Bathclin Co., Ltd.

Pb-49 The use of bath additive (including inorganic salts and carbon dioxide) enhances the induction of HSP 70, NK cell activity, heat-retaining and improves the physical index

Youko Itoh¹, Kazuki Torii², Taichi Ishizawa², Shingo Yano²

¹Dept. of Nutrition, Shubun Univ. Fac. of Health and Nutrition, ²Dept. of Products Development, Bathclin Co., Ltd

Room P

Poster Viewing & Discussion	18:00-19:00
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Morning Lecture 3**8:40-9:10****Chairperson: Hideyuki Sakurai**

Dept. of Radiat. Oncol., Univ. of Tsukuba

ML03 Progress in noninvasive MR thermometryKagayaki Kuroda^{1,2}¹Dept. of Human and Information Sci., Sch. of Information Sci. and Tech., Tokai Univ., ²Int'l Med. Device Alliance, Foundation for Int'l Med. Alliance**Morning Lecture 4****9:10-9:40****Chairperson: Takeo Takahashi**Dept. of Radiat. Oncol., Saitama Med. Center,
Saitama Med. Univ.**ML04 The combination therapy of hyperthermia, radiotherapy, and/or chemotherapy in the past, present, and future direction for advanced cervical cancer**

Yoko Harima

Dept. of Radiology, Kansai Med. Univ.

Break**9:40-9:50****Symposium 5****9:50-11:50****Treatment planning and control of therapy****Chairpersons: Gerard C. van Rhoon**

Erasmus MC Daniel den Hoed Cancer Center

Kagayaki KurodaDept. of Human and Information Sci., Sch. of
Information Sci. and Tech., Tokai Univ.**S05-1 Towards integration of treatment monitoring with thermal modeling for improved control of heat treatments**Paul R. Stauffer¹, Paolo F. Maccarini¹, Dario B. Rodrigues¹, Sara Salahi¹, Oana I. Craciunescu¹,
Yu Yuan², Shiva K. Das¹¹Radiat. Oncol. Dept., Duke Univ., ²Radiat. Oncol. Dept., Univ. of Alabama at Birmingham**S05-2 Planning guided hyperthermia treatment of head and neck cancer**Margarethus M. Paulides, Zef Rijnen, Jurriaan F. Bakker, Gerda M. van de Velde, Peter C. Levendag,
Gerard C. Van Rhoon

Erasmus MC - Daniel den Hoed Cancer Center

S05-3 Treatment planning specific for interstitial hyperthermia

Yutaka Aoyagi¹, Kazuyuki Saito², Hirotohi Horita¹, Hiroya Ojiri¹, Sinji Yamazoe¹, Tetuya Simizu¹, Chihiro Kanehira⁴, Yoshimitu Sunagawa⁴, Koichi Ito³

¹Dept. of Radiology Ichikawa, General Hosp., Tokyo Dental Coll., ²Res. Center for Frontier Med. Eng., Chiba Univ., ³Grad. Sch. of Eng., Chiba Univ., ⁴Dept. of Radiology, Jikei Univ. of Med.

S05-4 Theranostic approaches to monitor and control tumor treatment using thermoresponsive nanoliposomes and hyperthermia for triggered drug delivery

Gerben A. Koning

Innovative Targeting Group, Lab. Experimental Surgical Oncol., Dept. of Surg., Erasmus MC

S05-5 Patient-specific treatment planning in hyperthermia, RF and HIFU Ablation

Adamos Kyriakou¹, Esra Neufeld², Niels Kuster¹

¹IT²IS Foundation/ ETH Zurich, ²IT²IS Foundation

S05-6 Treatment planning and ultrasound-based temperature monitoring for focused ultrasound thermal therapy

Hao-Li Liu

Dept. of Electrical Eng., Chang-Gung Univ.

Break	11:50-12:00
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Symposium 6	13:00-15:00
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Physical medicines with thermal therapy on chronic diseases

Chairpersons: Hirofumi Kai

Dept. of Molecular Med., Kumamoto Univ.

Philp Hooper

Univ. of Colorado Denver, Sch. of Med.

S06-1 Heat shock proteins: Contribution to pathogenesis and treatment of major chronic diseases

Philp Hooper

Univ. of Colorado Denver, Sch. of Med.

S06-2 Mild electrical stimulation and heat shock ameliorates progressive proteinuria and renal inflammation in mouse model of chronic kidney diseases

Hirofumi Kai, Tomoaki Koga, Yukari Kai, Saori M. Koga, Mary Ann Suico, Tsuyoshi Shuto

Dept. of Molecular Med., Kumamoto Univ.

S06-3 Heat treatment with mild electrical stimulation reduces visceral adiposity and improves insulin resistance and inflammatory markers in male subjects with type 2 diabetes

Tatsuya Kondo¹, Rina Matsuyama¹, Katsutoshi Miyagawa¹, Rieko Goto¹, Hirofumi Kai², Eiichi Araki¹

¹Dept. of Metabolic Med., Fac. of Life Sci., Kumamoto Univ., ²Dept. of Molecular Med., Fac. of Life Sci., Kumamoto Univ.

S06-4 **Withdrawn**

S06-5 **The enhancement of chemotherapy, immunotherapy and molecular target therapy by mild-hyperthermia**

Takeo Hasegawa¹, Satoshi Kokura², Tohru Takahashi³, Tsutomu Takeda⁴, Itsuo Yamamoto⁵, Kazuko Uno¹, Kaori Sadamoto¹, Iuko Yasuda¹, Mari Tanigawa¹, Atsuko Kishi¹, Toshikazu Yoshikawa²

¹Dept. of Basic Res., Louis Pasteur Center for Med. Res., ²Dept. of Molecular Gastroenterology and Hepatology, Kyoto Pref. Univ. of Med., ³Dept. of Radioisotope Center, Kansai Med. Univ., ⁴Dept. of Surg., Osaka Center Immuno-Chemotherapy Center, ⁵Dept. of Radio-Frequency Res. Center, Yamamoto Vinita Co.

Break

15:00-15:15

Poster-Short Oral pr. 01

15:15-18:00

Chairperson: Masahiro Kuroda

Radiological Tech., Grad. Sch. of Health Sci.,
Okayama Univ.

Pc-01 Preparation and characterization of Fe₃O₄ nano particles for cancer hyperthermia

Makoto Takahashi¹, Yuki Yogo², Kaname Tsutsumiuchi³, Takeshi Kobayashi⁴, Noriyasu Kawai⁵

¹Dept. of Applied Chem., Chubu Univ., ²Dept. of Applied Chem., Chubu Univ., ³Dept. of Biological Chem., Chubu Univ., ⁴Dept. of Biological Chem., Chubu Univ., ⁵Dept. of Nephro-Urology, Nagoya City Univ. Grad. Sch. of Med. Sci.

Pc-02 Compact radiating element for 433 MHz applicator of superficial hyperthermia system

Woo Cheol Choi, Young Joong Yoon, Ki Joon Kim

Dept. of Electrical and Electronic Eng., Yonsei Univ.

Pc-03 Intracavitary applicators for thermotherapy

Jan Vrba¹, Barbora Vrbova¹, Jaroslav Vorlicek¹, David Vrba², Jan Vrba Jr.²

¹Dept. of EM Field, Fac. of Electrical Eng., Czech Tech. Univ. in Prague, ²Dept. of Med. Devices, Fac. of Biomed. Eng., Czech Tech. Univ. in Prague

Pc-04 Heating properties of a new hyperthermia system for non-invasive treatment of deep tumors

Kouhei Yokoyama¹, Yasuhiro Shindo², Kazuo Kato², Mitsunori Kubo³, Takeo Uzuka⁴, Hideaki Takahashi⁴

¹Grad. Sch. of Sci. and Tech., Meiji Univ., ²Dept. of Mechanical Eng. Informatics, Meiji Univ., ³The Future Creation Lab., Olympus Co., LTD., ⁴Niigata Cancer Center, Section of Neurosurgery

Pc-05 Human-tissue-equivalent phantom compatible for hyperthermia and 3.0 T MRI

Hirokazu Kato¹, Kengo Hattori², Yusuke Ikemoto³, Wataru Takao³, Seiichiro Ohno¹, Takashi Harimoto¹, Masahiro Kuroda¹, Koichi Shibuya¹, Masataka Oita¹, Nobue Uchida⁴, Susumu Kanazawa⁵

¹Grad. Sch. of Health Sci., Okayama Univ., ²Dept. of Radiology, Nagoya Memorial Hosp., ³Dept. of Radiology, Okayama Kyokuto Hosp., ⁴Dept. of Radiology, Tottori Pref. Central Hosp., ⁵Grad. Sch. of Med., Dentistry and Pharm. Sci., Okayama Univ.

- Pc-06 Heating properties of coaxial needle applicator made of shape memory alloy**
 Tatsuya Yamada¹, Yasuhiro Shindo², Kazuo Kato², Mitsunori Kubo³, Takeo Uzuka⁴, Akira Takeuchi⁵
¹Grad. Sch. of Sci. and Tech., Meiji Univ., ²Dept. of Mechanical Eng. Informatics, Meiji Univ.,
³The Future Creation Lab., Olympus Co., LTD, ⁴Niigata Cancer Center, Section of Neurosurgery,
⁵Dept. of Thermotherapy, Luke Clinic
- Pc-07 Heating performances of circular loop antenna in water for external hyperthermic application**
 Samon Ishikawa, Kazuyuki Saito, Masaharu Takahashi, Koichi Ito
 Chiba Univ.
- Pc-08 Simulations and experimental verifications of influence of blood-flow on temperature distribution during hyperthermia treatment**
 Jan Vrba¹, Tomas Vydra¹, Daniel Havelka¹, Jan Vrba Jr.², David Vrba², Barbora Vrbova¹, Jaroslav Vorlicek¹
¹Dept. of EM Field, Fac. of Electrical Eng., Czech Tech. Univ. in Prague, ²Dept. of Med. Devices Field, Fac. of Biomed. Eng., Czech Tech. Univ. in Prague
- Pc-09 Deep local hyperthermia using implantable electrodes and insulation sheets: evaluation of power absorption uniformity in the heating target organ**
 Hiroshi Hirayama¹, Kenji Shiba²
¹Applied Electronics, Grad. Sch. of Industrial Sci. and Tech., Tokyo Univ. of Sci., ²Dept. of Applied Electronics, Fac. of Industrial Sci. and Tech., Tokyo Univ. of Sci.
- Pc-10 Deep local hyperthermia combined with flexible ribbon-type wireless energy transmission -Analysis of SAR in abdominal region-**
 Takehiro Shibuya¹, Kenji Shiba²
¹Applied Electronics, Grad. Sch. of Industrial Sci. and Tech., Tokyo Univ. of Sci., ²Dept. of Applied Electronics, Fac. of Industrial Sci. and Tech., Tokyo Univ. of Sci.
- Pc-11 Fast thermal simulations with realistic 3D vessel networks**
 Petra Kok¹, Nico van den Berg², Arjan Bel¹, Hans Crezee¹
¹Dept. Radiat. Oncol., Academic Med. Center, Univ. of Amsterdam, ²Dept. Radiotherapy, Univ. Med. Center Utrecht
- Pc-12 A fast adaptive power scheme based on temperature distribution and convergence value for optimal hyperthermia treatment**
 Huang-Wen Huang¹, Chi-Feng Chiang², Win-Li Lin²
¹Dept. of Innovative Information and Tech., Langyang Campus, Tamkang Univ., ²Inst. of Biomed. Eng., Nat'l Taiwan Univ., Taipei, Taiwan

Chairperson: Hironobu Nakamura

Saito Yukoukai Hosp.

- Pc-13 Effective heating for tumors with thermally significant blood vessels during hyperthermia treatment**
Huang-Wen Huang¹, Chi-Feng Chiang², Win-Li Lin²
¹Dept. of Innovative Information and Tech., Langyang Campus, Tamkang Univ., ²Inst. of Biomed. Eng., Nat'l Taiwan Univ., Taipei, Taiwan
- Pc-14 Introduction on coaxial-dipole antenna for generation of controllable heating patterns in longitudinal direction**
Koichi Ito¹, Kazuyuki Saito², Hiroshi Itakura¹, Samon Ishikawa¹, Masaharu Takahashi²
¹Grad. Sch. of Eng., Chiba Univ., ²Res. Center for Frontier Med. Eng., Chiba Univ.
- Pc-15 Design and characterization of dual-curvature 1.5-dimensional focused ultrasound phased-array transducer for tumor thermal therapy**
Gin-Shin Chen¹, Che-Yu Lin², Jong Seob Jeong³, Jonathan M. Cannata⁴, Hsu Chang¹, K. Kirk Shung⁴, Win-Li Lin²
¹Div. of Med. Eng. Res., Nat'l Health Res. Inst., ²Inst. of Biomedicla Eng., Nat'l Taiwan Univ., Taipei, Taiwan, ³Dept. of Med. Biotech., Dongguk Univ., Seoul, Korea, ⁴Dept. of Biomed. Eng., Univ. of Southern California, Los Angeles, CA.
- Pc-16 Conditions of homogeneous SAR distribution in regional thermotherapy**
Barbora Vrbova¹, Jan Vrba¹, David Vrba², Jan Vrba Jr.², Jaroslav Vorlicek¹
¹Dept. of EM Field, Fac. of Electrical Eng., Czech Tech. Univ. in Prague, ²Dept. of Med. Devices Field, Fac. of Biomed. Eng., Czech Tech. Univ. in Prague
- Pc-17 Design of slot applicator for local thermotherapy**
Jaroslav Vorlicek¹, Jaroslav Kosik², Jan Vrba¹
¹Dept. of EM Field, Fac. of Electrical Eng., Czech Tech. Univ. in Prague, ²Dept. of Med. Devices, Fac. of Biomed. Eng., Czech Tech. Univ. in Prague
- Pc-18 Microwave applicators with optimized effective aperture**
Jan Vrba Jr.¹, David Vrba¹, Barbora Vrbova², Jaroslav Vorlicek², Jan Vrba²
¹Dept. of Med. Devices, Fac. of Biomed. Eng., Czech Tech. Univ. in Prague, ²Dept. of EM Field, Fac. of Electrical Eng., Czech Tech. Univ. in Prague
- Pc-19 Evaluation on heating characteristics of the microwave antenna for tissue coagulation device**
Mizuki Inoue¹, Kazuyuki Saito², Masaharu Takahashi², Koichi Ito¹
¹Grad. Sch. of Eng., Chiba Univ., ²Res. Center for Frontier Med. Eng., Chiba Univ.
- Pc-20 Adverse effect of radiofrequency capacitive hyperthermia with magnetite on blood vessel walls: An agar phantom study**
Noriyasu Kawai, Taku Naiki, Toshiki Etani, Daichi Kobayashi, Yosuke Ikegami, Ryosuke Ando, Yoshihiro Hashimoto, Keiichi Tozawa, Kenjiro Kohri
Dept. of Urology, Nagoya City Univ. of Med.

- Pc-21** ***In vitro* assessment of change of the apparent diffusion coefficient of Jurkat cells after heating using bio-phantoms and MRI**
Masahiro Kuroda¹, Kazunori Katashima², Masakazu Ashida², Susumu Kanazawa³, Shoji Kawasaki¹, Hirokazu Kato¹
¹Radiological Tech., Grad. Sch. of Health Sci., Okayama Univ., ²Dept. of Oral and Maxillofacial Radiology, Grad. Sch. of Med., Dentistry and Pharm. Sci., ³Dept. of Radiology, Grad. Sch. of Med., Dentistry and Pharm. Sci., Okayama Univ.
- Pc-22** **High-sensitive *in vivo* detection of oxidative stress with OKD48 transgenic mice**
Daisuke Oikawa^{1,2}, Ryoko Akai^{1,2}, Mio Tokuda², Takao Iwawaki^{1,2,3}
¹Iwawaki lab, ASRLD Unit, Gunma Univ., ²Iwawaki Initiative Res. Unit, ASI, RIKEN., ³PRESTO, JST.
- Pc-23** **Three-dimensional cell culture array using magnetic force-based cell patterning for analysis of the competitive effect of NPrCAP and heat treatments**
Hiroyuki Honda¹, Syuhei Yamamoto¹, Mina Okochi¹, Kowichi Jimbow²
¹Dept. of BioTech., Grad. Sch. of Eng., Nagoya Univ., ²Dept. of Dermatology, Sapporo Med. Univ. Sch. of Med.
- Pc-24** **Analysis of tumor-infiltrating lymphocytes after hyperthermia using functionalized magnetite nanoparticles**
Masaki Yamaguchi¹, Akira Ito¹, Noriaki Okamoto¹, Yuji Sanematsu¹, Yoshinori Kawabe¹, Kazumasa Wakamatsu², Shosuke Ito², Hiroyuki Honda³, Takeshi Kobayashi⁴, Eiichi Nakayama⁵, Yasuaki Tamura, Masae Okura⁷, Toshiharu Yamashita⁷, Kowichi Jimbow⁷, and Masamichi Kamihira¹
¹Dept. of Chem. Eng., Fac. of Eng., Kyushu Univ., ²Dept. of Chem., Fujita Health Univ. Sch. of Health Sci., ³Deprt. of Biotech., Sch. of Eng., Nagoya Univ., ⁴Sch. of Biosci. and Biotech., Chubu Univ., ⁵Fac. of Health and Welfare, Kawasaki Univ. of Med. Welfare, ⁶First Dept. of Pathology, Sapporo Med. Univ. Sch. of Med., ⁷Dept. of Dermatology, Sapporo Med. Univ. Sch. of Med.
- Pc-25** **Synthesis of antibody-conjugating P(VP-MMA-MA)-coated magnetite nanoparticles to target HER2-overexpressing gastric cancer cells**
Kaname Tsutsumiuchi¹, Honami Kamiya¹, Mina Kondo¹, Makoto Takahashi², Hayao Nakanishi³, Takeshi Kobayashi¹
¹Coll. of BioSci. and BioTech., Chubu Univ., ²Coll. of Eng., Chubu Univ., ³Div. of Oncological Pathology, Aichi Cancer Center Res. Inst.

Chairperson: Akira Takeuchi

Dept. of Thermotherapy, Luke Clinic

- Pc-26 Assessment of normal tissue temperature rise in magnetic nanoparticle hyperthermia**
Alireza Mashal, Martin Huisjen, Dan McKenna
Actium Biosystems
- Pc-27 Preparation of nano-sized magnetic $Y_3Fe_5O_{12}$ powder by bead milling and its high heat generation ability in ac magnetic field**
Hiromichi Aono, Tadahiko Nishimori
Grad. Sch. of Sci. and Eng., Ehime Univ.
- Pc-28 Simulation of temperature rise induced by HIFU in tissue mimicking gel considering cavitation bubbles**
Ayumu Asai¹, Hiroki Okano¹, Shin Yoshizawa¹, Shin-ichiro Umemura^{1,2}
¹Dept. of Electrical and Communication Eng., Tohoku Univ., ²Dept. of Biomed. Eng., Tohoku Univ.
- Pc-29 Simultaneous generation of multiple cavitation clouds by phased array transducer**
Kotaro Nakamura¹, Ayumu Asai¹, Hiroshi Sasaki¹, Hiroki Okano¹, Shin Yoshizawa¹, Shin-ichiro Umemura^{1,2}
¹Dept. of Electrical and Communication Eng., Tohoku Univ., ²Dept. of Biomed. Eng., Tohoku Univ.
- Pc-30 Quantitative 3D-reconstruction of high intensity focused ultrasound pressure field from optical measurement**
Soichiro Harigane¹, Ryo Miyasaka¹, Shin Yoshizawa¹, Shin-ichiro Umemura^{1,2}
¹Dept. of Electrical and Communication Eng., Tohoku Univ., ²Dept. of Biomed. Eng., Tohoku Univ.
- Pc-31 Optimization of HIFU treatment by focus steering**
Kosuke Matsuki¹, Ryuta Narumi¹, Takashi Azuma¹, Kiyoshi Yoshinaka², Akira Sasaki¹, Kohei Okita³, Shu Takagi¹, Yoichiro Matsumoto¹
¹Dept. of Mechanical Eng., The Univ. of Tokyo, ²Nat'l Inst. of Advanced Industrial Sci. and Tech., ³Dept. of Mechanical Eng., Coll. of Industrial Tech., Nihon Univ.
- Pc-32 Three-Dimensional vessel tracking for liver HIFU using stereoscopic MR imaging**
Etsuko Kumamoto^{1,2}, Shunpei Iwaoka², Daisuke Kokuryo³, Toshiya Kaihara², Kagayaki Kuroda^{4,5}
¹Information Tech. and Sci. Center, Kobe Univ., ²Grad. Sch. of System Informatics, Kobe Univ., ³Molecular Imaging Center, Nat'l Inst. of Radiological Sci., ⁴Grad. Sch. of Eng., Tokai Univ., ⁵Int'l Med. Device Alliance, Foundation for Int'l Med. Alliance
- Pc-33 Numerical modeling of HIFU ablation of solid malignancies**
Adamos Kyriakou¹, Esra Neufeld², Niels Kuster¹
¹IT'IS Foundation/ ETH Zurich, ²IT'IS Foundation

Pc-34 Development of disposable perfusion system for chemo hyperthermic peritoneal perfusion and our use experiences

Mitsuhiro Morikawa, Kanji Katayama, Makoto Murakami, Daisuke Fujimoto, Katsuji Sawai, Kenji Koneri, Yasuo Hirono, Takanori Goi, Atsushi Iida, Akio Yamaguchi

First Dept. of Surg., Univ. of Fukui

Pc-35 MRI-compatible ring-typed ultrasound phased-array transducer for breast tumor thermal therapy

Bo-Sian Lin¹, Pi-Hsien Lien¹, Gin-Shin Chen², San-Chao Hwang², Sheng-Fu Chen², Yung-Yaw Chen³, Win-Li Lin^{1,2}

¹Inst. of Biomed. Eng., Nat'l Taiwan Univ., Taipei, Taiwan, ²Div. of Med. Eng. Res., Nat'l Health Res. Inst.s, Zhunan, Taiwan, ³Dept. of Electrical Eng., Nat'l Taiwan Univ., Taipei, Taiwan

Poster-Short Oral pr. 04

15:15-18:00

Chairperson: Keishi Tanigawa

Bio-thera Clinic

Pc-36 Wideband conformal metamaterial antennas for phased array heating of adult bladder

Tiago R. Oliveira^{1,4}, Sara Salahi², Gerard Aknine³, M. Teresa Lamy¹, Paolo F. Maccarini⁴, Paul R. Stauffer⁴

¹Instituto de Fisica, Universidade de Sao Paulo, ²Biomed. Eng., Duke Univ., Durham, NC, ³BioThermatics, Inc, Franklin, TN, ⁴Dept. of Radiat. Oncol., Duke Univ., Durham, NC

Pc-37 Heating characteristics of metallic stent fed by endoscopic coaxial probe for microwave thermal therapy for bile duct carcinoma

Hiroshi Itakura¹, Kazuyuki Saito², Masaharu Takahashi², Koichi Ito¹

¹Grad. Sch. of Eng., Chiba Univ., ²Res. Center for Frontier Med. Eng., Chiba Univ.

Pc-38 Reduction of heat sensation of a patient using the silicone gel

Daisuke Kobayashi¹, Tomonori Isobe², Kenta Takada², Keiji Suzuki¹, Koichi Shida¹, Masashi Seki¹, Hiroshi Yokota¹, Takeji Sakae², Hideyuki Sakurai²

¹Dept. of Radiology, Tsukuba Univ. Hosp., ²Grad. Sch. of Comprehensive Human Sci., Univ. of Tsukuba

Pc-39 Hybrid head and neck hyperthermia and 7T MR imaging: a pilot study

Rene Verhaart¹, J.J. Bluemink², J.F. Bakker¹, P. Togni¹, A.J.E. Raaijmakers², G.C. van Rhoon¹, C.A.T. van den Berg², M.M. Paulides¹

¹Dept. of Radiotherapy, Hyperthermia Unit, Erasmus MC Rotterdam, the Netherlands, ²Dept. of Radiotherapy, Univ. Med. Center Utrecht, the Netherlands

Pc-40 Foresight of hyperthermia

Kimiko Yoshimizu¹, Itsuo Yamamoto², Emi Takayama³, Tohru Takahashi⁴, Takeo Hasegawa⁵

¹Garden Clinic Nakamachi, ²Yamamoto Vinita Co., Ltd, ³Aman Co., Ltd., ⁴Kansai Med. Univ., ⁵Louis Pasteur Center for Med. Res.

- Pc-41 The optimal heating method for superficial tumors**
Kenta Takada¹, Tomonori Isobe¹, Daisuke Kobayashi², Yutaro Mori¹, Keiji Suzuki², Koichi Shida², Yousuke Yoshimura¹, Masashi Seki², Hiroshi Yokota², Hideyuki Sakurai¹, Takeji Sakae¹
¹Grad. Sch. of Comprehensive Human Sci., Univ. of Tsukuba, ²Dept. of Radiology, Tsukuba Univ. Hosp.
- Pc-42 Numerical analysis of coupled effects of pulsatile blood flow and thermal relaxation time during thermal therapy**
Tzyy-Leng Horng
Dept. of Applied Math., Feng Chia Univ.
- Pc-43 Clinical benefit of replacing the sigma 60 by the sigma eye applicator: A Monte Carlo based uncertainty analysis**
Richard A M Canters, Maarten M Paulides, Gerard C Van Rhoon
Erasmus MC - Daniel den Hoed, Dept. of Radiat. Oncol., Rotterdam, the Netherlands
- Pc-44 Towards improved hyperthermia treatment planning (HTP) based on MRI data acquisition**
Edmond Balidemaj¹, Cornelis A.T. van den Berg², Aart Nederveen³, Astrid van Lier², Petra Kok¹, Hans Crezee¹
¹Radiotherapy, Academic Med. Center, Amsterdam, Netherlands, ²Radiotherapy, Univ. Med. Center Utrecht, Utrecht, Netherlands, ³Radiology, Academic Med. Center, Amsterdam, Netherlands
- Pc-45 Optimization of the electromagnetic performance of the HyperCollar redesign**
Paolo Togni, Zef Rijnen, Roel Roskam, Gerard C. Van Rhoon, Margarethus M. Paulides
Dept. Radiotherapy -Hyperthermia unit, Erasmus MC, Rotterdam
- Pc-46 Frequency dependent focusing with UWB hyperthermia applicator for H&N cancer treatment**
Hana Dobsicek Trefna, Johanna Gellermann, Mikael Persson
Dept. Signals and systems, Chalmers Univ. of Tech.
- Pc-47 Double 434MHz hyperthermia unit designed for single and multiple large superficial and semi-deep tumor lesions**
Pier F. Pavoni¹, Paolo Pacetti¹, Luigi Dicarlo¹, Francesca Cappelli¹, Federica Fedeli¹, Hans Crezee², Paul j Z.V. Sive Vording², Amalia Di Dia³, Rocco Panaia³, Pietro Gabriele³
¹RESTEK Rome, Italy, ²AMC Amsterdam, Nederland, ³IRCC Candiolo (TO), Italy

Room P

Poster Viewing & Discussion

18:00-19:00

Morning Lecture 5**8:40-9:10****Chairperson: Hiroshi Maezawa**The Univ. of Tokushima Grad. Sch., Dept. of
Radiological Sci.**ML05 Detection and clinical application of novel stress biomarkers in peripheral blood**

Kazuhito Rokutan

Dept. of Stress Sci., Inst. of Health Biosci., Tokushima Univ. Grad. Sch.

Morning Lecture 6**9:10-9:40****Chairperson: Koji Ono**Kyoto Univ. Res. Reactor Inst., Director of Radiat.
Oncol. Res. Center**ML06 Thermochemistry: A multifaceted energy source for ablation**

Erik Cressman

Dept. of Radiol Univ. of Minnesota Med. Center

Break**9:40-9:50****Symposium 7****9:50-11:50****State of the art in clinical heating and prospective heating technologies****Chairpersons: Paul R. Stauffer**

Radiat. Oncol. Dept., Duke Univ.

Youji Kotsuka

Tokai Univ.

S07-1 Microwave heating by thin coaxial antennas**-Application to interstitial and intracavitary hyperthermia-**Kazuyuki Saito¹, Masaharu Takahashi¹, Koichi Ito²¹Res. Center for Frontier Med. Eng., Chiba Univ., ²Grad. Sch. of Eng., Chiba Univ.**S07-2 Catheter-based ultrasound thermal therapy integrated with Image-Guided HDR brachytherapy for treatment of locally advanced or recurrent pelvic disease**Chris J. Diederich, Jeff H Wootton, Vasant Salgaonkar, Punit Prakash, Titania Juang, Serena Scott,
Richard Cam, Xin Chen, I.C. Joe Hsu

Radiat. Oncol., Univ. of California-San Francisco

S07-3 Conformal microwave applicator using patch antennas for chestwall recurrence of breast cancer

Kavitha Arunachalam¹, Paolo F Maccarini², Oana I Craciunescu², Titania Juang², Daniel Neuman³, Francesca Rossetto³, Vinicio Manfrini³, Chris Diederich³, Jaime L Schlorff⁴, Paul R Stauffer²

¹Dept. of Eng. Design, Indian Inst. of Tech. Madras, India, ²Dept. of Radiat. Oncol., Duke Univ. Med. Center, USA, ³Dept. of Radiat. Oncol., Univ. of San Francisco, USA, ⁴Bionix Development Co., Paoli, Pennsylvania USA

S07-4

S07-5 Locoregional heat delivery using capacitively coupled heating method: Usefulness of an insulator sheet for optimization of deep heating area

Takayuki Ohguri¹, Motohiro Murakami², Katsuya Yahara¹, Hajime Imada^{2,3}, Yukunori Korogi¹

¹Dept. of Radiology, Univ. of Occupational and Environmental Health, ²Dept. of Med. Electronics, Univ. of Occupational and Environmental Health, ³Dept. of Cancer Therapy Center, Tobata Kyoritsu Hosp.

S07-6 Locoregional heat delivery using phased array hyperthermia systems

Hans Crezee, Petra Kok, Gerard van Stam, Paul Zum Vorde Sive Vording, Arjan Bel, Jan Sijbrands, Edmond Balidemaj, Maarten Hulshof

Dept. of Radiat. Oncol., Academic Med. Center/ Univ. of Amsterdam

Break	11:50-12:00
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Luncheon Seminar 2	12:00-13:00
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Chairperson: Tohru Tani

Dept. of Surg., Shiga Univ. of Med. Sci.

LS2 Perioperative chemotherapy for curative treatment of colon cancer : XELOX/FOLFOX therapy as a second scalpel

Hideto Fujita, Takashi Fujimura, Tetsuo Ohta

Dept. of Gastroenterological Surg., Kanazawa Univ. Hosp.

Sponsored by Yakult Honsha Co., Ltd.

Hyperthermia and immunotherapy**Chairpersons: Milton B. Yatvin**

Biology Dept., Reed Coll.

Sharon S. Evans

Dept. of Immunology, Roswell Park Cancer Inst.

S08-1 Activation and inhibition of gamma delta T cell mediated anti tumor immunity by heat shock proteins

Shubhada V Chiplunkar

Chiplunkar Lab, ACTREC, Tata Memorial Center, Kharghar, Navi Mumbai

S08-2 The scientific rationale for treating immunologically competent patients with high level whole body hyperthermiaMilton B. Yatvin^{1,3}, George Ivanov², Alexei Suvernev^{2,3}¹Biology Dept., Reed Coll., ²Inst. Siberian Sci. Res. Institution of Hyperthermia, ³Institution Heatheal**S08-3 Hyperthermia enhances immunotherapy in cancer patients: 1466 clinical cases**Tutomu Takeda¹, Tohru Takahashi², Takashi Takeda¹, Hiroko Takeda¹¹Osaka Cancer Immuno-chemotherapy Center, Kyohrinkai, ²RI Center, Kansai Med. Univ.**S08-4 Effects of hyperthermia in combination with NK cell based-immune cell therapy on cancer patients**Hiroshi Terunuma^{1,2,3}, Noriyuki Nishino², Xuewen Deng³, Akiko Yoshimura¹, Yoshinao Takano², Atsushi Toki¹, Tatsuaki Ishiguro¹, Mie Nieda³, Jin-ichi Sasanuma¹, Yasushi Teranishi², Kazuo Watanabe^{1,2}¹Tokyo Clinic, ²Southern Tohoku General Hosp., ³Biotherapy Inst. of Japan**S08-5 Hyperthermic targeting of the immune microenvironment for improved cancer immunotherapy**

Sharon S. Evans

Dept. of Immunology, Roswell Park Cancer Inst.

Morning Lecture 7**8:40-9:10****Chairperson: Chung K. Lee**

Dept. of Radiat. Oncol., Univ. of Minnesota Med. Sch.

ML07 New paradigms for targeted drug delivery using thermolabile drug delivery systems: A bench to bedside journey

Mark Dewhirst

Dept. of Radiat. Oncol., Duke Univ. Med. Center, Durham, NC

Morning Lecture 8**9:10-9:40****Chairperson: Tsutomu Takeda**

Osaka Cancer Immuno-Chemotherapy Center, Kyohrinkai

ML08 Role of thermal therapy in regulation of bone marrow homeostasis and immune function following radiation: New clinical opportunities?

Elizabeth A. Repasky

Dept. of Immunology, Roswell Park Cancer Inst.

Break**9:40-9:50****Symposium 9****9:50-11:50****Cell signaling and damage response****Chairpersons: Masahiko Miura**

Oral Radiat. Oncol., Grad. Sch. of Med. and Dental Sci., Tokyo Med. and Dental Univ.

Hiroyuki Kitao

Dept. of Molecular Oncol., Grad. Sch. Med. Sci., Kyushu Univ.

S09-1 Hyperthermia activates both ATM and ATR signaling pathways for cell tolerance against heatHiroyuki Kitao¹, Tuul Munkhbold^{1,2}, Makoto Iimori¹, Kazuaki Matsuoka¹, Shinichi Kiyonari¹, Hiroshi Saeki², Eiji Oki², Masaru Morita², Yoshihiko Maehara²¹Dept. of Molecular Oncol., Grad. Sch. Med. Sci., Kyushu Univ., ²Dept. of Surg. and Sci., Grad. Sch. Med. Sci., Kyushu Univ.**S09-2 ATM is the predominant kinase involved in the phosphorylation of histone H2AX after heating**Akihisa Takahashi¹, Eichiro Mori^{2,3}, David J. Chen³, Takeo Ohnishi²¹ASRLD Unit, Gunma Univ., ²Dept. of Radiat. Oncol., Nara Med. Univ., ³Div. of Mol. Radiat. Biol., Dept. of Radiat. Oncol., UT Southwestern Med. Center

- S09-3 Stress-Induced, NO-mediated bystander responses for protecting cells themselves**
Hideki Matsumoto
Div. of Oncol., Biomed. Imaging Res. Center, Univ. of Fukui
- S09-4 Global expression profiling of genes induced by heat stress**
Yoshiaki Tabuchi¹, Yukihiro Furusawa², Kenzo Ohtsuka³, Takashi Kondo²
¹Life Sci. Res. Ctr., Univ. of Toyama, ²Grad. Sch. of Med. and Pharm. Sci., Univ. of Toyama, ³Dept. of Environmental Biol., Chubu Univ.
- S09-5 Role of AMPK/mTOR signaling pathway in the response of cancer cells and cancer stem cells to hyperthermia**
Chang W. Song¹, Troy A. Dos Santos¹, Hyemi Lee², Eun J. Kim², Heon J. Park^{1,2}
¹Dept. of Radiat. Oncol., Univ. of Minnesota, ²Dept. of Microbiology, Coll. of Med., Inha Univ., Incheon, Korea
- S09-6 The protective effect of mild heat preconditioning at 40C involves the ER stress response**
Diana A. Averill-Bates, Pragathi Pallepati
Dept. des Sci. biologiques, Universite du Quebec a Montreal
- S09-7 NADPH oxidase-mediated reactive oxygen species production activates hypoxia-inducible factor-1 (HIF-1) via the ERK pathway after hyperthermia treatment**
Mark W. Dewhirst¹, Ejung Moon²
¹Radiat. Oncol. Dept., Duke Univ., ²Radiat. Oncol. Dept., Stanford Univ.

Break	11:50-12:00
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Symposium 10 (ICHO-BSSR* joint symposium)	13:00-15:00
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ICHO-BSSR joint symposium: Heat shock factors, heat shock proteins and cancer

Chairpersons: Len Neckers

Urologic Oncol. Branch, Center for Cancer Res.,
Nat'l Cancer Inst.

Toshihiko Torigoe

Dept. of Pathology, Sapporo Med. Univ. Sch. of
Med.

S10-1 Heat shock factors and cancer

Akira Nakai

Dept. of Biochem. and Molecular Biology, Yamaguchi Univ. Sch. of Med.

S10-2 Stress response genes are molecular targets of cancer stem cells

Toshihiko Torigoe¹, Kazuyo Yasuda¹, Yoshihiko Hirohashi¹, Satoshi Nishizawa², Akari Takahashi¹,
Yasuaki Tamura¹, Isao Hara², Noriyuki Sato¹

¹Dept. of Pathology, Sapporo Med. Univ. Sch. of Med., ²Dept. of Urology, Wakayama Med. Univ.

- S10-3 Control of Cdc37/Hsp90 and kinase signaling in prostate cancer by scan domain proteins**
Takanori Eguchi, Thomas L Prince, Ayesha Murshid, Stuart K Calderwood
Dept. of Radiat. Oncol., BIDMC, Harvard Med. Sch.
- S10-4 Phosphorylation of a conserved tyrosine residue in the Hsp90 N-domain determines cancer sensitivity to Hsp90 inhibition *in vitro* and *in vivo***
Len Neckers
Urologic Oncol. Branch, Center for Cancer Res., Nat'l Cancer Inst.
- S10-5 Hsp90 and the tumor microenvironment**
Jane B. Trepel, Sylvia V. Alarcon, Min-Jung Lee, Tomohiro Kajiguch, Sunmi Lee, Wanping Xu, Fumitaka Koga, Shinji Tsutsumi, Mehdi Mollapour, Akihiro Yano, Len Neckers
Med. Oncol. Branch, Center for Cancer Res., NCI

Break	15:00-15:15
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Poster-Short Oral pr. 01:Japanese	15:15-16:45
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Chairperson: Yoshio Tamaki

Dept. of Radiat. Oncol., Gunma Pref. Cancer Center

- Pj-01 Mild electrical stimulation with heat shock ameliorates proteinuria and nephritis in mouse model of X-linked alport syndrome**
Yukari Kai¹, Tomoaki Koga², Ryosuke Fukuda¹, Saori Morino-Koga³, Mary A. Suico¹, Kosuke Koyama¹, Tsuyoshi Shuto¹, Hirofumi Kai¹
¹Dept. of Molecular Med., Grad. Sch. of Pharm. Sci., Kumamoto Univ., ²Dept. of Med. Biochem., Grad. Sch. of Med. Sci., Kyushu Univ., ³Dept. of Dermatology, Grad. Sch. of Med. Sci., Kyushu Univ.
- Pj-02 Mild electrical stimulation suppresses fat accumulation and increases stress resistance via activation of LKB1-AMPK signaling in *C. elegans***
Shingo Matsuyama, Shuichiro Yano, Saori Morino-Koga, Yuka Okamoto, Ihuri Shitanda, Kohei Omachi, Masataka Moriuchi, Mary Ann Suico, Tsuyoshi Shuto, Hirofumi Kai
Dept. of Molecular Med., Grad. Sch. of Pharm. Sci., Kumamoto Univ.
- Pj-03 Mild electrical stimulation suppresses pro-inflammatory cytokines expression via inhibition of multiple signaling pathways**
Ihuri Shitanda, Yuichiro Shimauchi, Saori Morino-Koga, Shuichiro Yano, Tomoaki Koga, Shingo Matsuyama, Mary A Suico, Tsuyoshi Shuto, Hirofumi Kai
Dept. of Molecular Med., Grad. Sch. of Pharm. Sci., Kumamoto Univ.
- Pj-04 Specified pulse-width mild electrical stimulation induces p53 phosphorylation and transcriptional activation**
Ryosuke Fukuda, Kosuke Koyama, Kohei Omachi, Yukari Kai, Shingo Matsuyama, Yuka Okamoto, Mary A Suico, Tsuyoshi Shuto, Hirofumi Kai
Dept. of Molecular Med., Grad. Sch. of Pharm. Sci., Kumamoto Univ.

- Pj-05 Effects of hyperthermia combined with siRNA targeted for HSF1 and/or low dose chemotherapy in HSC3 cells**
Shigehito Wada¹, Yoshiaki Tabuchi², Ayako Kariya³, Takashi Kondo³
¹Dept. of Oral Surg., Univ. of Toyama, ²Div. of Molecular Genetics Res., Life Sci. Res. Center, Univ. of Toyama, ³Dept of Radiological Sci., Grad. Sch. of Med. and Pharm. Sci., Univ. of Toyama
- Pj-06 Involvement of Hsp90 in epstein-barr virus lytic replication**
Daisuke Kawashima, Tatsuya Tsurumi
Div. of Virology, Aichi Cancer Center Res. Inst.
- Pj-07 Development of heat ablation area measuring system based on amplitude modulated acoustic radiation force**
Hirofumi Nakamura¹, Ryosuke Aoyagi¹, Wataru Baba¹, Takashi Azuma¹, Keisuke Fujiwara³, Hideki Takeuchi³, Kazunori Itani³, Kiyoshi Yoshinaka², Akira Sasaki¹, Shu Takagi¹, Yoichiro Matsumoto¹
¹Dept. of Mechanical Eng., The Univ. of Tokyo, ²Dept. of Human Life Tech., Advanced Industrial Sci. and Tech., ³Hitachi-Aloka Med.
- Pj-08 HIFU oral squamous cell carcinoma killing with TiO2**
Hiromasa Takahashi¹, Seyedeh Moosavi Nejad², S. Hamid R. Hosseini³, Taishi Otani¹, Eiko Higashi², Hitomi Endo², Loreto B. Feril Jr.², Katsuyuki Nakano⁴, Toshihiro Kikuta¹, Katsuro Tachibana²
¹Dept. of Oral and Maxillofacial Surg., Fac. of Med, Fukuoka Univ., ²Dept. of Anatomy, Fukuoka Univ. Sch. of Med., ³Bioelectrics Res. Center, Kumamoto Univ., ⁴Dept. of Chem. Eng., Fac. of Tech., Fukuoka Univ.
- Pj-09 Hyperthermia using implant of resonant circuit delivered through 18G-needle**
Kazuya Kumagai¹, Kazuhiko Watabe¹, Ryo Matsumura¹, Tsutomu Yamada¹, Kyohei Kezuka^{1,2}, Reiko Kurotani³, Iwai Tohna², Yoshihiro Ishikawa², Yasushi Takemura¹
¹Dept. of Electronics and Information Tech., Yokohama Nat'l Univ., ²Dept. of Med., Yokohama City Univ., ³Dept. of Sci. and Eng., Yamagata Univ.

Poster-Short Oral pr. 02:Japanese	15:15-16:45
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Chairperson: Koh Tsuji

Nat'l Hosp. Org. Minami Wakayama Med. Center,
Dept. of Radiology

- Pj-10 The efficacy of a catheter filled with a xylocaine jelly to eliminate the disturbance in the measurement of temperature by thermocouples in the presence of radiofrequency current**
Motohiro Murakami¹, Takayuki Ohguri², Katsuya Yahara², Miyuki Hanada³, Sanae Matsuoka³
¹Dept. of Med. Electronics, Univ. of Occupational and and Environmental Health, ²Dept. of Radiology, Univ. of Occupational and and Environmental Health, ³Nursing Dept., Univ. of Occupational and and Environmental Health
- Pj-11 For making the hyperthermia treatment widely known in a hospital**
Yumiko Kawasaki¹, Hideyuki Morosasa¹, Yoshiki Miya¹, Akihiro Endoh¹, Yoshihiko Furuta¹, Takayuki Shishido², Eiri Ezoe², Yoshiyuki Yanai², Rika Fukui², Takahiro Yasoshima²
¹Section of clinical Eng., Shinsapporo Keiaikai Hosp., ²Dept. of Surg., Shinsapporo Keiaikai Hosp.

- Pj-12 Three cases of avascular osteonecrosis after hyperthermia**
Satoshi Yamada¹, Atsunori Murase¹, Katuhiro Hayasi², Hiroyuki Inatani², Hideki Okamoto¹,
Takanobu Otsuka¹
¹Dept. of Orthop. Surg., Nagoya City Univ., ²Dept. of Orthop. Surg., Kanazawa Univ.
- Pj-13 Postoperative intraperitoneal hyperthermochemotherapy by radiofrequency capacitive heating system for advanced gastric cancer with peritoneal seeding**
Atsushi Ogawa, Erito Mochiki, Mitsuhiro Yanai, Kyoichi Ogata, Tetsuro Ohno, Takayuki Asao,
Hiroyuki Kuwano
Dept. of General Surgical Sci., Gunma Univ. Grad. Sch. of Med.
- Pj-14 Regional collaborative clinical pathway of hyperthermo-chemoradiotherapy for locally advanced rectal cancer**
Satoshi Suda¹, Kouji Sugawara¹, Atsushi Okazaki¹, Kazuki Jinbo¹, Noriyuki Okonogi¹, Masahiko Motegi¹,
Takayuki Asao³, Takeo Takahashi⁴, Takashi Nakano², Hiroyuki Kuwano³, Yoshitaka Ando¹
¹Hidaka Hosp., Oncol. Center, ²Dept. of Radiat. Oncol., Gunma Univ. Grad. Sch. of Med., ³Dept. of General Surgical Sci.,
Gunma Univ. Grad. Sch. of Med., ⁴Dept. of Radiat. Oncol., Saitama Med. Center, Saitama Med. Univ.
- Pj-15 Preliminary report of preoperative hyperthermo-chemoradiotherapy (HCR) using IMRT for locally advanced rectal cancer in the regional collaborative HCR treatment and care**
Kazuki Jinbo¹, Koji Sugawara¹, Atsushi Okazaki¹, Satoshi Suda¹, Noriyuki Okonogi¹, Masahiko Motegi¹,
Takayuki Asao³, Takeo Takahashi⁴, Takashi Nakano², Hiroyuki Kuwano³, Yoshitaka Ando¹
¹Hidaka Hosp., Oncol. Center, ²Dept. of Radiat. Oncol., Gunma Univ. Grad. Sch. of Med., ³Dept. of General Surgical Sci.,
Gunma Univ. Grad. Sch. of Med., ⁴Dept. of Radiat. Oncol., Saitama Med. Center, Saitama Med. Univ.
- Pj-16 The effect and benefit of the hyperthermia therapy combined with low dose chemotherapy and/or hormonal therapy on liver metastasis of breast cancer patients**
Rika Fukui¹, Yoshiyuki Yanai¹, Takahiro Yasoshima¹, Eiri Ezo¹, Takayuki Shishido¹, Hideyuki Morosawa²,
Yoshiki Miya², Yoshihiko Furuta², Yasuaki Tamura³
¹Dept. of Surg., Shinsapporo Keiaikai Hosp., ²Section of Clinical Eng., Shinsapporo Keiaikai Hosp., ³First Dept. of Pathology,
Sapporo Med. Univ. Sch. of Med.
- Pj-17 Usefulness of upright sitting position with thermotron-RF8;How to**
Koji Oki, Atsushi Hori, Masahiko Maeda, Masako Uehara
Rinku-Dejima-Clinic
- Pj-18 Usefulness of up-right sitting position with thermotron-RF8; case reports**
Atsushi Hori, Masahiko Maeda, Kouji Ooki
Rinku-Dejima-Clinic

Chairperson: Atsushi Toki

Tamananbu Chi-iki Hosp. Internalmedicine,
Respiratory

- Pj-19 Change of QOL for patients getting long-term hyperthermia treatment**
Hideyuki Morosasa¹, Yoshiki Miya¹, Akihiro Endoh¹, Yumiko Kawasaki¹, Yoshihiko Furuta¹, Takayuki Shishido², Eiri Ezoe², Yoshiyuki Yanai², Rika Fukui², Takahiro Yasoshima²
¹Section of Clinical Eng., Shinsapporo Keiaikai Hosp., ²Dept. of Surg., Shinsapporo Keiaikai Hosp.
- Pj-20 Effect of thermosensitization with parthenolide in thermotherapy of localized prostate cancer combined with androgen deprivation**
Ryuta Suzuki¹, Ken Koshiba¹, Yutaka Jujo¹, Kazue Kitahiro¹, Hisaya Shiozaki¹, Yusuke Sasai¹, Masahiro Aihara², Sachiko Hayashi³, Nasanori Hatashita⁴
¹Center for Urology and Nephrology, Saitama Ken-oh Hosp., ²Kurihama Urology Clinic, ³Dept. of Experimental Radiology and Health Physics, Fac. of Med., Univ. of Fukui, ⁴Res. and Development, The Wakasa-wan Energy Res. Center, Tsuruga, Fukui
- Pj-21 The relation between the power range of hyperthermia and clinical outcome: Retrospective study in patients who received regional hyperthermia**
Tomokuni Kuwata¹, Satoshi Kokura², Naoyuki Sakamoto¹, Takeshi Ishikawa², Tetsuya Okayama², Mari Tanigawa¹, Naomi Fujinaka¹, Masato Hori¹, Toshiro Kimura¹, Toshikazu Yoshikawa³
¹Iseikai Hyakumanben Clinic, ²Molecular Gastroenterology and Hepatology, Grad. Sch. of Med. Sci., Kyoto Pref. Univ. of Med., ³Kyoto Pref. Univ. of Med.
- Pj-22 Assessments of quality of life contribute to risk management of patients who received weekly hyperthermia**
Naoko Kitada¹, Satoshi Kokura², Naoyuki Sakamoto¹, Takeshi Ishikawa², Keiko Yamanaka¹, Mio Iefuji¹, Masayo Kogiso¹, Rumiko Okuno¹, Yoko Hoshi¹, Yasuko Nabekura¹, Toshikazu Yoshikawa³
¹Iseikai Hyakumanben Clinic, ²Molecular Gastroenterology and Hepatology, Grad. Sch. of Med. Sci., Kyoto Pref. Univ. of Med., ³Kyoto Pref. Univ. of Med.
- Pj-23 Immunological examination of synovial fluid in osteoarthritis: Comparison between before and after hyperthermia treatment**
Hiromasa Kurosaki¹, Teruaki Sekine², Kenji Takahashi³
¹Dept. of Radiat. Oncol., Tokyo Kousei Nenkin Hosp., ²Lymhotec, Inc, ³Deprt. of Orthop. and Rheumatology, Nippon Med. Sch.
- Pj-24 Retrospective analysis of hyperthermia therapy for unresectable pancreatic cancer**
Yoshiyuki Yanai, Takahiro Yasoshima, Rika Fukui, Takayuki Shishido, Eiri Ezoe, Yoshihiro Nakakubo, Katsuyuki Aketa, Kenji Kiriyaama, Hideyuki Morosawa, Yoshiki Miya, Yoshihiko Furuta
Shinsapporo Keiaikai Hosp.

Pj-25 Adoption of low-temperature ablation (high temperature-hyperthermia) treatment to the clinical veterinary medicine

Shinichi Nakazumi, Yasuaki Munekata
ADMETECH Co.Ltd

Pj-26 Treatment of advanced bladder cancer by regional hyperthermia combined with parthenolide and chemotherapy. A case report

Hisaya Shiozaki¹, Yusuke Sasai¹, Kazue Kitahiro¹, Ryuta Suzuki¹, Yutaka Jujo¹, Ken Koshiba¹, Sachiko Hayashi², Masanori Hatashita³

¹Saitamaken-oh Hosp., ²Dept. of Experimental Radiology and Health Physics, Fac. of Med., Univ. of Fukui, ³Res. and Development, The Wakasa-wan Energy Res. Center, Tsuruga, Fukui, Japan

Room P

Poster Viewing & Discussion

17:30-18:30

Morning Lecture 9	9:10-9:40
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Chairperson: Yoshihiko Maehara

Dept. of Surg. and Sci., Kyushu Univ.

ML09 An effective new thermal therapy treatment for pancreas cancer

Joan M.C. Bull, Robert A. Brown, Young Su, Theresa Dancsak

The Univ. of Texas Med. Sch. at Houston, Houston, TX

Break	9:40-9:50
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Symposium 11	9:50-11:50
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HIFU and non-invasive heating

Chairpersons: Charles Cain

Dept. of Biomed. Eng., the Univ. of Michigan

Shin-ichiro Umemura

Grad. Sch. of Biomed. Eng., Tohoku Univ.

S11-1 Transrectal high-intensity focused ultrasound (HIFU) for the treatment of localized prostate cancer: 13-year experience

Toyoaki Uchida, Tetsuro Tomonaga, Hakushi Kim, Sunao Shoji, Masanori Shima, Yohishiro Nagata

Dept. of Urology, Tokai Univ. Hachioji Hosp.

S11-2 The current development of HIFU ablation for hepatocellular carcinoma

Feng Wu

HIFU Unit, the Churchill Hosp., Oxford Univ. Hosp.

S11-3 MR guided focused ultrasound surgery(MRgFUS) for small breast cancer: The excisionless clinical study

Hidemi Furusawa¹, Junnichi Shidooka², Masuko Inomata¹, Emiko Hiravara¹, Hiroshi Nakahara², Yukiko Yasuda¹, Yorio Maeda¹, Kansei Komaki¹, Takashi Yamamoto¹, Tomokazu Saito¹

¹Dept. of Breast Surgical Oncol., Breastopia Namba Hosp., ²Dept. of Diagnostic Radiology, Breastopia Namba Hosp.

S11-4 Progress in focused ultrasound heating technology

Kullervo Hynynen, Nicolas Ellens, Daniel Pajek

Dept. of Med. Biophysics, Univ. of Toronto

S11-5 High intensity focused ultrasound: Irradiation set-up and its biological response

Takashi Mochizuki¹, Shin-ichiro Umemura², Shin Yoshizawa³, Toshio Chiba⁴, Taizo Kihara⁵, Kohji Masuda¹

¹Grad. Sch. of Bio-Application & Systems Eng., Tokyo Univ. of Agric. & Tech., ²Grad. Sch. of Biomedical Eng., Tohoku Univ., ³Grad. Sch. of Eng., Tohoku Univ., ⁴Clinical Res. Center for Child Health and Development, ⁵Hitachi-Aloka Med., Ltd.

S11-6 Histotripsy: Controlled mechanical sub-division of soft tissues by high intensity pulsed ultrasound

Charles Cain

Dept. of Biomed. Eng., The Univ. of Michigan

Break	11:50-12:00
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Luncheon Seminar 3	12:00-13:00
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Chairperson: Satoshi Kokura

Kyoto Pref. Med. Univ.

LS3 Treatment of bone metastases from breast cancer

Tetsuya Taguchi

Dept. of Endocrine and Breast Surg., Kyoto Pref. Univ. of Med.

Sponsored by DAIICHI SANKYO Co., LTD./ AstraZeneca K. K.

Summary 1	13:00-15:00
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Medicine (Med, Clinical Results)

Chairperson: Yoshiaki Tanaka

Kawasaki Saiwai Hosp.

SU1-1 Current status of clinical hyperthermia in United States

Zeljko Vujaskovic

Dept. of Radiat. Oncol., Duke Univ. Med. Center

SU1-2 Appraisal of hyperthermia as clinical modality in Indian subcontinent

Nagraj G. Huilgol

Div. of Radiat. Oncol., Nanavati Hosp., Mumbai

SU1-3

Jacoba van der Zee

Hyperthermia Unit, Dept. Radiat. Oncol., Erasmus MC - Daniel den Hoed Cancer Center

SU1-4 Current status of clinical hyperthermia in China

Shan-wen Zhang

Peking Univ. Cancer Hosp.

SU1-5 Current situation of clinical hyperthermia in Japan

Hiromi Terashima

Dept. of Radiat. Oncol., Harasanshin General Hosp.

Break	15:00-15:15
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Award Ceremony of ICHO2012 and Closing Remarks	15:15-16:00
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General Chairperson: Satoshi Kokura, Secretary General

Young Investigator Award Ceremony

Poster Presentation Award Ceremony: Physics & Engineering/ Biology Medicine

Chairperson: Koichi Ito

JSTM Scientific Committee

Informa/Yamamoto Editor's Award Ceremony: Physics & Engineering/ Biology/ Medicine

Chairperson: Mark W Dewhirst

Editor of Int J Hyperthermia

Message from the next President of ICHO

not yet decided

Message from the next President of JCTM

Iwai Tohnai

Closing Remarks

Toshikazu Yoshikawa, President of ICHO2012

Takeo Ohnishi, Honorary President of ICHO&JCTM 2012, President of JSTM

Morning Lecture 10**9:10-9:40****Chairperson: Kosuke Ueda**

Nagoya Prostatic Center, Hachiya Orthop. Hosp.

ML10 Role of hyperthermia in treatment of bladder cancer: Current status and future directions

Zeljko Vujaskovic

Dept. of Radiat. Oncol., Duke Univ. Med. Center

Break**9:40-9:50****Symposium 12****9:50-11:50****Hyperthermia enhancement and molecular mechanisms****Chairpersons: Tetsuo Akimoto**Dept. of Radiat. Oncol. and Particle Therapy, Nat'l
Cancer Center Hosp. East (NCCE)**Tetsuro Tamamoto**

Dept. of Radiat. Oncol., Nara Med. Univ.

S12-1 DNA-PK activity is involved in the fast repair of DNA double strand breaks during thermal radiosensitizationMakoto Ihara¹, Yutaka Okumura¹, Takeo Ohnishi²¹Dept. of RI Med., Atomic Bomb Disease Inst., Nagasaki Univ., ²Dept. of Radiat. Oncol., Sch. of Med., Nara Med. Univ.**S12-2 Enhancement of heat sensitivity by depression of DSB repair**Atsuhisa Kajihara^{1,2}, Noritomo Okamoto³, Yousuke Nakagawa^{1,2}, Akihisa Takahashi⁴, Takaaki Kirita², Takeo Ohnishi⁵¹Dept. of Dentist. and Oral Surg. Heisei Memor. Hosp., ²Dept. of Oral Maxillofac. Surg. Nara Med. Univ., ³Dept. of Otorhinolaryngol. Nara Med. Univ., ⁴Adv. Sci. Res. Lead. Develop. Unit, Gunma Univ., ⁵Dept. of Radiat. Oncol. Nara Med. Univ.**S12-3 Hyperthermia-induced homologous recombination deficiency provides novel anti-cancer treatment opportunities**Berina Eppink¹, Przemek M. Krawczyk², Jeroen Essers^{1,3,4}, Jan Stap², Hanny Odijk¹, Alex Zelensky¹, Thomas Soullie⁵, Joost Rens⁵, Timo L.M. ten Hagen⁵, Jacob Aten², Roland Kanaar^{1,3}¹Dept. of Cell Biology & Genetics, Cancer Genomics Center, Erasmus Med. Center, ²Dept. of Cell Biology & Histology, Univ. of Amsterdam, ³Dept. of Radiat. Oncol., Erasmus Med. Center, ⁴Dept. of Vascular Surg., Erasmus Med. Center, ⁵Dept. of Surg. Oncol., Erasmus Med. Center

- S12-4 Enhancement of hyperthermia-induced tumor cell death by 5-aminolevulinic acid**
 Taku Chibazakura¹, Yui Toriyabe¹, Kiwamu Takahashi², Mariko Kawakami¹, Shun-ichiro Ogura³,
 Fuminori Abe², Motowo Nakajima², Tohru Tanaka²
¹Dept. of Bioscience, Tokyo Univ. of Agric., ²SBI Pharmaceuticals Co., Ltd., ³Frontier Res. Center,
 Tokyo Inst. of Tech.
- S12-5 Therapeutic effects of 5-aminolevulinic acid (ALA) on the growth of 3LL in combination with hyperthermia in mice**
 Kiwamu Takahashi¹, Takeo Hasegawa^{2,3}, Kazuko Uno², Iuko Yasuda², Atsuko Kishi², Kaori
 Sadamoto², Fuminori Abe¹, Takuya Ishii¹, Motowo Nakajima¹, Tohru Tanaka¹
¹SBI Pharmaceuticals Co., Ltd, ²Dept. of Hyperthermia Med. Res. Lab. Louis Pasteur Center for
 Med. Res., ³Dept. of Molecular Gastroenterology and Hepatology, Kyoto Pref. Univ. of Med.
- S12-6 Recombinant adenovirus-p53 (rAd-p53) transfer in combination with hyperthermia for advanced cancer(a report of 44 cases)**
 Shanwen Zhang
 Dept. of Radiotherapy, Peiking Univ. Cancer Hosp.
- S12-7 Oncothermia – modulated electro-hyperthermia**
 Oliver Szasz
 Oncotherm GmbH, Germany

Break	11:50-12:00
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Summary 2	13:00-14:00
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Basic (Physics)

Chairperson: Koichi Ito
 Grad. Sch. of Eng., Chiba Univ.

- SU2-1** Gerard C. van Rhoon
 Erasmus MC Daniel den Hoed Cancer Center
- SU2-2** Paul R. Stauffer
 Radiat. Oncol. Dept., Duke Univ.
- SU2-3** Kagayaki Kuroda
 Dept. of Human and Information Sci., Sch. of Information Sci. and Tech., Tokai Univ.

Basic (Biology)**Chairperson: Takeo Ohnishi**

Dept. of Radiat. Oncol., Nara Med. Univ.

SU3-1 The enhancement of the hyperthermic effects using aureobasidium pullulans (ACFAGMax)Kaori Sadamoto¹, Kazuko Uno¹, Iuko Yasuda¹, Atsuko Kishi^{1,3}, Takashi Hasegawa³, Takenori Yamashita⁴, Naomi Fujita⁵, Taku Harada⁵, Yasushi Harada⁵, Takeo Hasegawa^{1,2}¹Dept. of hyperthermia Med. Res. Lab. Louis Pasteur Center for Med. Res., ²Dept. of Molecular Gastroenterology and Hepatology, Kyoto Pref. Univ. of Med., ³Grad. Sch. of Materials Sci., Nara Inst. of Sci. and Tech., ⁴Dept. of Radiological Tech., Suzuka Univ. of Med. Sci., ⁵Dept. of Res. Center, Ikko Chem. Co.**SU3-2 Development of oral cancer treatment using a new magnetic anticancer drug**Itaru Sato¹, Kenji Mitsudo¹, Masaki Iida¹, Hideyuki Nakashima¹, Haruki Eguchi⁴, Toshiyuki Koizumi³, Mitomu Kioi¹, Yoshihiro Ishikawa², Iwai Tohnai¹¹Dept. of Oral and Maxillofacial Surg., Yokohama City Univ. Grad. Sch. of Med., ²Dept. of Cardiovascular Res. Inst., Yokohama City Univ. Grad. Sch. of Med., ³Dept. of Oral and Maxillofacial Surg., Tokyo Med. Univ., ⁴IHI Corp.**SU3-3 Clinical effectiveness of recombinant adenovirus-p53 combined with hyperthermia in advanced soft tissue sarcoma (a report of 30 cases)**

Shaowen Xiao

Dept. of Radiotherapy, Peiking Univ. Cancer Hosp.

SU3-4 Peritoneal perfusion of rAd-p53 combined with thermo-chemotherapy for peritoneal carcinomatosis model of advanced cancer (a report of forty-one cases)

Yongheng Li

Dept. of Radiotherapy, Peiking Univ. Cancer Hosp.