August 28 (Tue.)

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

General Chairperson: Satoshi Kokura, Secretary General

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

Keynote Lecture 16:05-16:30
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
Chairperson: Rolf D. Issels, Univ. of Munich

Sugahara Award Lecture 16:35-17:00
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
Chairperson: Hiroyuki Kuwano, President of ASHO

ASHO Award Lecture 17:05-17:20
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
Takeo Ohnishi, Honorary President of ICHO&JCTM 2012, President of JSTM
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<th>Event</th>
<th>Time</th>
<th>Chairperson</th>
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<tr>
<td><strong>Award Ceremony of Abe Award and JSTM Young Investigator Award</strong></td>
<td>17:25-17:30</td>
<td>Koichi Ito, Grad. Sch. of Eng., Chiba Univ.</td>
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<tr>
<td><strong>Award Ceremony of Excellent Paper in Thermal Medicine and Int J Hyperthermia</strong></td>
<td>17:30-17:35</td>
<td>Akihisa Takahashi, ASRLD Unit, Gunma Univ.</td>
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<tr>
<td><strong>Abe Award Lecture</strong></td>
<td>17:35-17:50</td>
<td>Koichi Ito, Grad. Sch. of Eng., Chiba Univ.</td>
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<td>Surgery and hyperthermia</td>
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<td>Kanji Katayama¹, Makoto Murakami², Mitsuhiro Morikawa², Katsuji Sawai², Kenji Koneri², Yasuo Hirono², Takanori Goi², Atsushi Iida², Akio Yamaguchi²</td>
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<td>¹Cancer Care Promotion Center, Univ. of Fukui, ²Surgery 1, Univ. of Fukui</td>
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<tr>
<td><strong>Report of JSTM Young Investigator Award</strong></td>
<td>17:50-18:10</td>
<td>Koichi Ito, Grad. Sch. of Eng., Chiba Univ.</td>
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<tr>
<td>JSTM-YIA1</td>
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<td>Hyperthermia enhances the efficacy of adoptive naive T-cell therapy</td>
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<td>Satoko Adachi, Sotoshi Kokura, Takeshi Ishikawa, Naoyuki Sakamoto, Tetsuya Okayama, Reiko Tsuchiya, Yuji Naito, Toshikazu Yoshikawa</td>
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<td>Dept. of Molecular Gastroenterology and Hepatology, Kyoto Pref. Univ. of Med.</td>
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<td>JSTM-YIA2</td>
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<td>Re-irradiation plus regional hyperthermia for recurrent non-small cell lung cancer: A potential modality for inducing long-term survival in selected patients</td>
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<td>Takayuki Ohguri¹, Hajime Imada², Katsuya Yahara¹, Yukunori Korogi¹</td>
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<td>¹Dept. of Radiology, Univ. of Occupational and Environmental Health, ²Dept. of Cancer Therapy Center, Tobata Kyoritsu Hosp.</td>
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<tr>
<td><strong>Award Lecture for Excellent Paper in Thermal Medicine</strong></td>
<td>18:10-18:20</td>
<td>Akihisa Takahashi, ASRLD Unit, Gunma Univ.</td>
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<td>18F-fluorodeoxyglucose positron tomography is useful in evaluating the efficacy of multidisciplinary treatments for so-called borderline unresectable pancreatic head cancers</td>
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<td>Murakami Makoto, Kanji Katayama, Kenji Koneri, Yasuo Hirono, Takanori Goi, Atsushi Iida, Akio Yamaguchi</td>
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<td>First Dept. of Surg., Univ. of Fukui, Sch. of Med.</td>
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Award Lecture for Excellent Paper in Int J Hyperthermia

18:20-18:30

Chairperson: Akihisa Takahashi, ASRLD Unit, Gunma Univ.

Hyperthermia enhances the effect of β-lapachone to cause γH2AX formations and cell death in human osteosarcoma cells

Takeshi Hori¹, Takashi Kondo², Chang W Song³


Special Performance of Music

18:30-19:00
August 29 (Wed.)

**ESHO BSD Award Session**

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<tr>
<td>9:10-9:40</td>
<td>ESHO BSD Award Session</td>
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<td>Chairperson: Michael R. Horsman</td>
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<td>9:40-9:50</td>
<td>Break</td>
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**Symposium 1**

**HIPEC for peritoneal dissemination today**

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<th>Time</th>
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<tr>
<td>9:50-11:50</td>
<td>Symposium 1</td>
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<tr>
<td>9:50-11:50</td>
<td>HIPEC for peritoneal dissemination today</td>
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<td>Chairpersons: Yutaka Yonemura</td>
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<td>Org. to Support Peritoneal Dissemination Treatment</td>
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<td>Shigeki Kusamura</td>
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<td>Dept. of Surg., Fondazione IRCCS Istituto</td>
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<td>Nazionale dei Tumori di Milano</td>
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<td>S01-1 Hyperthermic intraperitoneal chemotherapy with gastrectomy and lymphadenectomy for the treatment of gastric cancer patients with peritoneal carcinomatosis</td>
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<td>Dept. of Surg., Shiga Univ. of Med. Sci.</td>
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<td>S01-2 MUC2 protein expression status is useful in judging the effects of HIPEC for peritoneal dissemination of colon cancer</td>
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<td>Takanori Goi, Kanji Katayama, Toshiyuki Nakazawa, Katsuji Sawai, Mitsuhiro Morikawa, Atsushi Iida, Akio Yamaguchi</td>
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<td>First Dept. of Surg., Univ. of Fukui</td>
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<td>S01-3 Laparoscopy assisted hyperthermic intraperitoneal chemotherapy and gastrectomy combined peritonectomy for advanced gastric cancer with peritoneal carcinomatosis</td>
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<tr>
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<td>Masumi Ichinose¹, Yutaka Yonemura², Nobuyuki Takao¹, Akiyoshi Mizumoto¹, Masamitsu Hirano¹</td>
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<td></td>
<td>¹Dept. of General Surg., Kusatsu General Hosp., ²NPO Org. to Support Peritoneal Dissemination Treatment</td>
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<td>S01-4 Safety and survival after cytoreductive surgery with peritonectomy procedures and hyperthermic intraperitoneal chemotherapy</td>
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<td>Emel Canbay, Yutaka Yonemura</td>
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<td>Peritoneal Surface Malignancy Treatment Center, Kishiwada Tokushukai Hosp., Kishiwada City, Osaka Japan</td>
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</tbody>
</table>
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 Park³, Jeong Ho Lee⁴, Jin Ho Choi⁵, Jeong Ho Seo⁶, Seh Jong Park⁷, Dae Hee Lee⁸
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 metsastases 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

Luncheon Seminar 1 12:00-13:00
Chairperson: Kazuhide Higuchi

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
Clinical aspects of regional hyperthermia combined with radiotherapy
Chairpersons: Yasumasa Nishimura
Jacob 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
Jacob 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 Shiyo1, Yoshiyuki Suzuki1, Takashi Nakano1, Hideyuki Sakurai2, Takeo Takahashi3, Souichi Tsutsumi4, Takayuki Asao4, Hiroyuki Kuwano4  

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-ichiro 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 Gabbanai, 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. Lechner1,2, Christiane Bruns1, Nelli Dieterle1, Lars Lindner1,2, Sultan Abdel-Rahman1, Christoph Salat1, Volker Heinemann1, Ulrich Mansmann1, Wolfgang Hiddemann1, Rolf D. Issels1,2  
1Med. clinic III, Univ. of Munich, LMU, 2Clinical Cooperation Group Hyperthermia, Helmholtz Zentrum, Munich, 1Dept. of Surg., Univ. of Munich, LMU, 3HäCmato-Onkologische Schwerpunktpraxis, Munich, 4IBE, Univ. of Munich, LMU

Break 15:00-15:15

Poster-Short Oral pr. 01 15:15-18:00

Chairperson:  Hiromasa Kurosaki  

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

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**

**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\textsuperscript{1,2}, Piotr Brandys\textsuperscript{2}, Tomasz Dabrowski\textsuperscript{1,2}, Tomasz Walasek\textsuperscript{1,2}
   \textsuperscript{1}Dept. of Brachytherapy, Centrum Onkologii - Instytut im. M. Sklodowskiej-Curie, Oddzial Krakow, 
   \textsuperscript{2}Dept. of Radiotherapy, Centrum Onkologii - Instytut im. M. Sklodowskiej-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

Pa-13 Castration-resistant prostate cancer treated with combining low dose chemotherapy and regional hyperthermia for obtaining long survival
   Kosuke Ueda\textsuperscript{1}, Fumiko Maeda\textsuperscript{1}, Yasuhiro Ito\textsuperscript{2}
   \textsuperscript{1}Nagoya Prostatic Center, Hachiya Orthop. Hosp., \textsuperscript{2}Dept. of Urology, Holy Spirit Hosp.

Pa-14 Immunological enhancement and long term remissions achieved in HIV patients receiving HL-WBH ‘heateal’ hyperthermia treatment
   Alexei Suvernev\textsuperscript{1,2}, George Ivanov\textsuperscript{1}, Milton Yatvin\textsuperscript{2,3}
   \textsuperscript{1}Siberian Sci. Res. Inst. of Hyperthermia, \textsuperscript{2}Heatheal, Washington DC, USA, \textsuperscript{3}Biology Dept. Reed Coll., Portland OR, USA

\textbf{Poster-Short Oral pr. 03} \hspace{1cm} 15:15-18:00

\textbf{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 Mistudo\textsuperscript{1}, Toshiyuki Koizumi\textsuperscript{1}, Masaki Iida\textsuperscript{1}, Toshinori Iwai\textsuperscript{1}, Senri Oguri\textsuperscript{1}, Noriyuki Yamamoto\textsuperscript{2}, Minoru Ueda\textsuperscript{2}, Mitomu Kioi\textsuperscript{1}, Makoto Hirota\textsuperscript{1}, Iwai Tohnai\textsuperscript{1}

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 Imada\textsuperscript{1}, Hiroyuki Narisada\textsuperscript{1}, Yoshinori Tomoda\textsuperscript{1}, Shin Ohta\textsuperscript{1}, Katsuya Yahara\textsuperscript{2}, Takayuki Ohguri\textsuperscript{2}
   \textsuperscript{1}Cancer Therapy Center, Tobata Kyoritsu Hosp., \textsuperscript{2}Dept. of Radiology, Univ. of Occupational and Environmental Health, Kitakyushu, Japan
Superficial hyperthermia in head and neck malignancies. A review of 164 patients
Stefano Dall’Oglio1, Mario Palazzi1, Andrea Fior2, Mario Romano1, Nadia Marcial1, Sergio Maluta1

Results of chemothermoradiation therapy for locally advanced laryngeal cancer
Orazakhmet Kurpeshev1, Vyacheslav Andreyev2, Vladimir Pankratov2, Igor Gulidov3, Kamila Strelkova1

Clinical evaluation of thermochemoradiotherapy for advanced head and neck cancer
Masaki Iida1, Kenji Mitsudo1, Toshiyuki Koizumi1, Toshinori Iwai1, Senri Oguri1, Mitomu Kioi1, Makoto Hirota1, Hideyuki Nakashima1, Iwai Tohnai1

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

Multidisciplinary therapy including hyperthermia for colorectal cancer
Hiroyuki Narisada, Hajime Imada, Yoshinori Tomoda, Shin Ohta
Cancer Therapy Center, Tobata Kyoritsu Hosp.

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

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 Ghiday⁴, 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
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 Uno¹

Pa-30 Re-irradiation plus hyperthermia for recurrent breast cancer in previously irradiated area; size matters!
Sabine Oldenborg¹, Vanessa Griesdoorn¹, Yoka Kusumanto¹, Rob van Os¹, Bing Oei², Jack Venselaar², Hans Crezee¹, Paul Zum Vorde¹, Coen Rasch¹, Geertjan van Tienhoven¹
Pa-31  Comparison of 4 to 8 hyperthermia treatments combined with re-irradiation for breast cancer
Marianne Linthorst¹, Gerard C van Rhoon², Margreet Baaijens², Wendim Ghidey¹, 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

Pa-33  Efficacy of sequential combination of hyperthermia and gemcitabine in the treatment of advanced pancreatic cancer: Phase II study
Takeshi Ishikawa¹², Satoshi Kokura¹², Naoyuki Sakamoto³, Reiko Tsuchiya², Manabu Okajima², Tatsuo Matsuyama³, Satoko Adachi¹, Tetsuya Okayama¹², 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, Xiaodong 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 Rhoon⁴, Jacoba van der Zee⁴
¹Maastro 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

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
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 Baartman¹, Bing Oei⁴, Wendim Ghidey⁵, Gerard C van Rhoon¹, Jacoba van der Zee¹

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
Chairperson: Erito Mochiki

Pa-42  Hyperthermic intraperitoneal chemotherapy (HIPEC) following a curative resection of advanced gastric cancer
Satoshi Murata¹, Hiroshi Yamamoto¹, Tsuyoshi Yamaguchi¹, Hiroyuki Naitoh³, Tomoharu Shimizu¹, Hisanori Shiomı¹, 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 Kuroda¹, Shuhei Morita¹, Khalid Albarodi², Makoto Obara³, Paul Baron⁴, Mie Kee Lam⁵, Wilbert Bartels⁶, Masatoshi Honda³, Tomohiko Horie⁵, Yutaka Imai³


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 Masuda¹, Kazumasa Komura¹, Yutaka Fujisue¹, Peter Black², Toshikazu Watusi³, 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 Thermotherapy, 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 Gruell¹,²

¹Eindhoven Univ. of Tech., ²Philips Res. Eindhoven, the Netherlands
August 29 (Wed.) Room B

Morning Lecture 1 8:40-9:10

Chairperson: Hiroyuki Kato

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 therapy
Yoshihiro Ishikawa¹, Haruki Eguchi²

S03-2  Proteins and cholesterol lipid vesicles are mediators of drug release from thermosensitive liposomes
Martin Hossann¹², Zulfiya Syunyaeva¹, Rebecca Schmidt¹, Anja Zengerle¹, Hansjoerg Eibl¹, Rolf D. Issels¹², Lars H. Lindner¹²
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 Wakamatsu¹, Shosuke Ito³, Satoshi Nohara⁴, Takeo Hasegawa⁵, Itsuo Yamamoto⁶


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 Rhoon¹, Alexander MM Eggermont¹,², Martin Hossann², Dieter Haemmerich², Gerben A Koning¹


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

Symposium 4 13:00-15:00

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

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

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

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

Seisuke Okazawa1,2, Yukihiro Furusawa2,3, Ayako Kariya2, Mariame Ali Hassan2, Mie Arai2, Yoshiaki Tabuchi2, 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 Sekihara1,4, Nanae Harashima1, Hiroyuki Monma1,2, Nobue Uchida3, Taisuke Inomata4, Mamoru Harada1


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


Poster-Short Oral pr. 02 15:15-18:00

Chairperson: Ichiro Ota

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

Qing-Li Zhao, Yoshisada Fujiwara, Takashi Kondo

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

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, Tatuzo Matsuyma, 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
Chairperson: Valentina Ostapenko
Dept. of Internal Med., Higashiyamato 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

Pb-17 Moderate heat treatment enhances activities of human cytotoxic T lymphocytes
Akari Takahashi, Toshihiko Torigoe, Yoshihiko Hirohashi, Yasuaki Tamura, Takayuki Kanaseki, Noriyuki Sato

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
Molecular mechanisms involved in the enhancement of hyperthermia-induced apoptosis by docosahexaenoic acid, -Implication for cancer therapy-
Zheng-Guo Cui\textsuperscript{1}, Loreto Jr., Bandoy Feril\textsuperscript{2}, Hidekuni Inadera\textsuperscript{1}
\textsuperscript{1}Dept. of Public Health, Grad. Sch. of Med. and Pharm. Sci., Univ. of Toyama, \textsuperscript{2}Dept. of Anatomy, Fukuoka Univ. Sch. of Med.

Poster-Short Oral pr. 04

Chairperson: Shin-ichiro Masunaga

Treatment enhancement of ultrasound-mediated nanodrug delivery in combination with hyperthermia
Chi-Feng Chiang\textsuperscript{1}, Heng-Ruei Shiu\textsuperscript{1}, Hsiao-Ching Tseng\textsuperscript{1}, Fu-Hsiung Chang\textsuperscript{2}, Win-Li Lin\textsuperscript{1}
\textsuperscript{1}Inst. of Biomed. Eng., Nat’l Taiwan Univ., \textsuperscript{2}Inst. of Biochem. and Molecular Biology, Nat’l Taiwan Univ.

The therapeutic potential of combining OXi4503, radiation and mild temperature hyperthermia
Michael R. Horsman

Novel cationic thermosensitive liposomes for targeted and controlled drug delivery to tumor vasculature and tumor cells
Bilyana M. Dicheva\textsuperscript{1}, Timo LM Ten Hagen\textsuperscript{1}, Li Li\textsuperscript{2}, Debby Schipper\textsuperscript{1}, Ann L.B. Seynhaeve\textsuperscript{1}, Gerard C van Rhoon\textsuperscript{1}, Alexander MM Eggermont\textsuperscript{1,2}, Lars H Lindner\textsuperscript{1,3,4}, Gerben A Koning\textsuperscript{1}
\textsuperscript{1}Dept. of Surgical Oncol., Rotterdam, Erasmus MC, \textsuperscript{2}Cancer Inst. Gustave Roussy, Paris, \textsuperscript{3}Dept. of Internal Med. III, Munich, Ludwig-Maximilians Univ., \textsuperscript{4}CCG-Hyperthermia, Munich, German Res. Center for Environmental Health, \textsuperscript{5}Dept. Radiotherapy, Rotterdam, Erasmus Med. Center

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 Asada\textsuperscript{1}, Katsuhiro Kageyama\textsuperscript{2}, Hiroshi Tanaka\textsuperscript{2}, Masanori Takeshita\textsuperscript{2}, Masatsugu Kimura\textsuperscript{1}, Yasukazu Saitoh\textsuperscript{1}, Nobuhiko Miwa\textsuperscript{2}
\textsuperscript{1}Dept. of Radiological Tech., Osaka Butsuryo Coll., \textsuperscript{2}Fac. of Health Sci., Butsuryo Coll. of Osaka, \textsuperscript{3}Radioisotope Center, Osaka City Univ., \textsuperscript{4}Fac. of Life and Environmental Sciences, Pref. Univ. of Hiroshima

Cancelation of hyperthermia induced reactive oxygen species in rat plasma
Megumi Ueno\textsuperscript{1}, Minako Nyui\textsuperscript{1}, Ikuo Nakanishi\textsuperscript{1}, Kazunori Anzai\textsuperscript{1,2}, Toshihiko Ozawa\textsuperscript{1,3}, Ken-ichiro Matsumoto\textsuperscript{1}, Yoshihiro Uto\textsuperscript{4}
\textsuperscript{1}Res. Center for Charged Particle Therapy, Nat’l Inst. of Radiological Sci., \textsuperscript{2}Nihon Pharm. Univ., \textsuperscript{3}Yokohama Coll. of Pharm., \textsuperscript{4}Inst. of Tech. and Sci., The Univ. of Tokushima

Screening of phytochemicals sensitizing heat sensitivity of cancer cells
Shin-ichi Bando\textsuperscript{1}, Osamu Hatano\textsuperscript{2}, Hiroshi Takemori\textsuperscript{3}, Nobuo Kubota\textsuperscript{4}, Ken Ohnishi\textsuperscript{1}
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 Feng\textsuperscript{1}, Hidenobu Fukumura\textsuperscript{1}, Itaru Sato\textsuperscript{1}, Haruki Eguchi\textsuperscript{2}, Yoshihiro Ishikawa\textsuperscript{1}  
\textsuperscript{1}Dept. of Cardiovascular Res. Inst., Yokohama City Univ. of Med., \textsuperscript{2}IHI Co.

Pb-28  Hyperthermia using magnetic nanoparticles combined with intratumoral dendritic cells enhance antitumor effect  
Noriyuki Yamamoto\textsuperscript{1}, Koushi Matsumoto\textsuperscript{1}, Hiroki Furue\textsuperscript{1}, Sumitaka Hagiwara\textsuperscript{1}, Masaya Nishikawa\textsuperscript{1}, Hideharu Hibi\textsuperscript{1}, Toshio Shigetomi\textsuperscript{2}, Kenji Mitsudo\textsuperscript{3}, Iwai Tohnai\textsuperscript{1}, Takeshi Kobayashi\textsuperscript{1}, Minoru Ueda\textsuperscript{1}  

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 Li\textsuperscript{1}, Yukihiro Furusawa\textsuperscript{1}, Zheng-Li Wei\textsuperscript{1}, Hiroaki Sakurai\textsuperscript{2}, Yoshiaki Tabuchi\textsuperscript{3}, Qing-Li Zhao\textsuperscript{1}, Takaharu Nomura\textsuperscript{4}, Ikuo Saiki\textsuperscript{5}, Takashi Kondo\textsuperscript{1}  
\textsuperscript{1}Dept. of Radiological Sci. of Toyama Univ., \textsuperscript{2}Dept. of Cancer Cell Biology, Toyama Univ., \textsuperscript{3}Dept. of Div. of Molecular Genetics Res., Toyama Univ., \textsuperscript{4}Dept. of Low Dose Radiat. Res. Center, Komae, \textsuperscript{5}Dept. 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 Hayashi\textsuperscript{1}, Ken Koshiba\textsuperscript{2}, Hisayoshi Shiozaki\textsuperscript{2}, Masanori Hatashita\textsuperscript{3}, Takefumi Sato\textsuperscript{4}, Yutaka Jujo\textsuperscript{5}, Ryuta Suzuki\textsuperscript{2}  
\textsuperscript{1}Dept. of Exptl Radiol. and Health Phys., Fac. of Med. Sci., Univ. of Fukui, \textsuperscript{2}The Center for Urology and Nephrology, Saitamaken-oh Hosp., \textsuperscript{3}Res. and Development, The Wakasa-wan Energy Res. Center, \textsuperscript{4}Dept. of Urology, Kitasato Univ. Sch. of Med.

Pb-31  Hyperthermia sensitizes resistant human oral cancer cells to IL-13 cytotoxin  
Hideyuki Nakashima\textsuperscript{1,2}, Mitomo Kioi\textsuperscript{1,2}, Makiko Sugiura\textsuperscript{1}, Kei Sugiura\textsuperscript{1}, Itaru Sato\textsuperscript{1}, Masaki Iida\textsuperscript{1}, Kenji Mitsudo\textsuperscript{1}, Syed R Husain\textsuperscript{2}, Raj K Puri\textsuperscript{2}, Iwai Tohnai\textsuperscript{1}  
\textsuperscript{1}Dept. of Oral and Maxillofacial Surg., Yokohama City Univ. Grad. Sch. of Med., \textsuperscript{2}Tumor 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 Mori\textsuperscript{1}, Ryohei Ogawa\textsuperscript{2}, Akihiko Watanabe\textsuperscript{1}, Takashi Kondo\textsuperscript{2}, Hideki Fuse\textsuperscript{1}  

Pb-33  Hyperthermia regulates HSP expression in human keratinocytes exposed to ultraviolet B  
Paras Jawaid\textsuperscript{1}, Yoko Yoshihisa\textsuperscript{2}, Mriame Ali Hassan\textsuperscript{1}, Mati Ur Rehman\textsuperscript{2}, Tadamichi Shimizu\textsuperscript{2}, Takashi Kondo\textsuperscript{1}  
\textsuperscript{1}Dept. of Radiological Sci. Toyama Univ., \textsuperscript{2}Dept. of Dermatology Toyama Univ.
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 Nakayama⁴

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

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

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


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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.

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

Kuansheng Ma, Qi Wang, Jiasheng 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

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

Kotaro Morita¹, Kenichi Kakinuma², Friedrich Zywietz³, 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

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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 Matsushita¹,², Kenichiro Imai¹,³, Ryuji Okuyama¹,³, Koichi Shimizu¹,², Atsushi Aruga¹,⁴, Keishi Tanigawa¹


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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.,
Pb-41 High intensity focused ultrasound therapy for metastatic hepatic cancer
Ihl Bohng Choi, Hyun Ho Choi

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
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 Kurosaki¹, 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 Gruell¹,²
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 Hossann²,¹, Tungte Wang²,³, Zulfiya Syunyaeva², Anja Zengerle², Rolf D.
Issels²,³, Maximilian Reiser¹, Lars H. Lindner²,³
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 Yano³
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
### August 29 (Wed.)  Room C

**Morning Lecture 3**  
**Chairperson:** Hideyuki Sakurai  
Dept. of Radiat. Oncol., Univ. of Tsukuba

**ML03  Progress in noninvasive MR thermometry**  
Kagayaki Kuroda\(^1,2\)

\(^1\)Dept. of Human and Information Sci., Sch. of Information Sci. and Tech., Tokai Univ.,  
\(^2\)Int’l Med. Device Alliance, Foundation for Int’l Med. Alliance

**Morning Lecture 4**  
**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 Kuroda**  
Dept. 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. Stauffer\(^1\), Paolo F. Maccarini\(^1\), Dario B. Rodrigues\(^1\), Sara Salahi\(^1\), Oana I. Craciunescu\(^1\),  
Yu Yuan\(^2\), Shiva K. Das\(^1\)

\(^1\)Radiat. Oncol. Dept., Duke Univ.,  
\(^2\)Radiat. 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, Hirotoshi Horita1, Hiroya Ojiri1, Sinji Yamazoe1, Tetuya Simizu1, Chihiro Kanemura1, Yoshimitu Sunagawa1, Koichi Ito1

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
1IT’IS Foundation/ ETH Zurich, 2IT’IS 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

Symposium 6 13:00-15:00
Physical medicines with thermal therapy on chronic diseases
Chairpersons: Hirofumi Kai
Dept. of Molecular Med., Kumamoto Univ.
Philip 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 Uno⁶, Kaori Sadamoto⁶, Iuko Yasuda⁶, Mari Tanigawa⁶, Atsuko Kishi⁶, Toshikazu Yoshikawa⁶


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, Takashi Kobayashi⁴, Noriyasu Kawai⁵

Pc-02 Compact radiating element for 433 MHz applicator of superficial hyperthermia system
Woo Cheol Choi, Young Joong Yoon, Ki Joons 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 Uzuka³, Hideaki Takahashi³
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 Ohno³, Takashi Harimoto³, Masahiro Kuroda¹, Koichi Shibuya¹, Masatake Oita¹, Nobue Uchida³, Susumu Kanazawa³
Pc-06 Heating properties of coaxial needle applicator made of shape memory alloy
Tatsuya Yamada¹, Yasuhiro Shindo², Kazuo Kato³, 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 blod-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

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
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

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. Cannata¹, Hsu Chang¹, K. Kirk Shung⁴, Win-Li Lin²

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

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 Kanazawa¹, Shoji Kawasaki¹, Hirokazu Kato¹


Pc-22  High-sensitive *in vivo* detection of oxidative stress with OKD48 transgenic mice

Daisuke Oikawa¹,², Ryoko Akai¹,², Mio Tokuda¹, Takao Iwawaki¹,³

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


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 Kobayashi¹, Eiichi Nakayama³, Yasuaki Tamura, Masae Okura³, Toshiharu Yamashita³, Kowichi Jimbow³, and Masamichi Kamihira¹


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

Poster-Short Oral pr. 03

**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 Umemura1,2  
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 Umemura1,2  
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 Umemura1,2  
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 Okita1, 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 Kumamoto1,2, Shunpei Iwaoka2, Daisuke Kokuryo3, Toshiya Kaihara2, Kagayaki Kuroda4,5  

**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 Chen¹, Win-Li Lin¹,²

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. Oliveira¹,², Sara Salahi³, Gerard Aknine³, M. Teresa Lamy¹, Paolo F. Maccarini², Paul R. Stauffer⁴

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

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 Verhaert¹, 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 Takahashi², Takeo Hasegawa³
Pc-41  The optimal heating method for superficial tumors
Kenta Takada¹, Tomonori Isobe¹, Daisuke Kobayashi², Yutaro Mori¹, Keiji Suzuki², Koichi Shida³,
Yousuke Yoshimura⁴, Masashi Seki⁴, Hiroshi Yokota², Hideyuki Sakurai⁴, Takeji Sakae⁴
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-
depth 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
August 30 (Thu.)

**Morning Lecture 5**

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| 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**

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| 9:10-9:40 | Chairperson: Koji Ono  
**ML06** Thermochemistry: A multifaceted energy source for ablation  
Erik Cressman  
Dept. of Radiol Univ. of Minnesota Med. Center |

**Break**

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<td>9:40-9:50</td>
<td>Break</td>
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**Symposium 7**

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<th>Time</th>
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| 9:50-11:50 | State of the art in clinical heating and prospective heating technologies  
**Chairpersons: Paul R. Stauffer**  
Youji Kotsuka  
Tokai Univ.  
**S07-1** Microwave heating by thin coaxial antennas  
-Application to interstitial and intracavitary hyperthermia-  
Kazuyuki Saito¹, Masaharu Takahashi¹, Koichi Ito²  
|        | **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 |

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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 Diederich1, Jaime L. Schlorff2, Paul R Stauffer2


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S07-4

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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 Imada2,3, 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

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**Break**  
11:50-12:00

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**Luncheon Seminar 2**  
12:00-13:00

**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


Sponsored by Yakult Honsha Co., Ltd.
Symposium 8  
13:00-15:00

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 hyperthermia  
Milton B. Yatvin1,3, George Ivanov2, Alexei Suvernev2,3  
1Biology Dept., Reed Coll., 2Inst. Siberian Sci. Res. Institution of Hyperthermia, 3Institution Heathecal

S08-3 Hyperthermia enhances immunotherapy in cancer patients: 1466 clinical cases  
Tsutomu Takeda1, Tohru Takahashi2, Takashi Takeda1, Hiroko Takeda1  
1Osaka 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 Terunuma1,2,3, Noriyuki Nishino2, Xuewen Deng1, Akiko Yoshimura1, Yoshinao Takano2, Atsushi Toki1, Tatsuaki Ishiguro1, Mie Nieda1, Jin-ichi Sasanuma1, Yasushi Teranishi2, Kazuo Watanabe1,2  
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.

Banquet  
18:40-21:00
August 30 (Thu.)

**Room B**

### Morning Lecture 7

**Chairperson:** Chung K. Lee  

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

### Morning Lecture 8

**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

**Cell signaling and damage response**

**Chairpersons:** Masahiko Miura  
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 heat  
Hiroyuki Kitao¹, Tuul Munkhbold², Makoto Iimori¹, Kazuaki Matsuoka¹, Shinichi Kiyonari¹, Hiroshi Saeki², Eiji Oki³, Masaru Morita², Yoshihiko Machara²  

**S09-2** ATM is the predominant kinase involved in the phosphorylation of histone H2AX after heating  
Akihisa Takahashi¹, Eichiro Mori²,³, David J. Chen¹, Takeo Ohnishi²  
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

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. Park¹²
¹Dept. of Radiat. Oncol., Univ. of Minnesota, ²Dept. of Microbiology, Coll. of Med., Inha Univ., Inchon, Korea

S09-6  The protective effect of mild heat preconditioning at 40°C 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

Break 11:50-12:00

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

Chairpersons: Len Neckers
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 Hará², 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

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

S10-5  Hsp90 and the tumor microenvironment
Med. Oncol. Branch, Center for Cancer Res., NCI

Break 15:00-15:15

Poster-Short Oral pr. 01:Japanese 15:15-16:45

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-Koga1, Mary A. Suico1, Kosuke Koyama1, Tsuyoshi Shuto1, Hirofumi Kai1

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, Ihori Shitanda, Kohei Omachi, Masatake 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
Ihori 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 Fujiiwara¹, 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, Seyyedeh Moosavi Nejad², S. Hamid R. Hosseini¹, Taishi Otani¹, Eiko Higashi², Hitomi Endo², Loreto B. Feril Jr.³, Katsuyuki Nakano⁴, Toshihiro Kikuta¹, Katsuro Tachibana²

Pj-09  Hyperthermia using implant of resonant circuit delivered through 18G-needle
Kazuya Kumagai¹, Kazuhiko Watabe¹, Ryo Matsumura¹, Tsutomu Yamada¹, Kyohei Kezuka¹,², Reiko Kurotani¹, Iwai Tohnai¹, Yoshihiro Ishikawa¹, 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

Chairperson: Koh Tsuji

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 Environmental Health, ²Dept. of Radiology, Univ. of Occupational and Environmental Health, ³Nursing Dept., Univ. of Occupational 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 Ezoë², Yoshiyuki Yanai², Rika Fukui², Takahiro Yasoshima²
Pj-12 Three cases of avascular osteonecrosis after hyperthermia
Satoshi Yamada¹, Atsunori Murase¹, Katuhiro Hayasi², Hiroyuki Inatani², Hideki Okamoto¹, Takanobu Otsuka¹

Pj-13 Postoperative intraperitoneal hyperthermochemotherapy by radiofrequency capacitive heating system for advanced gastric cancer with peritoneal seeding
Atsushi Ogawa, Erito Mochiki, Mitsuhiko Yanai, Kyoichi Ogata, Tetsuro Ohno, Takayuki Asao, Hiroyuki Kuwano

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 Motegi³, Takayuki Asao³, Takeo Takahashi⁴, Takashi Nakano⁵, Hiroyuki Kuwano⁵, Yoshitaka Ando¹

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 Motegi³, Takayuki Asao³, Takeo Takahashi⁴, Takashi Nakano⁵, Hiroyuki Kuwano⁵, Yoshitaka Ando¹

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 Ezoe¹, Takayuki Shishido¹, Hideyuki Morosawa², Yoshihi Miya², Yoshihiko Furuta², Yasuaki Tamura³

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
Pj-19  Change of QOL for patients getting long-term hyperthermia treatment
Hideyuki Morosasa¹, Yoshiki Miya¹, Akihiro Endo¹, Yumiko Kawasaki¹, Yoshihiko Furuta¹, Takayuki Shishido², Eiri Ezoe², Yoshiyuki Yanai², Rika Fukui², Takahiro Yasoshima²

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

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 Kiriyama, 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 |
August 31 (Fri.) Room A

Morning Lecture 9  9:10-9:40

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

Symposium 11  9:50-11:50

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 Masuda⁶  

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

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Break  
11:50-12:00

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**Luncheon Seminar 3**  
12:00-13:00

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.

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Summary 1  
13:00-15:00

**Medicine (Med, Clinical Results)**

Chairperson: Yoshiaki Tanaka  
Kawasaki Saiwai Hosp.

SU1-1 **Current status of clinical hyperthermia in United States**  
Zeljko Vujaskovic  

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**  
Zhang, Shan-wen  
Peking University Cancer Hosp.
SU1-5 Current situation of clinical hyperthermia in Japan
Hiromi Terashima

Break 15:00-15:15

Award Ceremony of ICHO2012 and Closing Remarks 15:15-16:00

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
August 31 (Fri.)

Room B

**Morning Lecture 10**

<table>
<thead>
<tr>
<th>Chairperson: Kosuke Ueda</th>
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<tr>
<td>Nagoya Prostatic Center, Hachiya Orthop. Hosp.</td>
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ML10  Role of hyperthermia in treatment of bladder cancer: Current status and future directions

Zeljko Vujaskovic

**Break**

**Symposium 12**

**Hyperthermia enhancement and molecular mechanisms**

<table>
<thead>
<tr>
<th>Chairpersons: Tetsuo Akimoto</th>
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<tbody>
<tr>
<td>Dept. of Radiat. Oncol. and Particle Therapy, Nat’l Cancer Center Hosp. East (NCCE)</td>
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</table>

Tetsuro Tamamoto

S12-1  DNA-PK activity is involved in the fast repair of DNA double strand breaks during thermal radiosensitization

Makoto Ihara¹, Yutaka Okumura¹, Takeo Ohnishi²

S12-2  Enhancement of heat sensitivity by depression of DSB repair

Atsuhisa Kajihara¹,², Noritomo Okamoto¹, Yousuke Nakagawa¹,², Akihisa Takahashi³, Takaaki Kiritê, Takeo Ohnishi³

S12-3  Hyperthermia-induced homologous recombination deficiency provides novel anti-cancer treatment opportunities

Berina Eppink¹, Przemek M. Krawczyk², Jeroen Essers³,⁴, Jan Stap³, Hanny Odijk³, Alex Zelensky¹, Thomas Soullie³, Joost Rens³, Timo L.M. ten Hagen³, Jacob Aten³, Roland Kanaar¹,²
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
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 Hasegawa2,3, Kazuko Uno2, Iuko Yasuda2, Atsuko Kishi2, Kaori Sadamoto2, Fuminori Abe1, Takuya Ishii1, Motowo Nakajima1, Tohru Tanaka1

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, Peking Univ. Cancer Hosp.

S12-7 Oncothermia – modulated electro-hyperthermia
Oliver Szasz
Oncotherm GmbH, Germany

Break
11:50-12:00

Summary 2
13:00-14:00

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

SU2-3 Kagayaki Kuroda
Dept. of Human and Information Sci., Sch. of Information Sci. and Tech., Tokai Univ.
Summary 3

Basic (Biology)

Chairperson: Takeo Ohnishi

SU3-1 The enhancement of the hyperthermic effects using aureobasidium pullulans (ACFAgMax)

Kaori Sadamoto¹, Kazuko Uno¹, Iuko Yasuda¹, Atsuko Kishi¹, Takashi Hasegawa¹, Takenori Yamashita¹, Naomi Fujita¹, Taku Harada¹, Yasushi Harada¹, Takeo Hasegawa¹²


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 Tohnai¹


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.