San Francisco Radiation Oncology Conference

Saturday, July 7, 2007

All Sessions in Golden Gate A & B

Welcome
John Meyer
8:00am - 9:45am
I. A New Era of Practice in Radiation Oncology

Introduction
C. Norman Coleman
National Institutes of Health
• Radiation Oncology in the New World of Cancer Biotechnology

C. Clifton Ling
Memorial Sloan-Kettering Cancer Center
• New Biophysical Tools/New Treatment Goals in the Targeting of Radiotherapy

Paul Harari
University of Wisconsin
• New Mechanisms, New Opportunities in Radiation/Drug Interaction
Discussion: Drs. Coleman, Ling and Harari

10:15am - 11:15am
Panel 1: Gastro-Intestinal Cancers
Christopher Willett, *Chair*

Howard Safran
Brown University
• New Bio-Molecular Therapies of Gastro-Intestinal Cancers

Christopher Willett
Duke University
• Treatment Advances in the Radiotherapy of GI Cancer
Discussion: Drs. Safran and Willett

11:15am - 12:00pm
The Buschke Lecture
Harry Bartelink
The Netherlands Cancer Institute
• The Evolving World of Breast Cancer Radiotherapy: Key Advances through Critical Investigation

1:00pm - 2:45pm
II. New Radiotherapy Approaches and Treatment Protocols

Panel 2: Genito-Urinary Cancers
Mack Roach, *Chair*

Alan Pollack
Fox Chase Cancer Center
• Molecular Markers Identified for Prostate Cancer Therapy

Mack Roach
University of California, San Francisco
• New Directions in the Radiotherapy of Prostate Cancer

Howard Sandler
University of Michigan
• New Perspectives on the Chemotherapy of Prostate Cancer
Discussion: Drs. Pollack, Roach and Sandler

3:15pm - 4:15pm
Panel 3: Thoracic Cancers
Laurie Gaspar, *Chair*

Karen Kelly
University of Kansas
• Novel, Molecularly-Targeted Therapies for Lung Cancer

Laurie Gaspar
University of Colorado
• A New Biology and a New Cancer Therapeutics for Lung Cancer Treatment
Discussion: Drs. Kelly and Gaspar

4:15pm - 5:00pm
The Vaeth Lecture

Jens Overgaard
Aarhus University Hospital, Denmark
• Defining New Directions for the Radiotherapy of Cancer

Sunday, July 8, 2007

8:00am - 10:00am
III. Joint session with ICRR
Salon 9 Yerba Buena

William Dewey
University of California, San Francisco
• How Cells Die After Irradiation

Jay Loeffler
Massachusetts General Hospital Cancer Center
• Protons and Other Charged Particles: What Is the Potential Impact on Radiotherapy Practice?

Eric Hall
Columbia University
• Second Cancers after Radiotherapy – An Increasing or Decreasing Concern?

10:30am - 12:00pm
Panel 4: Hypofractionation and Dose Escalation
Salon 7 Yerba Buena
Herman Suit, *Chair*

Robert Timmerman
Southwestern University
• Stereotactic Body Radiotherapy: New Results of High Fraction Radiotherapy

Julian Rosenman
University of North Carolina
• Hypofractionation, Dose Heterogeneity and Dose Escalation Programs with IMRT: How Far Have We Gone, How Far Can We Go?

Herman Suit
Massachusetts General Hospital Cancer Center
• Hypofractionation, Dose Heterogeneity, Mega-Dose SBRT: A New Radiobiology?

Discussion: Drs. Timmerman, Rosenman, and Suit, joined by Dr. E. Hall

1:00pm - 3:00pm
IV. New Radiotherapy Approaches & Treatment Protocols

Panel 5: Head and Neck Cancers
Salon 7 Yerba Buena
Kian Ang, *Chair*

David Brizel
University of North Carolina
• Combination of Radiotherapy with Chemotherapy: Promises and Pitfalls

Vincent Gregoire
UCL University St. Luc, Belgium
• IMRT: Current and Future Roles in the Treatment of Head/Neck Cancers

Lei Dong
MD Anderson Cancer Center
• Practical Advances in the Treatment Planning & Delivery of Head/Neck Cancer Therapy

Lester Peters
Peter MacCallum Cancer Centre
• New Perspectives in the Radiotherapy of Head/Neck Cancer

Kian Ang
MD Anderson Cancer Center
• Evolving Treatment Programs in the Radiotherapy of Head/Neck Cancer

Discussion: Drs. Brizel, Gregoire, Dong, Peters and Ang

3:15pm - 4:00pm
The D'Angio Lecture (with ICRR).
Salon 9 Yerba Buena

Daniel Von Hoff
University of Arizona
• New Cancer Therapeutics

4:00pm - 4:45pm
Lymphomas
Salon 7 Yerba Buena

Roger Macklis
Cleveland Clinic Foundation
• New Treatment Programs in the Radiotherapy of Lymphomas

13th International Congress of Radiation Research

Sunday, July 8, 2007

8:00am - 10:15am
Joint Session with SFRO Conference
Topical Reviews Session 1
Salon 9 Yerba Buena

TR 1: **How cells die after radiation**
William Dewey, University of California, San Francisco, USA

TR 2: **Protons and other charged particles: what is the potential impact on radiotherapy practice?**
Jay Loeffler, Massachusetts General Hospital, Boston, USA

TR 3: **Second cancers after radiotherapy: an increasing or decreasing concern?**
Eric Hall, Columbia University, New York, USA

10:45am - 12:15pm
Topical Reviews Session 2
Salon 8 Yerba Buena

TR 4: **What physics can teach us about radiation biology**
Dudley Goodhead, Medical Research Council, Oxford, UK

TR 5: **Molecular signatures of radiation response**
Sally Amundson, Columbia University, New York, USA

1:30pm - 3:00pm
Topical Reviews Session 3
Salon 8 Yerba Buena

TR 6: **Molecular signatures of cancer**
Gavin Sherlock, Stanford University, Stanford, USA

TR 7: **What can mouse models teach us in cancer research?**
Laura Attardi, Stanford University, Stanford, USA

3:15pm - 4:00pm
Plenary Lecture
Salon 9 Yerba Buena

PL 1: **D'Angio Lecture: New cancer therapeutics**
Dan von Hoff, University of Arizona, Tucson, USA

4:00pm - 5:20pm
Topical Reviews Session 4
Salon 8 Yerba Buena

TR 8: **The importance of epigenetics in cancer**
Randy Jirtle, Duke University, Durham, USA

TR 9: **Radiation biology teaching - current status and future prospects**
Elaine Zeman, University of North Carolina, Chapel Hill, USA

6:00pm - Opening Ceremony
Salon 9 Yerba Buena

7:30pm - Welcome Reception
Golden Gate A&B

Monday, July 9, 2007

7:30am - 8:15am
Eye Openers

EO 1: **Development of imaging probes and markers for biological characterization of tumors**
Salon 7, Yerba Buena
Juri Gelovani, The University of Texas, MD Anderson Cancer Center, Houston, USA
Chair: Gloria C. Li, Memorial Sloan-Kettering Cancer Center, New York, USA

EO 2: **Effects of track structure in radiation chemistry**
Salon 15, Yerba Buena
Jay LaVerne, University of Notre Dame, South Bend, USA
Chair: Hooshang Nikjoo, NASA Johnson Space Center, Houston, USA

EO 3: **Reassessment of effective dose of a-bomb radiation and its possible impact on risk evaluation**
Salons 1, 2, 3 Yerba Buena
Masao Sasaki, Kyoto University, Kyoto, Japan
Chair: Eric Hall, Columbia University, New York, USA

EO 4: **DNA repair foci: what are they and what are they good for?**
Salon 8, Yerba Buena
Peggy Olive, BC Cancer Research Centre, Vancouver, Canada
Chair: Raymond Meyn, University of Texas MD Anderson Cancer Center, Houston, USA

8:30am - 9:30am
Congress Lectures

CL 1: **Molecular imaging as applied to cancer and radiation therapy**
Salon 7, Yerba Buena
Patricia Price, University of Manchester Christie Hospital, Manchester, UK
Chair: A. J. van der Kogel, University of Nijmegen, Nijmegen, The Netherlands

---

CL 2: **Low energy electron driven processes and their radiation chemical effects**
Salon 15, Yerba Buena
Leon Sanche, University of Sherbrooke, Canada
Chair: Michael Sevilla, Oakland University, Rochester, USA

CL 3: **WHO REMPAN, international network for public health and medical preparedness and assistance in radio-nuclear emergencies**
Salons 1, 2, 3 Yerba Buena
Zhanat Carr, WHO, Geneva, Switzerland
Chair: Nelson Chao, Duke University, Durham, USA

CL 4: **Role of phosphorylation in non homologous end joining**
Salons 4, 5, 6 Yerba Buena
Susan Lees Miller, Southern Alberta Cancer Research Centre, Calgary, Canada
Chair: Melanie Spotheim-Maurizot, Centre National de la Recherche Scientifique, Orleans, France

---

CL 5: **The effect of hypoxia on growth factor signaling and metabolism in tumors**
Salon 8, Yerba Buena
Nicholas Denko, Stanford University, Stanford, USA
Chair: Amato Giaccia, Stanford University, Stanford, USA

CL 6: **Second cancers following radiation treatment for childhood cancer**
Salons 10, 11 Yerba Buena
Ann Mertens, University of Minnesota, Minneapolis, USA
Chair: Marilyn Stovall, University of Texas MD Anderson Cancer Center, Houston, USA

10:00am - 12:00pm
Symposia

S 1: **Imaging for Radiation Therapy and Cancer Biology**
Salon 7, Yerba Buena
Chair: John Kurhanewicz, University of California, San Francisco, San Francisco, USA

10:00 - **Tumor imaging with immunohistochemistry**
A. J. van der Kogel, University of Nijmegen, Nijmegen, Netherlands

10:30 - **Reporter gene imaging for tumor characterization and radio-gene therapy**
Gloria C. Li, Memorial Sloan Kettering Cancer Center, New York, USA

11:00 - **Multiparametric magnetic resonance imaging of prostate cancer patients receiving radiation therapy**
John Kurhanewicz, University of California, San Francisco, San Francisco, USA

11:30 - **Imaging the tumor microenvironment in radiation therapy**
Zaver Bhujwalla, Johns Hopkins University, Baltimore, USA

S 2: **Track Structure Physics and Chemistry**
Salon 15, Yerba Buena
Chairs: Simon M. Pimblott, University of Manchester, Manchester, UK
Gisela Taucher-Scholz, GSI, Darmstadt, Germany

10:00 - **Stochastic simulation of water radiolysis by swift ions**
Benoit Gervais, University of Caen, Caen, France

10:30 - **Experiment-with-simulation analysis of hydrated electron and hydroxyl radical yields in heavy ion radiolysis of water**
Simon M. Pimblott, University of Manchester, Manchester, UK

11:00 - **Induction of DNA damage by heavy ions: lesion clustering and localized cellular response**
Gisela Taucher-Scholz, GSI, Darmstadt, Germany

11:30 - **Ion irradiation damage in structural materials**
Gary Was, University of Michigan, Ann Arbor, USA

S 3: **Triage Biological Dosimetry after a Radiological Event**
Salons 10, 11 Yerba Buena

Chairs: Norman Coleman, NCI, National Institutes of Health, Bethesda, USA
Narayani Ramakrishnan, NIAID, National Institutes of Health, Bethesda, USA

10:00 - **Multiple parameter biological dosimetry**
William F. Blakely, Armed Forces Radiobiology Research Institute, Bethesda, USA

10:30 - **Network for cytogenetic biodosimetry in Japan**
Mitsuaki Yoshida, National Institute of Radiological Science, Chiba, Japan

11:00 - **Electron paramagnetic resonance radiation dosimetry**
Francois Trompier, Institut de Radioprotection et de Sûreté Nucléaire, Clamart, France

11:30 - **Triage biological dosimetry using the dicentric assay**
Ruth Wilkins, Consumer and Clinical Radiation Protection Bureau, Ottawa, Canada

S 4: **Replication Fork Management and Genome Stability: the Role of Single and Double Strand Break Repair**
Salons 1, 2, 3 Yerba Buena

Chair: Simon Powell, Washington University, Saint Louis, USA

10:00 - **DNA polymerase beta: role in repair and survival after ionizing radiation**
Conchita Vens, Netherlands Cancer Institute, Amsterdam, The Netherlands

10:30 - **The roles of MDC1 in response to DNA double strand breaks via regulation RPA: inhibition of replication and promotion of homologous recombination**
Junran Zhang, Washington University, Saint Louis, USA

11:00 - **Maintenance of replication fork progression on damaged and undamaged DNA**
Eva Petermann, University of Sussex, Brighton, UK

11:30 - **Phosphorylation of RPA in replication and repair**
Kathleen Dixon, University of Arizona, Tucson, USA

S 5: **Targeting Tumor Hypoxia for Therapeutic Gain**
Salons 12, 13 Yerba Buena

Chairs: Stephanie McKeown, University of Ulster, Coleraine, UK
William Wilson, Auckland Cancer Society Research Centre, Auckland, New Zealand

10:00 - **Evaluation of the bioreductive activity of AQ4N, from lab to clinic**
Stephanie McKeown, University of Ulster, Coleraine, UK

10:30 - **Development of the novel hypoxia-activated bifunctional alkylating agent PR-104**
William Wilson, Auckland Cancer Society Research Centre, Auckland, New Zealand

11:00 - **Anti-metastatic opportunities in targeting tumour**
Kaye Williams, University of Manchester, Manchester, UK

11:30 - **Imaging and targeting tumor hypoxia by use of the HIF-1 function**
Shinae Kizaka-Kondoh, Kyoto University, Kyoto, Japan

S 6: **Chemotherapy Enhanced Radiation Therapy (CERT)**
Salons 4, 5, 6 Yerba Buena

Chairs: Kathy Mason, University of Texas MD Anderson Cancer Center, Houston, USA
Lydia Armstrong, Sanofi-Aventis, Great Valley, USA

10:00 - **Preclinical chemoradiotherapy**
Luka Milas, University of Texas MD Anderson Cancer Center, Houston, USA

10:30 - **Clinical trials in Europe**
Harry Bartelink, Netherlands Cancer Institute, Amsterdam, The Netherlands

11:00 - **US clinical trials and their influence on the standard of care**
Patricia Eifel, University of Texas MD Anderson Cancer Center, Houston, USA

11:30 - **Current status of development of various chemoradiotherapeutic approaches, with reference to industrialized and limited-resource settings**
Jolyon Hendry, IAEA, Vienna, Austria

12:00pm - 1:00pm
Plenary Lecture
Salon 9, Yerba Buena

PL 2: **Molecular imaging in diagnosis and therapy**
Hedvig Hricak, Memorial Sloan-Kettering Cancer Center, New York, USA

Chair**: C. Clifton Ling**, Memorial Sloan-Kettering Cancer Center, New York, USA

2:00pm - 4:00pm
Symposia

S 7: **Molecular Image-Guided Radiotherapy**
Salons 4, 5, 6 Yerba Buena

Chair: Vincent G. Gregoire, University of Leuven, Belgium
Karin Haustermans, University Hospital Gasthuisberg, Leuven, Belgium

Introduction
Vincent G. Gregoire, University of Leuven, Belgium

2:00 - **Future PET tracers for IGRT: prospect and caveat**
Robert H. Mach, Washington University, St. Louis, USA

2:30 - **Image registration and segmentation in functional IGRT**
Thomas Guerrero, University of Texas MD Anderson Cancer Center, Houston, USA

3:00 - **Use of PET for molecular image-guided RT: preclinical and clinical data**
Karin Haustermans, University Hospital Gasthuisberg, Leuven, Belgium

3:30 - **Use of fMRI in IGRT: pre-clinical and clinical data**
Sarah Nelson, University of California, San Francisco, San Francisco, USA

S 8: **Oxidative Radicals as Signaling Agents**
Salons 10, 11 Yerba Buena
Chairs: Peter Wardman, Gray Cancer Institute, Northwood, UK
David Gius, NCI, National Institutes of Health, Bethesda, USA

2:00 - **Intercellular induction of apoptosis: role of reactive oxygen species and low dose radiation**
Georg Bauer, University of Freiburg, Freiburg, Germany

2:30 - **Induction of apoptotic signaling cascades by aldehyde by-products of lipid peroxidation**
Diana Averill, University of Québec, Montréal, Canada

3:00 - **Main route of radiation-carcinogenesis is DNA damage-independent pathway**
Masami Watanabe, University of Kyoto, Kyoto, Japan

3:30 - **Intercellular induction of apoptosis-role of reactive oxygen species and radiation**
David Gius, NCI, National Institutes of Health, Bethesda, USA

S 9: **Radiation and the human environment**
Salon 15, Yerba Buena
Chairs: Maria Luisa Botelho Soares, University of Porto, Porto, Portugal
William Cooper, University of California, Irvine, Irvine, USA

2:00 - **Removing carcinogenic nitrosamines from waters using radicals**
Stephen Mezyk, California State University, Long Beach, Long Beach, USA

2:30 - **Hydroxyl radical's role in the remediation of a common herbicide, 2, 4-dichlorophenoxyacetic acid (2, 4-d)**
Julie Peller, Indiana University Northwest, Gary, USA

3:00 - **Radiation chemistry of water treatment**
William Cooper, University of California, Irvine, Irvine, USA

S 10: **Protein Structures Meet DNA Damages**
Salons 1, 2, 3 Yerba Buena
Chair: Susan S. Wallace, University of Vermont, Burlington, USA

2:00 - **Structural aspects of the recognition of oxidized purines by the formamidopyrimidine-DNA glycoslylase, Fpg**
Bertrand Castaing, Centre National de la Recherche Scientifique, Orleans, France

2:30 - **Visualizing a replicative polymerase encounter unrepaired free radical DNA lesions**
Silvie Doublie, University of Vermont, Burlington, USA

3:00 - **DNA damage and translesions synthesis**
Wei Yang, NIDDK, National Institutes of Health, Bethesda, USA

3:30 - **RecA/Rad51 assembly on single molecules of DNA**
Stephen Kowalczykowski, University of California, Davis, Davis, USA

S 11: **The Impact of Oncogenes and Translational Control on Tumor Growth**
Salon 7 Yerba Buena
Chairs: Brad Wouters, University of Maastricht, Maastricht, The Netherlands
Costas Koumenis, University of Pennsylvania, Philadelphia, USA

2:00 - **The role of IREi-XBP1 on tumor growth: implications for cancer therapy**
Albert Koong, Stanford University, Stanford, USA

2:30 - **Regulation of protein folding during hypoxia**
Marianne Koritzinsky, University of Maastricht, Maastricht, The Netherlands

3:00 - **Activation of the PERK-eIF2alpha-ATF4 arm of the UPR by hypoxia: its role in tumor development and opportunities for therapeutic intervention**
Costas Koumenis, University of Pennsylvania, Philadelphia, USA

3:30 - **Translational control of angiogenesis in breast cancer**
Robert Schneider, New York University, New York, USA

S 12: **Traditional Chinese Medicine Combined with Conventional Cancer Therapy**
Salon 14, Yerba Buena
Chair: Zhongxing Liao, University of Texas MD Anderson Cancer Center, Houston, US

2:00 - **Traditional Chinese medicine for cancer: the road to China**
Lorenzo Cohen, University of Texas MD Anderson Cancer Center, Houston, USA

2:30 - **Combined chemotherapy, radiation therapy and traditional Chinese medicinal treatment for pancreatic cancer**
Luming Liu, Fudan University, Shanghai, China

3:00 - **Traditional Chinese medicine in the management of treatment related pneumonitis-rational and evidence**
Zhongxing Liao, University of Texas MD Anderson Cancer Center, Houston, USA

3:30 - **Integrative medicine for colon-rectum cancer**
Yang Yufei, China Academy of Traditional Chinese Medicine, Beijing, China.

4:00pm - 5:30pm
Poster Session 1

5:45pm
Kaplan Award Lecture (IARR)
Salon 9 Yerba Buena

The remarkable yin and yang of tumor hypoxia
Martin Brown, Stanford University, Stanford, USA
Chair: Peggy Olive, BC Cancer Research Centre, Vancouver, Canada

---

IARR Kaplan Award

The Henry S Kaplan Distinguished Scientist Award was established by the International Association for Radiation Research in 1985 and is awarded every four years to honor outstanding contributions to the field of radiation research. Past awardees have been Mort Elkind (1987), Rod Withers (1991), Ged Adams (1995), Jack Little (1999), and Eric Hall (2003). Henry Kaplan was a physician and scientist of enormous stature who pioneered the development of the linear accelerator for cancer treatment in the U.S., was responsible for very significant improvements in the treatment by radiation of Hodgkins and non-Hodgkins lymphoma and made major contributions to understanding the viral etiology of cancer. He was a member of the National Academy of Sciences and Presidents of the American Association for Cancer Research (1966-67), the International Association for Radiation Research (1974-79) and the Radiation Research Society (1956-57).

Professor J. Martin Brown, this year's awardee, is a professor in the Division of Radiation and Cancer Biology at Stanford University School of Medicine. He is honored for his pioneering work in the field of tumor hypoxia particularly for emphasizing the possibility of exploiting tumor hypoxia, and for the development of the hypoxia activated cytotoxin tirapazamine, currently in advanced clinical trials. He received his undergraduate degree in physics from Birmingham University in England and his Ph.D. in Cancer Biology from Oxford University. He is a former president of the Radiation Research Society and former chair of the NIH Radiation Study Section. Prof. Brown has published more than 260 peer-reviewed articles and has received a number of awards in recognition of his work including the 1999 Bruce Cain Memorial Award from the American Association for Cancer Research, the 1999 Gold Medal from the American Association for Therapeutic Radiology and Oncology, the Failla Award from the Radiation Research Society and the Weiss Medal from the Association for Radiation Research. He is currently the Senior Editor for Biology for the International Journal of Radiation Oncology, Biology and Physics.

Poster Session 1

PS1.1 - Biodosimetry 1

PS1001 - **Neurobiological risks due to tritiated water exposure accessed against bulk tritium release from nuclear industry**
Narendra Jain, Arvind Bhatia.

PS1002 - **Simulation study of sea-level cosmic radiation in a human body phantom and shielding effects**
Pushpa Wijesinghe, Xiaochun He.

PS1003 - **The experience of FISH technique application for reconstruction of individual radiation doses in Chernobyl liquidators**
Sergey S. Dybskiy, Maria A. Pilinskaya.

PS1004 - **Estimation of RBE values for carbon beams at high dose region using multicellular spheroids of HMV-I cells**
Yoshitaka Matsumoto, Daisuke Shimao, Mizuho Aoki, Ryoichi Hirayama, Nobuo Kubota, Koichi Ando, Hirohiko Tsujii, Yoshiya Furusawa.

PS1005 - **Biomarkers of radioresistance in cervical cancer cells**
Richard A. Britten, Angela Johnson, Richard Drake.

PS1006 - **In-vivo dose verification and beam flattening in radiobiology laboratory**
Natalya V. Morrow, Vladimir A. Semenenko, X. Allen Li.

PS1007 - **The heamatological effects of radar on human blood**
Shamsi Shekari, **Hamid Samavat**.

PS1008 - **Study of individual responses to combined injuries in non human primate: investigation for relevant neuro-immune biomarkers of prognosis**
P. Martigne, A. Peinnequin, J. Mathieu, M. Vivier, D. **Clarençon**.

PS1009 - **Enhanced yield of chromosome aberrations after CT examinations in paediatric patients**
Ursula Oestreicher, Guenther Stephan, Linda Walsh, Werner Panzer, Karl Schneider.

PS1010 - **Radiation dose estimation by tooth enamel ESR dosimetry for Nagasaki atomic bomb survivors**
Tatsuya Shimasaki, Mariko Mine, Yutaka Okumura, Eihichi Miyamoto, Seiji Okada.

PS1011 - **Acute and chronic effects of whole body gamma irradiation on heart contractility and coronary flow**
Tatsiana Suvorava, Klavdiya Bulanova, Leonid Lobanok.

PS1012 - **The changes of human peripheral blood B cell subpopulations and subsets after in vitro irradiation**

Zuzana Rehakova, Jiri Sinkora, Marcela Vlková, Doris Vokurkova.

PS1013 - **Early alterations in pulmonary interleukin expression and cellular responses after low dose radiation**
Jacob N. Finkelstein, Jacqueline P. Williams, Eric Hernady, Christina Reed, Carl Johnston.

PS1014 - **Radiation injury during postnatal lung development**
Carl Johnston, Jacqueline P. Williams, Eric Hernady, Jacob N. Finkelstein.

PS1015 - **Analyisis of dose record and epidemiology for radiation workers in Korea**
Soo Yong Choi, Hae Won Chung.

PS1016 - **What consequences of the prolonged irradiation may be?**
Alexandra P. Kravets.

PS1017 - **Electron paramagnetic resonance dosimetry investigation for population living in the vicinity of the Semipalatinsk Nuclear Test Site**
Kassym S. Zhumadilov.

PS1018 - **Biological evaluation of a dose response in the oral cavity of patients undergoing head and neck radiotherapy**
Matthew Coleman, Samir Narayan, Joerg Lehman, Kerry Nolan, Andrew T. Vaughan, Claus Yang, James Purdy, Grace Loredo, Srinivasan Vijayakumar.

PS1.2 - Bystander Effects 1

PS1019 - **Radiation-induced, nitric oxide-mediated bystander effects contribute to the induction of radioadaptive responses**
Hideki Matsumoto, Masanori Tomita, Kensuke Otsuka, Takeo Ohnishi.

PS1020 - **Mitochondria-depended signaling pathway are involved in the early process of radiation induced bystander effects**
Shaopeng Chen, **Lijun Wu**, Ye Zhao, Wei Han, Lingyan Zhu, Jun Wang, Linzhi Bao, Erkang Jiang, An Xu, Tom K. Hei, Zengliang Yu.

PS1021 - **Direct ESR measurement of novel slow-releasing radicals those might be responsible for delayed mutation induction in 4 Gy γ-irradiated syrian golden hamster embryonic cells**
Jun Kumagai[1], Akira Harada[1], Ryuichi Kanamori, Eri Yoshikawa, Masayoshi Miyazaki, Seiji Kodama, Masami Watanabe.

PS1022 - **The role of DNA double strand breaks repair in radiation induced bystander responses**
Genro Kashino.

PS1023 - **Activation of signalling pathways in cells exposed to medium from irradiated cells**
Fiona Lyng, Orla Howe, Rocky Bo Li, Brendan McClean.

PS1024 - **Modeling of bystander signaling related to different cellular endpoints**
Fakir Hatim, Wai Yuan Tan, Werner Hofmann, Rainer Kurt Sachs, Kevin Prise.

PS1025 - **Bystander effects in 3-dimensional tissue: a quantitative mechanistic model of spatial patterns**
Igor Shuryak.

PS1026 - **Mechanism of radiation induced bystander effects: implication from mitochondrial function**
Hongning Zhou, Vladimir Ivanov, Yu-Chin Lien, Alan Bigelow, Tom K. Hei.

PS1027 - **The role of gap-junction communication in the cellular responses to high and low dose gamma-rays**
Manuela Buonanno, Zhi Yang, Badri N. Pandey, Sonia M. de Toledo, Andrew L. Harris, John B. Little, Edouard I. Azzam.

PS1028 - **Non-targeted effects of ionising radiation - a new european integrated project, 2006-2010**
Sisko Salomaa, Eric G. Wrigh, Guido Hildebrandt, Munira Kadhim, Mark P. Little, Kevin M. Prise, **Oleg V. Belyakov**.

PS1.3 - Cell Behavior/Stem Cells 1

PS1029 - **Atherosclerotic lesion development in gamma-radiation exposed apolipoprotein E$^{-/-}$ mice**
Ron E. Mitchel, Stewart C. Whitman, Heather Wyatt.

PS1030 - **Production of cytokines by splenocytes and macrophages after single or fractionated low-level irradiations with X-rays**
Marek K. Janiak, Aneta Cheda, Ewa M. Nowosielska, Jolanta Wrembel-Wargocka.

PS1031 - **Morphological and biomolecular changes induced by UV laser irradiation in silkworm, *Bombyx mori* embryo**
Hosaholalu B. Manjunatha, Satyanarayanagouda R. Hosagoudar.

PS1032 - **Hematopoiesis under chronic low dose rate irradiation: Quantitative modeling of blood responses of a large animal model**
Thomas M. Seed.

PS1033 - **Differential induction from x-irradiated human peripheral blood monocytes to dendritic cells**
Hironori Yoshino, Kenji Takahashi, Ikuo Kashiwakura.

PS1034 - **Behavior of primitive hematopoietic stem cells and peripheral blood cytokines in radiation adaptive responses**
Kensuke Otsuka, Masanori Tomita, Takao Koana, Hiroshi Tauchi.

PS1035 - **Chromosome aberrations do not persist in the lymphocytes or bone marrow cells of mice irradiated *in utero* or soon after birth**

Mimako Nakano, Yoshiaki Kodama, Kazuo Ohtaki, Eiji Nakashima, Ohtsura Niwa, Megumi Toyoshima, Nori Nakamura.

PS1036 - **The depressed Th1-like responsein in irradiated mice is associated with an impairment of the NK cells**
Hae-Ran Park, Uhee Jung, Sung-Kee Jo.

PS1037 - **Alteration of inflammation molecules as function of time after radiation**
Weimin Sun, Shanmin Yang, Hengshan Zhang, Wei Wang, Mei Zhang, Chaomei Liu, Steven Schwartz, Lurong Zhang, Paul Okunieff.

PS1038 - **Highly radiosensitive germ cells in Medaka ric1 mutant with abnormal DNA double-strand break repair and apoptosis induction.**
Hiroshi Mitani, Kouichi Aizawa, Kanako Yori, Chiharu Kaminaga, Toshikazu Yashita, Kanae Nishino, Masayuki Hidaka, Masato Kinoshita, Shoji Oda.

PS1.4 - Clinical Therapeutic Radiobiology 1

PS1039 - **Retrospective study of the influence of anaemia in patients with advanced head and neck cancer received postoperative radiotherapy**
Sherif A. Abdelwahab, Mohamed M. El-Basiouny, Hatem M. Abdalla, Hany M. Abdel-Aziz, Maha Maha Margerges, Ali M. Azmy, Branislav Jeremic.

PS1040 - **Quantitative analyses of hypoxia and vessels in human tumors**
Sydney M. Evans, Kevin Jenkins, W. Timothy Jenkins, Cameron J. Koch.

PS1041 - **Vascular density, hypoxia and tumor-associated macrophages in the irradiated tumors**
Ji-Hong Hong, Fang-Hsin Chen, Chun-Chieh Wang, Chien-Sheng Tsai, William H. McBride, Chi-Shiun Chiang.

PS1042 - **Identification and therapeutic targeting of hypoxia in H&N cancer**
Lester J. Peters, Danny Rischin, Richard Fisher, June Corry, Rod Hicks.

PS1043 - **Measuring oxygen levels in human tumors repeatedly to provide information for optimizing therapy**
Benjamin B. Williams, Marc S. Ernstoff, Bassem Zaki, Alan C. Hartford, Piotr Lesniewski, **Harold M. Swartz**.

PS1044 - **PAI-1 (plasminogen activator inhibitor type-1) correlates to hypoxia and radiation resistance in squamous cell carcinomas of the head and neck (SCCHN)**
Christine M. Bayer, Joerg Hoetzel, Hannes P. Egermann, Michael Molls.

PS1045 - **TNF-mediated cell-death signaling pathway and extra-cellular matrix pathway are activated by concurrent use of cisplatin with radiotherapy in sequential biopsy specimens from patients with cervical cancer.**
Mayumi Iwakawa, Tatsuya Ohno, Kaori Imadome, Miyako Nakawatari, Minako Sakai, Takashi Moritake, Etsuko Nakamura, Tomoaki Tamaki, Shingo katoh, Hirohiko Tsujii, Takashi Imai.

PS1046 - **Lymphopoiesis of treated oncological patients is a probable source of individual life span's variability**
A. Shutko, L. Ekimova, I Shoumski, N. Chizova, L. Yurkova, T. Bochkareva, V. Mus, M. Karamullin.

PS1047 - **Diagnostics and therapeutics of ^{111}in-vinorelbine liposomal drug in tumor-bearing animal model**
T S. Chou, Y Y. Lin, J J. Hwang, H E. Wang, Y L. Tseng, S J. Wang, J Q. Whang-Peng, G Ting.

PS1048 - **The role of EGFR related proteins in the response to preoperative chemoradiotherapy in combination with cetuximab in patients with rectal cancer**
Annelies Debucquoy, Jean-Pascal Machiels, Olivier Gevaert, Anneleen Daemen, Sarah Roels, William Mc Bride, Karin Haustermans.

PS1049 - **Chemotherapy enhanced radiation therapy: U.S. Clinical trials and their influence on the standard of care**
Patricia J. Eifel.

PS1.5 - DNA Damage 1

PS1050 - **Impact of oxygen concentration on yields of complex DNA damages caused by ionizing radiation**
V. Stepan, M. Davidkova.

PS1051 - **Analysis of T-cell receptor (TCR) variants and apoptosis induced by beta radiation from tritiated water at low-dose rate in different *p53* status mice**
Toshiyuki Umata, Naoki Kunugita, Ryuji Okazaki, Akira Ootsuyama, Toshiyuki Norimura.

PS1052 - **Effect of temperature during irradiation on the level of DNA damage in human peripheral blood lymphocytes exposed to X-rays and neutrons**
Andrzej Wojcik, Kinga Brzozowska, Julian Liniecki, Christian Johannes, Günter Obe, Reinhard Hentschel, Wolfgang Sauerwein, Andrea Wittig, Irena Szumiel, Josselin Morand, Ray Moss.

PS1053 - **Induction of H2AX phosphorylation and apoptosis with radiation treatment and expression of PCNA protein in radiosensitive wasted mouse**
Barbara A. Szolc-Kowalska, Kaori Nakamura, Daniel Jakubczak, Akiko Hagiwara, Tatjana Paunesku, Tetsuya Ono, Gayle E. Woloschak.

PS1054 - **Clustered DNA damage in irradiated human cells: the influence of chromatin organization**

Karin Magnander, Ragnar Hultborn, Kristina Claesson, Kecke Elmroth.

PS1055 - **Residual γH2AX foci predict response to cisplatin and fractionated irradiation *in vitro* and *in vivo***
Adriana Banuelos, Judit P. Banath, Susan H. MacPhail, James Byrne, Christina Aquino-Parsons, Peggy L. Olive.

PS1056 - **The effect of heavy-ions on synchronously dividing cell cultures**
Takamitsu A. Kato, Yoshihiro Fujii, Akira Fujimori, Ryuichi Okayasu.

PS1057 - **The mutation of *ric1* induces delayed repair of DNA double strand breaks, cell death inhibition and early checkpoint release**
Masayuki Hidaka, Shoji Oda, Yoshikazu Kuwahara, Manabu Fukumoto, Hiroshi Mitani.

PS1058 - **MCT-1 oncogene downregulates p53 and destabilizes genome structure in the response to DNA double-strand damage**
Hung-Ju Shih, Chik On Choy, Ravi Kasiappan, Jeffrey R. Sawyer, Chung-Li Shu, Kang-Lin Chu, Yi-Rong Chen, Hsin-Fen Hsu, Ronald B. Gartenhaus, Hsin-Ling Hsu.

PS1059 - **Alteration of mitochondria specific DNA post radiation**
Hengshan Zhang, David Maguire, Steven Swarts, Weimin Sun, Shanmin Yang, Wei Wang, Chaomei Liu, Mei Zhang, Peter Keng, Lurong Zhang, Paul Okunieff.

PS1060 - **DNA damage-induced apoptosis in c3h mouse peritoneal resident macrophages**
Yoshihisa Kubota, Katsutoshi Suetomi, Akira Fujimori, Sentaro Takahashi.

PS1061 - **Increased chromosome instability and accumulation of DNA double-strand breaks in Werner syndrome cells**
Kentaro Ariyoshi, Shiraishi Kazunori, Keiji Suzuki, Makoto Goto, Masami Watanabe, Seiji Kodama.

PS1062 - **Biological studies using human cell lines and the current status of the microbeam irradiation system, SPICE**
Teruaki Konishi, Takahiro Ishikawa, Hiroyuki Iso, Nakahiro Yasuda, Shunsuke Okuma, Kumiko Kodama, Tsuyoshi Hamano, Noriyoshi Suya, Hitoshi Imaseki.

PS1063 - **Function of setd4 in DNA damage response**
Jinjiang Fan, Zhiyuan Shen.

PS1064 - **Mitochondrial DNA damage post exposure to simulated sunlight in human skin cells**
Luciene Zanchetta, James Walsh, Fiona Lyng, James Murphy.

PS1065 - **Detection of radiation-induced conformational changes in individual DNA molecules using a high-sensitivity flow 'cytometer'**

Robert C. Habbersett, James H. Jett, **James P. Freyer**.

PS1066 - **Radiation-induced phosphorylated H2a.x foci in human keratinocyte cells expressing histone H2BGFP-tagged protein using the cenbg charged particle microbeam**
Hervé Seznec, Thomas Pouthier, Fredrik Andersson, Philippe Barberet, Sébastien Incerti, Philippe Moretto.

PS1067 - **Abrogation of radiation-induced S-phase checkpoint by oncogenic K-Ras**
Moon-Taek Park, Min-Jung Kim, Joo-Yun Byun, Sangwoo Bae, Chang-Mo Kang, In Chul Park, Gyesoon Yoon, Sang-Gu Hwang, Su-Jae Lee.

PS1068 - **Interactions between IR-induced p53 phosphoforms and ATM/53-BPp1 complexes during DNA-dsb repair**
Robert G. Bristow, Shahnaz Al Rashid, Farid Jalali, Shane Harding, Nirmal Bhogal, Richard Hill.

PS1069 - **Tel2 mediates localization of Tel1 to sites of DNA damage**
Carol M. Anderson, Dana L. Smith, Svetlana Makovets, Dmitry Korkin, Andrej Sali, Elizabeth H. Blackburn.

PS1.6 - DNA Repair 1

PS1070 - **Intervention of the repair factors of DNA double strand break to micronuclei derivation by radiation**
Tomohiro Yoshikawa, Genro Kashino, Koji Ono, Masami Watanabe.

PS1071 - **Distinct roles of xrcc4 and ku80 in non-homologous endjoining of enzyme- and radiation-induced DNA double-strand breaks**
Jochen Dahm-Daphi, Leonie Schulte-Uentrop, Raafat A. El-Awady, Henning Willers.

PS1072 - **Speed of DNA double-strand break processing depends on age**
Olga Sedelnikova, Christophe Redon, Izumi Horikawa, Drazen Zimonjic, Nicholas Popescu, William Bonner.

PS1073 - **Human RAD18 is involved in single-strand break repair independent of PCNA monoubiquitination**
Tadahiro Shiomi, Naoko Shiomi, Masahiko Mori, Hideo Tsuji, Takashi Imai, Hirokazu Inoue, Satoshi Tateishi, Masaru Yamaizumi.

PS1074 - **NBS1 regulates the induction of apoptosis following radiation damage to DNA**
Kenta Iijima, Chizuko Muranaka, Junya Kobayashi, Shuichi Sakamoto, Kenshi Komatsu, **Hiroshi Tauchi**.

PS1075 - **Phosphorylation and kinase activity of DNA-PKcs regulate its dynamics at DNA double-strand breaks**
Eric Weterings.

PS1076 - **A loss of function screening for radiation susceptibility genes**
Hitomi Sudo, Atsushi Tsuji, Aya Sgyo, Chizuru Sogawa, Tsuneo Saga, Yoshi-nobu Harada.

PS1077 - ***XRCC1* and *XRCC3* variants and risk of glioma and meningioma**
Anne Kiuru, Carita Lindholm, Sirpa Heinävaara, Hannu Haapasalo, Tiina Salminen, Maria Feychting, Christoffer Johansen, Beatrice Malmer, Anthony Swerdlow, Anssi Auvinen.

PS1078 - **Repair of DNA-protein cross-links: Roles of nucleotide excision and recombination repair systems**
Toshiaki Nakano, Soh Morishita, Hiroaki Terato, Bennet van Houten, Seung Pil Pack, Keisuke Makino, Hiroshi Ide.

PS1079 - **Missing links in the mechanism of DNA double-strand break repair through the non-homologous end-joining pathway**
Yoshihisa Matsumoto, Sushma M. Bhosle, Masanori Tomita, Norio Suzuki, Yoshio Hosoi, Kiyoshi Miyagawa.

PS1080 - **High expression of endogenous DNA repair complexes is associated with reduced DNA double-strand break rejoining but more accurate repair in irradiated murine embryonic stem cells**
Judit P. Banath, Susan H. MacPhail, Adriana Banuelos, Dmitry Klokov, Peggy L. Olive.

PS1081 - **Induction and persistence of T-cell receptor (TCR) variants in X-irradiated mice depends on p53 status**
Toshiyuki Norimura, Hiroyo Kakihara, Kazuyuki Igari, Ryuji Okazaki, Akira Ootsuyama.

PS1082 - **Roles of DNA repair genes in sustaining cell proliferation under low dose-rate irradiation**
Masanori Tomita, Yoshihisa Matsumoto, Kazuo Sakai.

PS1083 - **DNA double strand breaks inducing genomic instability in human cells**
Masamitsu Honma.

PS1084 - **Identification of radiation susceptibility gene of LEC rat by physical map construction and genome sequence comparison**
Aya Sugyo, Atsushi Tsuji, Hitomi Sudo, Masashi Sagara, Toshiaki Ogiu, Chizuru Sogawa, Tsuneo Saga, Yoshi-nobu Harada.

PS1085 - **Haplotype effects on chromosomal anomalies in heterozygous BRCA1-deficient primary human fibroblasts exposed to 29 kV mammography X-rays?**
Marlis Frankenberg-Schwager, Anke Gregus.

PS1086 - **Dynamic interactions of non-homologous end-joining proteins with DNA ends**
Pierre-Olivier Mari, Bogdan I. Florea, Nicole S. Verkaik, Stephan P. Persengiev, Guido Keijzers, Adriaan B. Houtsmuller, **Dik C. van Gent**.

PS1087 - **Factors forming human individual radiosensitivity**
Natalia Ryabchenko, Emilia Dyomina.

PS1088 - **Chicken DT40 *PTIP*-null mutants are viable, but defective in proliferation and highly sensitive to ionizing radiation**
Fumiko Morohoshi, Masanori Tomita, Kazutsune Yamagata, Mitsumasa Hashimoto, Kensuke Otsuka, Isamu Hayata, Kuniyoshi Iwabuchi, Hiroshi Tauchi, Kazuo Sakai.

PS1089 - **Lucanthone and hycanthone affect apurinic endonuclease-1(Ape1) by physical interaction**
Mamta D. Naidu, Rakhi Agarwal. Brookhaven National Lab, Upton, NY, USA.

PS1.7 - Experimental Therapeutics 1

PS1090 - **1-Methylxanthine enhances radiosensitivity of tumor cells by abrogating radiation-mediated G_2 checkpoints**
Eun Kyung Choi, **Seong-Yun Jeong**, Jung Shin Lee, Yeon Hee Kook, So Lyoung Yi, Hyun Jin Ryu, Se Hee Son, Do Young Song, Sung Whan Ha, Heon Joo Park.

PS1091 - **Enhancement of radiation-induced cell killing by inhibiting G2 checkpoint with purvalanol A**
Daisuke Iizuka, Osamu Inanami, Mikinori Kuwabara.

PS1092 - **Hydroxyethyldisulfide as a novel radiation sensitizer of human cancer cells**
Kathleen M. Ward, Jie Li, Iraimoudi S. Ayene.

PS1093 - **Radiosensitization by temozolomide in human glioma cells is independent of MGMT promotor methylation status**
Krista van Nifterik, Jaap van den Berg, Lukas Stalpers, Theo Hulsebos, Sieger Leenstra, Laurine Wedekind, Najim Ameziane, Ben Slotman, Vincent Lafleur, **Peter Sminia**.

PS1094 - **Identification of novel mechanisms of radio-sensitization by histone deacetylase inhibitors in prostate cancer**
Seema Gupta, Ching-Shih Chen, Mansoor M. Ahmed.

PS1095 - **Inhibition of beta1 integrins in three-dimensionally cultured squamous cell carcinoma cells: A potent approach to enhance tumor cell radiation sensitivity**
Iris Eke, Yvonne Deuse, Nils Cordes.

PS1096 - **Enhancement of radiation-induced DNA damage and tumor cell cytotoxicity by gold and silver nanoparticles**
David G. Hirst, Fred Currell, Mansukhlal Shah, Margaret Brennan Fournet, Deirdre Ledwith.

PS1097 - **Pharmacological approaches for potentiating the radiosensitivity of human breast cancer cell lines.**
David Murray, Razmik Mirzayans.

PS1098 - **Radiation-induced up-regulation of NQO1 enhances the cytotoxicity of β-lapachone**
Chang W. Song, Ki-Jung Ahn, Jihyung Choi, Minoru Suzuki, Kaoru Terai, Seung-Do Ahn, Eun Kyung Choi, Robert J. Griffin, Heon Joo Park.

PS1099 - **Acidic microenvironment enhances radiosensitization of human melanoma cells by thermal sensitizers and the Hsp90 inhibitor, 17-AAG**
Ronald A. Coss, Dennis B. Leeper, Takahiro Sato, Christopher W. Storck.

PS1100 - **High-throughput screening for the identification of novel radiosensitizing compounds in a head and neck cancer model**
David Katz, Carlo Bastianutto, Fei-Fei Liu.

PS1101 - **A small molecule high throughput screen for the identification of novel anticancer radiosensitizers**
Emma Ito, Fei-Fei Liu.

PS1102 - **Sodium selenite radiosensitizes prostate cancer xenograft tumors but does not kill intestinal stem cells in vivo**
Junqiang Tian, Bryan Husbeck, Donna Peehl, Susan Knox.

PS1103 - **Hypoxia-inducible suicide gene therapy approach radiosensitises prostate cancer cells**
Laure H. Marignol, Foley Ruth, Thomas D. Southgate, Mary Coffey, Donal Hollywood, Mark Lawler.

PS1104 - **Expression of mIL-3 enhanced a combined course of HSV-sr39tk gene therapy and radiotherapy for prostate cancer**
Chi-Shiun Chiang, Ching-Fang Yu, Sheng-Yung Fu, Ji-Hong Hong.

PS1105 - **Cooperative effects of armed oncolytic adenovirus with radiotherapy in c3h/hej hepatocarcinoma**
Wonwoo Kim.

PS1106 - **SCC-S2 is a novel androgen-inducible and multifunctional target: implications for radiation and chemo-sensitization of prostate cancer**
Chuanbo Zhang, Isamu Sakabe, Rajshree R. Mewani, Deepak Kumar, **Usha N. Kasid**.

PS1107 - **Guggulsterone mediated enhancement of radiation response**
Rajani Choudhuri, William DeGraff, James B. Mitchell, John A. Cook.

PS1108 - **The relation of *p53* status to the radio- or thermo-enhancement effect by adriamycin (ADM) in human lung adenocarcinoma A549 cells and kinetics of apoptosis and hsp72 protein**
Sachiko Hayashi, Hideki Matsumoto, Masanori Hatashita.

PS1109 - **siRNA targeting *NBS1* increases radiation sensitivity of human cancer cells in a *p53*-independent manner**
Ken Ohnishi, Zorica Scuric, Robert H. Schiestl, Akihisa Takahashi, Takeo Ohnishi.

PS1110 - **Effect of curcumin and ionizing radiation on the activation of wild-type and mutant p53 in prostate cancer cells**
Bijaya K. Nayak, Cynthia A. Galindo, Martin L. Meltz, Gregory P. Swanson.

PS1111 - **Integrative Genitouro-Radioology in Uno-Agenda 21**
Eva M. Neu, Michael Ch. Michailov, Guntram Schulz, Ianka Foltinova, Walter Seidenbusch.

PS1112 - **Integrative Angio-Radiology in UNO-Agenda 21**
Michael C. Michailov, Ursula E. Welscher, Eva M. Neu, Viktor Foltin, Walter Seidenbusch.

PS1113 - **Social Responsibility in Radiation Science for UNO-Agenda 21**
ICSD - Scientific Committee Int. Council Sci. Development

PS1.8 - Physics/Chemistry 1

PS1114 - **Effect of DNA topology on double-strand breaks produced by γ radiation in plasmid DNA**
Pichumani Balagurumoorthy, S. James Adelstein, Amin I. Kassis.

PS1115 - **A comparison of DNA strand break yields in pBR322 plasmid after I-123 and I-125 decay**
Ekkehard Pomplun, Aude Peudon, Michel Terrissol, Eberhard Kümmerle.

PS1116 - **The role of hydration in anion electron stimulated desorption from single strands of DNA**
Sylwia Ptasinska, Leon Sanche.

PS1117 - **Chemical yields of DNA strand breaks produced by the direct effect of ionizing radiation: a comparison between samples irradiated at 4 K followed by warming to room temperature with samples irradiated at room temperature**
Anita R. Peoples, Shubhadeep Purkayastha, Jamie R. Milligan, William A. Bernhard.

PS1118 - **Vibrational excitation of condensed thymidine films by low-energy electron impact**
Radmila Panajotovic, Marc Michaud, Leon Sanche.

PS1119 - **A new Monte Carlo program ETMICRO-CHEM for simulating DNA damage by electrons**
Eun-Hee Kim.

PS1120 - **Monte Carlo simulations of site-specific radical attack to DNA bases**
Bulent Aydogan, Wesley E. Bolch, Steven G. Swarts, David T. Marshall.

PS1121 - **Monte-Carlo simulation of liquid water radiolysis: effects of acidity and radiation quality (LET) on the primary yields and application to the Fricke dosimeter**
Narongchai Autsavapromporn, Jintana Meesungnoen, Ianik Plante, Jean-Paul Jay-Gerin.

PS1122 - **Water radiolysis by swift protons and carbon ions**
Benoit Gervais, Michael Beuve, Anthony Colliaux.

PS1123 - **Ionization by intermediate-energy carbon ions on water vapor**
Steven L. McLawhorn, Larry H. Toburen, Robert A. McLawhorn, Edson L. Justiniano, Jefferson L. Shinpaugh.

PS1124 - **New superparamagnetic polymer nanospheres for the potential separation of radionuclides in nuclear wastes or environmental samples**
Yanqin Ji, Xianzhang Shao, Jinying Li, Yueping Guan.

PS1125 - **Oxidative degradation property of sulfonated fep / nafion hybrid proton exchange membranes for pefc**
Naohiro Mitani, Yukiko Sato, Kazuki Fujii, Yuji Oshima, Jingye Li, Akihiro Oshima, Masakazu Washio.

PS1.9 - Radiation Carcinogenesis 1

PS1126 - **A cohort study of thyroid cancer and other thyroid diseases after the Chornobyl accident: Dose-response analysis of thyroid follicular adenomas detected during first screening in Ukraine (1998-2000)**
Lydia Zablotska.

PS1127 - **Gastric cancer risk in relation to atomic-bomb radiation and the other risk factors -a nested case-control study**
Saeko Fujiwara, Gen Suzuki, Harry Cullings, Nobuo Nishi, Midori Soda, Eiichi Tahara.

PS1128 - **Non-cancer effects in the cohort of workers of the first Russian nuclear facility**
Tamara V. Azizova, Colin R. Muirhead, Maria B. Druzhinina, Evgenia S. Grigoryeva, Elena V. Vlasenko, Margarita V. Sumina, Zinaida D. Belyaeva, Jackie A. O'Hagan, Wei Zhang, Richard G.E Haylock.

PS1129 - **Multivariate analysis of effects of radiation and non-radiation risk factors on kidney cancer incidence among Mayak PA nuclear workers**
Galina V. Zhuntova, Zoya B. Tokarskaya, Zinaida D. Belyaeva, Evgenia S. Grigoryeva, Viktor A. Syrchikov.

PS1130 - **Minimize offspring radiation exposure following intake of radionuclides by the mother**
Hamid Samavat, Ali Shabestani Monfared.

PS1131 - **Environmental radiation and breast cancer incidence in the Techa River Cohort**
Evgenia Ostroumova, Dale Preston, Elaine Ron, Ludmila Krestinina, Faith Davis, Alexander Akleyev.

PS1132 - **Considerations in the comparison of cancer risk estimates for a Japanese Thorotrast cohort and the Atomic Bomb Survivors**

Harry M. Cullings, Takesaburo Mori, John B. Cologne, Yukiko Shimizu.

PS1133 - **Combination study of indoor radon, gamma activity & inhalation doses in the dwellings of Punjab and Tusham Ring Complex, Haryana**
Bikram jit Singh Bajwa, Harmanjit Singh Sandhu, Joga Singh.

PS1134 - **Lung cancer mortality after exposure to fractionated ionizing radiation in a cohort of Massachusetts tuberculosis patients**
Alina V. Brenner, Ethel S. Gilbert, Charles E. Land.

PS1135 - **Association of radiation exposure, inflammation, and cancer incidence in atomic bomb survivors - an application of causal pathway model**
Kazuo Neriishi, Wan-Ling Hsu, Nobuo Nishi.

PS1136 - **Projected update of the National Institutes of Health radioepidemiological tables and interactive radioepidemiological program (IREP)**
Charles E. Land, Ethel S. Gilbert, Deukwoo Kwon, F Owen Hoffman, Apostoaei Iulian, Brian Thomas, David C. Kocher.

PS1137 - **Longitudinal trends of total white blood cell and differential white blood counts of atomic bomb survivors**
Wan-Ling Hsu, Yoshimi Tatsukawa, Michiko Yamada, Kazuo Neriishi.

PS1138 - **Gene alterations preferentially occurred in adult-onset papillary thyroid cancer among atomic bomb survivors**
Kiyohiro Hamatani, Hidetaka Eguchi, Masatak Taga, Keiko Takahashi, John Cologne, Midori Soda, Kuniko Abe, Tomayoshi Hayashi, Koji Arihiro, Yuzo Hayashi, Kei Nakachi.

PS1139 - **Effects of inflammation-related gene polymorphisms and atomic-bomb radiation exposure on gastric cancer risk**
Tomonori Hayashi, Yukari Morishita, Hiroko Nagamura, Mayumi Maki, Misae Sora, Kazue Imai, Kengo Yoshida, Yoichiro Kusunoki, Eiichi Tahara, Kei Nakachi.

PS1140 - **Fate of irradiated human fibroblasts: senescence or genetic instability and crisis?**
Claudia Fournier, Marcus Winter, Sebastian Zahnreich, Sylwester Sommer, Larissa Melnikova, Elena Nasonova, Sylvia Ritter.

PS1141 - **Microsatellite instability and related gene alterations in radiation-associated colorectal cancer from atomic-bomb survivors**
Hidetaka Eguchi, Kiyohiro Hamatani, Masataka Taga, Hiroaki Katayama, Kazunori Kodama, Eiichi Tahara, Shizue Izumi, Shunji Matsumura, Naohide Oue, Wataru Yasui, Kei Nakachi.

PS1142 - **Chromosome mutations in iss crew members participating in short duration missions**
Wolfgang Goedecke, Alexandra Antonopoulos, Markus Horstmann, Guenter Obe, **Christian Johannes**.

PS1143 - **Interaction among genes influences DNA repair capacity in young lung cancer patients**
Sabine Hornhardt, Ute Roessler, Albert Rosenberger, Wiebke Sauter, Heike Bickeboeller, Thomas Illig, Heinz-Erich Wichmann, Maria Gomolka.

PS1.10 - Radioprotectors/Mitigators 1

PS1144 - **Radiomodulatory effect of *Grewia asiatica* on liver of Swiss albino mice**
K.V. Sharma, Muktika Ahaskar, Smita Singh, Rashmi Sisodia.

PS1145 - **Dietary influence of Grewia asiatica against radiation induced damage on non-cell renewal system of swiss albino mice**
Muktika Ahaskar, K.V. Sharma, Smita Singh, Rashmi Sisodia.

PS1146 - **Role of *Grewia asiatica* as a potent radioprotector**
Smita Singh, K.V. Shrama, Muktika Ahaskar, Rashmi Sisodia.

PS1147 - **Radioprotective effects of mentha piperita linn in vivo: studies in swiss albino mice**
Ravindra M. Samartha, Meenakshi Panwar, Madhu Kumar, Ashok Kumar.

PS1148 - **Standardized North American ginseng radioprotects human lymphocytes**
Tung-Kwang Lee, Ron R. Allison, Weidong Wang, Kevin F. O'Brien, Roberta M. Johnke.

PS1149 - **The effect of natural products on hemopoietic function in irradiated mice**
Yue Gao.

PS1150 - **Protection against radiation by *Rosemarinus officinalis* (a medicinal plant) extract**
P. K. Goyal.

PS1151 - **Radioprotective effects of an Ulmi Cortex Extract and the identification of its effective compounds**
Uhee Jung, Hae-Ran Park, Yoon-Ah Lee, Seol-Hee Han, Sung-Kee Jo.

PS1152 - **Radioprotective and antimutagenic effects of Oltipraz**
Ashok Kumar, Ravindra Samarth, Madhu kumar, Deepali Sharma, Patrick Prendergast, Hiroshi Kimura.

PS1153 - **Radioprotection of lactoferrin in sub-lethally x-ray irradiated mice**
Yoshikazu Nishimura, Shino Homma-Takeda, Izuru Kakura, Hee Sun Kim, Minako Nyui, Nobuo Ikota.

PS1154 - ***Myristica fragrans*: a possible radiomodulator in the testis of swiss albino mice**
Madhu Kumar, Mini Sharma.

PS1155 - **Radiomodulatory effect of leaf extract of mentha piperita (linn) in Swiss albinio mice**
Punar Dutt Meena, Pallavi Kaushik, Anil Soni, Shalini Shukla, Ashok Kumar.

PS1156 - **Radioprotective effect of mentha piperita in swiss albino mice**
Pallavi Kaushik, Punar Dutt Meena, Shalini Shukla, Ashok Kumar.

PS1157 - **Natural protectors: cytogenetic assessment of radioprotector effect of ethanol extract of propolis**
Alegria Montoro.

PS1158 - **In search of new radio-protecting agents**
Jaroslaw Dziegielewski, Umut Aypar, Janet E. Baulch, Kurtis E. Bachman, William F. Morgan.

PS1159 - **Development of a primate resource for radiation countermeasures research**
Shauna Gray, Esther Arifin, Dan Bourland, Tom Register, Jan Wagner, Mark Cline.

PS1160 - **A soluble peptide (EA230) protects WBI-induced toxicity in a post scenario application**
Alan A. Alfieri, Laibin Liu, Payel Bhanja, Zsolt Harsanyi, Richard Carlton, Chandan Guha.

PS1161 - **Adaptation of the yeast DEL assay for rapid identification of radiation protectors and sensitizers**
Kurt Hafer, Nikos Hontzeas, Robert Schiestl.

PS1162 - **Pulse radiolysis of polystyrene and derivatives**
Kazumasa Okamoto, Masafumi Tanaka, Shu Seki, Takahiro Kozawa, Seiichi Tagawa.

PS1163 - **Selective protection of normal tissues from lethal irradiation by pharmacological imitation of tumor mechanisms suppressing apoptosis**
Andrei Gudkov, Elena Komarova, Lyudmila Burdelya, Vadim Krivokrysenk, Joseph DiDonato, Alexander Shakhov, Elena Feinstein.

PS1.11 - Signaling 1

PS1164 - **Modulation of radiation sensitivity by down-regulation of the PI3K/Akt signalling pathway**
Carsten Herskind, Meng Wang, Qi Liu, Christina Ganasinski, Patrick Maier, Frederik Wenz, Frank Lohr.

PS1165 - **An essential role of integrin-linked kinase on the cellular radiosensitivity during the process of cell adhesion and spreading**
Stephanie Hehlgans, Iris Eke, **Nils Cordes**.

PS1166 - **Modulation of irradiation-induced microglial inflammation by PPARα activation**
Sriram Ramanan, Mitra Kooshki, Weiling Zhao, Michael E. Robbins.

PS1167 - **The involvement of protein kinase C alpha in radioadaptive response**
Akira Tachibana, Katsuyuki Ito, Hiroshi Tauchi, Masao S. Sasaki.

PS1168 - **Low-dose of ionizing radiation enhances cell proliferation through Ikaros phosphorylation in IM-9 B lymphoblast cells**
Min Young Kim, Kwang Hee Yang, Sung-Ryul Lee, Seon Young Nam, Meeseon Jeong, Cha Soon Kim, Hee Sun Kim, Young-Woo Jin, Suhkneung Pyo, Chong Soon Kim.

PS1169 - **Altered phosphorylation of p53 in Nijmegen breakage syndrome cells**
Luitpold V. Distel, Matthias Uhl, Anne Hofmann, Ulrike Keller, Leonhard Kuehn, Rolf Sauer, Gerhard G. Grabenbauer.

PS1170 - **The effect of radiation and repeated sub-culturing on TGF-β1 signaling in FRTL-5 cells**
Cheryl G. Burrell, Leticia Ortloff, Lora Green.

PS1171 - **p38MAPK plays a cytoprotective role in response to radiation through Akt activation in human cervical cancer cells**
Min-Jung Kim, In-Chul Park, Chang-Mo Kang, Sangwoo Bae, Yun-Sil Lee, Sang-Gu Hwang, Su-Jae Lee.

PS1172 - **Knock down of the TGFβ type III receptor results in modulation of NFkB signaling and radio-resistance of normal mouse mammary epithelial cells**
Tracy Criswell, Carlos L. Arteaga.

PS1173 - **Src tyrosine kinase inhibitor PP2 suppresses activation of ERK1/2 and epidermal growth factor receptor induced by X-irradiation**
Yoshio Hosoi, Kiyoshi Miyagawa.

PS1174 - **Developing novel imaging techniques to study radiation induced signaling in 3D model systems**
Marianne B. Sowa, Lee Opresko, Derek F. Hopkins, H. Steven Wiley.

PS1.12 - Technical Advances/Imaging/Models 1

PS1175 - **Tumor hypoxia, necrosis and targeting: it's the gradient, dummy**
John P. Kirkpatrick, Thies Schroeder, Mark Oldham, Mark W. Dewhirst.

PS1176 - **LSDCAS studies of cells undergoing reductive division following radiation-induced mitotic catastrophe**
Fiorenza Ianzini, Elizabeth A. Kosmacek, Jennifer M. Symonds, Paul J. Davis, Michael A. Mackey.

PS1177 - **Imaging of the redox state and of hypoxia in human head and neck tumor xenografts**
Ala Yaromina, **Ulrike Sattler**, Verena Quennet, Christian Hoerner, Daniel Zips, Stefan Walenta, Michael Baumann, Wolfgang Mueller-Klieser.

PS1178 - **Temporal changes in tumor blood supply measured in A-07 melanoma xenografts**
Kjetil G. Brurberg, Camilla Mollatt, Jon-Vidar Gaustad, Einar K. Rofstad.

PS1179 - **Fraction of radiobiologically hypoxic cells and fluctuations in tumor blood perfusion assessed by dynamic contrast-enhanced MRI**
Jon-Vidar Gaustad, Kjetil G. Brurberg, Tormod A. M. Egeland, Ilana C. Benjaminsen, Einar K. Rofstad.

PS1180 - **Spatiotemporal imaging of hif-1 mediated tumor cell-stromal adaptation to hypoxia following radiation**
David L. Schwartz, Jung Hwan Oh, Ryan Williams, Yi He, Robert Lemos, Norihito Kuno, Sunil Krishnan, William Bornmann, Edward Jackson, Garth Powis, Juri Gelovani.

PS1181 - **Use of optical spectroscopy for characterization of tumor oxygenation and metabolic redox ratio**
Gregory M. Palmer, Ronald J. Viola, Thies Schroeder, Pavel S. Yarmolenko, Lauren E. Tochacek, Nimmi Ramanujam, Mark W. Dewhirst.

PS1182 - **Does [18F]FDG-uptake predict therapy response to single dose irradiation in FaDu tumors in nude mice?**
Bettina Beuthien-Baumann, Christina Schuetze, Ralf Bergmann, Franziska Hessel, Michael Baumann.

PS1183 - **Molecular imaging of a murine monoclonal antibody that binds to the β3 subunit of $\alpha v\beta 3$ integrin in the experimental model of the Lewis lung cancer in mice**
Marek Bilski, Ireneusz P. Grudzinski, Urszula Karczmarczyk, Robert Zdanowski, Jacek Pietrzykowski, Renata Mikolajczak, Piotr Garnuszek, Eugeniusz Dziuk, Marek P. Dabrowski, Marek K. Janiak.

PS1184 - **Molecular probe for the detection of hydroxyl radicals (•OH) within DNA**
Amarjit Singh, Yongliang Yang, Pichumani Balagurumoorthy, S. James Adelstein, **Amin I. Kassis**.

PS1185 - **Optical analyses of radiobiological effects in irradiated cellular systems**
Aidan D. Meade, Hugh J. Byrne, Fiona M. Lyng.

PS1186 - **Targeted Therapeutic Evaluation on Inhibition of Fatty Acid Synthase in a Human Prostate Carcinoma LNCaP/*tk-luc* bearing animal model with Molecular Imaging**
Wen-Tien Tai, Ya-Fang Chang, Jyh-Der Leu, **Jeng-Jong Hwang**.

PS1187 - **Primary tumor volume measurements of nasopharyngeal carcinoma determined with computed tomography: study of variability**
Cheng-Chaun Chang, Mu-Kuan Chen, Hwa-Koon Wu.

PS1188 - **Application of a high-brightness electrodeless z-pinch soft x-ray source to water window imaging and microbeam research**
Stephen F. Horne, Matthew M. Besen, Robert D'Agostino, Donald K. Smith, Paul Blackborow.

PS1189 - **Curcumin disrupts radiation induced positive feed back (NFκB-TNFα-NFκB) cycle and inhibits NFκB mediated radio-adaptation in neuroblastoma cells**
Natarajan Aravindan, Rakhesh Madhusoodhanan, Salahuddin Ahmad, Daniel Johnson, Terence Herman.

Tuesday, July 10, 2007

7:30am - 8:15am
Eye Openers

EO 5: **Target for radiation cell kill: rafts or DNA?**
Salon 7, Yerba Buena
Richard Kolesnick, Memorial Sloan-Kettering Cancer Center, New York, USA
Chair: Wayne Zundel, University of Colorado Health Science Center, Denver, USA

EO 6: **Heavy ion radiobiology in therapy and space**
Salon 8, Yerba Buena
Marco Durante, University of Naples Federico II, Naples, Italy
Chair: Francis A. Cucinotta, Johnson Space Center, NASA, Houston, USA

EO 7: **Low dose radiation exposure, polymorphisms and thyroid cancer risks**
Salons 1, 2, 3 Yerba Buena
Alice Sigurdson, NCI, NIH, Bethesda, USA
Chair: David Brenner, Columbia University, New York, USA

8:30am - 9:30am
Congress Lectures

CL 7: **DNA damage responses: mechanisms and implications for human disease**
Salon 7, Yerba Buena
Michael Kastan, St. Jude's Children's Hospital, Memphis, USA
Chair: Martin Lavin, Queensland Radium Institute, Brisbane, Australia

CL 8: **Radiation damage and formation of trans fatty acids in membranes: biomimetic and in vivo studies**
Salon 15, Yerba Buena
Carla Ferreri, Consiglio Nazionale delle Ricerche, Bologna, Italy
Chair: Chantal Houee-Levin, University of Paris Sud, Orsay, France

---

CL 9: **Extrapolation of radiation induced cancer risks from low doses to very low doses: what does science tell us?**
Salon 8, Yerba Buena
David J. Brenner, Columbia University, New York, USA
Chair: Roger Martin, Peter MacCallum Cancer Institute, Melbourne, Australia

---

CL 10: **Integrating molecular therapeutics with radiotherapy**
Salons 4, 5, 6 Yerba Buena
Kie-Kian Ang, University of Texas MD Anderson Cancer Center, Houston, USA
Chair: Theodore Phillips, University of California, San Francisco, San Francisco, USA

CL 11: **Integrative radiation biology**
Salons 1, 2, 3 Yerba Buena
Mary Helen Barcellos-Hoff, Lawrence Berkeley National Lab, Berkeley, USA
Chair: Noelle Metting, Department of Energy, Washington, DC, USA

CL 12: **Chromatin remodeling complexes: essential components of DNA damage**
Salons 10, 11 Yerba Buena
Brendan Price, Dana Farber Cancer Institute, Boston, USA
Chair: Peggy Olive, BC Cancer Research Centre, Vancouver, Canada

---

10:00am - 12:00pm
Symposia

S 13: **Structural Aspects of Radiation-Induced DNA Damage and Repair**
Salons 1, 2, 3 Yerba Buena
Chair: Melanie Spotheim-Maurizot, Centre National de la Recherche Scientifique, Orleans, France

10:00 - **Predicting DNA damage by a structure based Monte-Carol simulation method based on molecular structures of DNA or DNA-protein complexes**
Marie Davidkova, Nuclear Physics Institute, Prague, Czech Republic

10:30 - **How is radiation affecting the protein-bodyguard of DNA?**
Melanie Spotheim-Maurizot, Centre National de la Recherche Scientifique, Orleans, France

11:00 - **Fidelity and mutagenicity in Y-family polymerases**
Roman Osman, Mount Sinai School of Medicine, New York, USA

11:30 - **Modeling radiation-induced chromosome aberration induction**
Francesca Ballarini, National Institute of Nuclear Physics, Pavia, Italy

S 14: **Heavy Ion Radiobiology in Therapy and Space**
Salons 10, 11 Yerba Buena
Chair: Yoshiya Furusawa, National Institute of Radiological Sciences, Chiba, Japan

10:00 - **Application of SHIELD-HIT, MCNPX, and GEANT4 for ion transport calculations in radiation therapy and space**
Irena Gudowska, Karolinska Institute and Stockholm University, Stockholm, Sweden

10:30 - **The International Commission Radiological Protection Task Group on international guidelines for space missions**
Guenther Dietze, Physikalisch-Technische Bundesanstalt, Braunschweig, Germany

11:00 - **Late effects of heavy ion exposures**
Eleanor Blakely, Lawrence Berkeley National Lab, Berkeley, USA

11:30 - **Heavy ion effects to the central nervous system**
Greg Nelson, Loma Linda University, Loma Linda, USA

S 15: **New Data for Cancer Risk Assessment**
Salon 7 Yerba Buena
Chair: Elaine Ron, NCI, National Institutes of Health, Bethesda, USA

10:00 - **Cancer incidence in the atomic bomb survivors: the new incidence report**
Kiyohiko Mabuchi, RERF, Hiroshima, Japan

10:30 - **Cancer risks from radiation exposure in the former Soviet Union (Mayak nuclear workers Techa river residents, Chernobyl)**
Elaine Ron, NCI, National Institutes of Health, Bethesda, USA

11:00 - **Cancer risk estimation derived from studies of nuclear workers**
Mary Schubauer-Berigan, National Institute for Occupational Safety and Health, Cincinnati, USA

11:30 - **Cancer risk from diagnostic X-rays**
Amy Berrington de Gonzalez, Johns Hopkins University, Baltimore, USA

S 16: **Molecular Targets for Radiosensitization**
Salons 8 Yerba Buena
Chair: Gillies McKenna, University of Oxford, Oxford, UK

10:00 - **Developing novel targets: lesson learned from HIF-1**
Ben Moeller, University of Texas MD Anderson Cancer Center, Houston, USA

10:30 - **DNA replication repair: from molecular insights towards new approaches to anti-cancer therapy**
Thomas Helleday, University of Oxford, Oxford, UK

11:00 - **Assessment of novel hypoxia response pathways as clinical molecular targets**
Brad Wouters, University of Maastricht, Maastricht, The Netherlands

11:30 - **Modulating radiation resistance: Is AKT the target?**
Anjali Gupta, University of Pennsylvania, Philadelphia, USA

S 17: **New Directions in Hyperthermia**
Salons 12, 13 Yerba Buena
Chair: Ellen Jones, Duke University, Durham, USA

10:00 - **Immunological effects of hyperthermia – multifaceted features that augment anti-tumor immunity**
Elizabeth Repasky, Roswell Park Cancer Institute, Buffalo, USA

10:30 - **Progress in non-invasive thermometry for hyperthermia**
Peter Wust, Charite Universitatsmedizin Berlin, Berlin, Germany

11:00 - **Design and testing of novel thermally sensitive liposomal formulations for the treatment of local tumors: a new paradigm for drug delivery**
David Needham, Duke University, Durham, USA

11:30 - **Regional hyperthermia combined with systemic chemotherapy in the management of locally advanced, high grade soft tissues sarcomas of the extremities, the body wall and the abdomen: a phase III randomized prospective trial (EORTC-SCHO Intergroup Trial)**
Rolf Issels, University of Munich, Munich, Germany

S 18: **Studies of In Utero Radiation Effects**
Salons 4, 5, 6 Yerba Buena
Chairs: Jack Schull, The Schull Institute, Houston, USA
Roy Shore, RERF, Hiroshima, Japan

10:00 - **Cancer incidence and mortality after in-utero atomic bomb exposures**
Dale Preston, Hirosoft Inc., Seattle, USA

10:30 - **Chromosome aberration induction following fetal radiation exposure in mice and humans**
Nori Nakamura, RERF, Hiroshima, Japan

11:00 - **Early molecular radiation events in embryogenesis**
Ohtsura Niwa, Kyoto University, Kyoto, Japan

11:30 - **Fetal irradiation effects on the developing brain**
Louis de Saint-Georges, Belgian Nuclear Research Centre, Mol, Belgium

---

12:00pm - 1:00pm
Plenary Lecture
Salon 9 Yerba Buena

PL 3: **The biophysical method KU proteins use to test for the fidelity of DNA repair**
Steven Chu, Lawrence Berkeley National Laboratory, Berkeley, USA
Chair: Herwig Paretzke, GSF-National Research Center for Environment and Health, Neuherberg, Germany

---

2:00pm - 4:00pm
Symposia

S 19: **Current Topics in Protein Damage**
Salon 15 Yerba Buena
Chair: Christian Schoneich, University of Kansas, Lawrence, USA

2:00 - **Formation and biological consequences of peroxide formation on proteins by radiation**
Michael Davies, University of Sydney, Sydney, Australia

2:30 - **Once electron oxidation of peptides: role of oxygen**
Chantal Houee-Levin, University Paris Sud, Orsay, France

3:00 - **Tryptophan-mediated photolysis of disulfide bridges in proteins and peptides**
Ignace Hanssens, Katholieke Universiteit Kortrijk, Leuven, Belgium

3:30 - **Selective protein oxidation in vivo: targets and novel analytical methodology**
Christian Schoneich, University of Kansas, Lawrence, USA

S 20: **Cardiovascular Late Effects of Radiation**
Salon 7 Yerba Buena
Chair: Kei Nakachi, RERF, Hiroshima, Japan

2:00 - **Cardiovascular disease in the atomic bomb survivors: mortality, morbidity and laboratory findings and its association with atomic bomb radiation**
Kazunori Kodama, RERF, Hiroshima, Japan

2:30 - **Radiation exposure and cardiovascular disease risks**
Sarah Darby, Medical Research Council, Oxford, UK

3:00 - **Radiotherapy and cardiovascular outcomes**
Steven Lipshultz, University of Miami, Miami, USA

3:30 - **Biology of cerebrovascular effects**
Fiona Stewart, Netherlands Cancer Institute, Amsterdam, The Netherlands

---

S 21: **How to Translate Molecular Targeting into Radiotherapy**
Salon 8 Yerba Buena

Chair: Michael Baumann, University of Dresden, Dresden, Germany

2:00 - **Molecular targeting and radiation: from bench to bedside**
Daphne Haas-Kogan, University of California, San Francisco, San Francisco, USA

2:30 - **Biology-driven early clinical trials for radiotherapy**
Paul Harari, University of Wisconsin, Madison, USA

3:00 - **Preclinical evaluation in the specific context of radiotherapy**
Michael Baumann, University of Dresden, Dresden, Germany

3:30 - **Early clinical translational trials**
Jean Bourhis, Institut Gustave Roussy, Villejuif, France

S 22: **Low Dose Hypersensitivity: Mechanisms and Clinical Applications**
Salons 1, 2, 3 Yerba Buena

Chairs: Michael Joiner, Wayne State University, Detroit, USA
Kaushala Prasad Mishra, Bhabha Atomic Research Centre Trombay, Bombay, India

2:00 - **Realizing the mechanism of low dose hyperradiosensitivity**
Brian Marples, Beaumont Hospital, Troy, USA

2:30 - **Molecular basis for low dose radiation hypersensitivity**
Mike Weinfeld, Cross Cancer Institute, Edmonton, Canada

3:00 - **Chemopotentiation effects of low-dose hypersensitivity make headway in cancer therapy**
Mansoor Ahmed, Geisinger Clinic, Danville, USA

3:30 - **Low dose total body irradiation in patients of advanced relapsed/refractory non-hodgkins lymphoma: a preliminary clinico-radiobiology report**
Mohindra Pranshu, Tata Memorial Hospital, Mumbai, India

2:00pm - 4:00pm
Workshops

W 1: **What's the Latest on ATM?**
Salons 4, 5, 6 Yerba Buena

Chairs: Martin Lavin, Queensland Institute of Medical Research, Brisbane, Australia
Patrick Concannon, University of Virginia, Charlottesville, USA

W 2: **New Technology in Sub-Cellular Microbeams**
Salons 10, 11 Yerba Buena
Chairs: Zbigniew Stachura, Henryk Niewodniczanski Institute of Nuclear Physics, Krakow, Poland.
Gerhard Randers-Pehrson, Columbia University/RARAF, New York, USA

W 3: **How Can We Update Track Structure Codes to Include and Test Current Reactions Mechanisms in DNA and Related Systems?**
Salons 14 Yerba Buena
Chairs: Hooshang Nikjoo, NASA Johnson Space Center, Houston, USA
William Bernhard, University of Rochester, Rochester, USA

4:00pm - 5:30pm
Poster Session 2

5:45pm - 6:30pm
Failla Award Lecture (RRS)
Salon 9 Yerba Buena

A non-homogeneous tour of radiation research: on the tracks to complex systems dynamics
Herwig Paretzke, GSF-National Research Center for Environment and Health, Neuherberg, Germany
Chair: Bill McBride, University of California, Los Angeles, Los Angeles, USA

6:30pm - 7:15pm
Weiss Medal Lecture (ARR)
Salon 9 Yerba Buena

A circuitous journey through haematology and radiation biology
Eric Wright, University of Dundee, Scotland

RRS Failla Award

The Failla Award was established by the Radiation Research Society in 1962 to honor Dr. Gioacchino Failla and was first given in 1963. The award is given annually to an outstanding member of the radiation research community in recognition of a history of significant contributions to radiation research. Dr. Failla was one of the greatest pioneers in the fields of biophysicds and radiobiology. Dr. Failla was the first to suggest that radiation doses be expressed as the amount of radiation energy absorbed and made the first dose estimates in radium therapy in terms of microcalories per cc of tissue. Not the least of his contributions were his roles in founding the International Commission on Radiation Units and Measurements (ICRU), and the Radiation Research Society.

Dr. Herwig G. Paretzke, this year's awardee, is director of the largest institute of radiation research in Germany (GSF-ISS), and an honorary professor at the Physics Department of the Technical University of Munich. He is honored for his pioneering work in detailed Monte-Carlo charged particle track structure simulation codes (MOCA and PARTRAC) to quantitatively test working hypotheses on basic radiobiological phenomena on a nanometer scale and with realistic sub-cellular geometries and for his innovative modelling of low dose radiation carcinogenesis. He is the chairman of the German Association of Radiation Research (GAST) and of the Division of Radiation and Medical Physics of the German Physical Society. He is a member of the International Commission of Radiation Units and Measurements ICRU, and until recently of the ICRP. Dr. Paretzke has published some 300 peer-reviewed articles, supervised more than 40 PhD and diploma theses, and organized about 50 well attended international workshops and conferences. He has received a number of awards including from the American Health Physics Society and the International Radiation Protection Association.

ARR Weiss Medal

The Weiss Medal was established by the Association for Radiation Research in 1972 to honor the memory of Professor J. Weiss, late Professor of Radiation Chemistry at the University of Newcastle-on-Tyne. Dr. Weiss's researches with Haber in the 1930's are widely-known as landmarks in chemical science. For over twenty-five years he published many distinguished papers in radiation chemistry and was the first radiation chemist to attempt to unravel systematically the complex interaction between biologically important molecules and free radicals produced upon the radiolysis of water.

Dr. Eric Wright, this years recipient of the Weiss medal, is honoured for his outstanding work on cellular, genetic and molecular respects of radiation-induced genomic instability in relation to the development of leukaemia and other diseases. Dr. Wright is Professor of Experimental Haematology at the University of Dundee Medical School. He is a graduate of the University of Sussex and obtained his PhD from the University of Manchester. Professor Wright is the Director of the Leukaemia Research Fund's Specialist Programme in Radiation Leukaemogenesis and he is the recipient of The David Anderson-Berry Medal of The Royal Society of Edinburgh and a Fellow of the Royal Society of Edinburgh. In recent years he has been a member of the UK Government Committee Examining the Radiation Risks of Internal Emitters (CERRIE), and Chairs of the Radiation and Cancer Biology Committee of The British Institute of Radiology, and of the Trustees of the LH Gray Memorial Trust.

Poster Session 2

PS2.1 - Biodosimetry 2

PS2001 - **Robotic blood handling in a cytogenetic biodosimetry laboratory for dose assessment in radiological and nuclear mass casualties.**
Pataje G. Prasanna, Patrick R. Martin, Uma Subramanian, Maria Moroni, Roman E. Berdychevski.

PS2002 - **An improvement of the metaphase finder system for the biological dosimetry by chromosome aberration**
Akira Furukawa, Masako Minamihisamatsu, Isamu Hayata.

PS2003 - **Rapid and accurate *in vivo* tooth dosimetry: experimental procedure for positioning the resonator**
Ruhong Dong, Artur Sucheta, Eugene Demidenko, Benjamin B. Williams, Maciej Kmiec, Gregory Burke, Piotr Lesniewski, Firdus F. Gubaydullin, Andres Ruuge, Harold M. Swartz.

PS2004 - **The automatic dicentric detection system efficiency in a real case population triage**
Laurence Roy, Aurélie Vaurijoux, Eric Grégoire, Cécile Martin, Pascale Voisin, Sandrine Roch-Lefevre, Partick Gourmelon.

PS2005 - **Development of an ultrahigh-throughput robotically-based biodosimetry workstation using in-situ assays.**
Guy Garty, Gerhard Randers-Pehrson, Oleksandra V. Lyulko, Aparajita Dutta, Jing Nie, Giuseppe Schettino, Anubha Bhatla, Jian Zhang, Alessio Salerno, Nabil Simaan, Y. Lawrence Yao, David J. Brenner.

PS2006 - **Achieving requirements for dosimetry for management of potential radiation exposures to a large population with EPR technqiues**
Harold M. Swartz, Artur Sucheta, Ruhong Dong, Eugene Demidenko, Ben Williams, Piotr Lesniewski, Maciej Kmiec, Yasuko Sakata.

PS2007 - **Fully-automated rapid in-situ cellular imaging for a high-throughput biodosimetry workstation**
Oleksandra V. Lyulko, Guy Garty, Gerhard Randers-Pehrson, David J. Brenner.

PS2008 - **Validation of high throughput micronucleus analysis in peripheral reticulocytes for radiation biodosimetry**
Yuhchyau Chen, Ollivier Hyrien, Irena Nowak, Ying Tsai, Nancy Wang, Ruth Wilkins, Catherine Ferrarotto, Stephen Dertinger.

PS2.2 - Bystander Effects 2

PS2009 - **Oxidative effects related to proton irradiation in hepatoma cell line at the Lund Nuclear Probe**
Natalia Arteaga-Marrero, Magnus G. Olsson, Jan Pallon, Bo Akerstrom, Mikael Elfman, Per Kristiansson, Charlotta Nilsson, Christer Nilsson, Marie Wegdén.

PS2010 - **Mechanisms underlying α-particle induced bystander effects in normal human fibroblasts**
Zhi Yang, Perumal Venkatachalam, Sonia M. de Toledo, John B. Little, Edouard Azzam.

PS2011 - **Caspases are involved in the induction of apoptosis in irradiated and bystander cells**
Martin Purschke, Zhixiang Zhou, Kathryn D. Held.

PS2012 - **Functional genomics of the radiation bystander response in normal human fibroblasts and epithelial cells**
Shanaz A. Ghandhi.

PS2013 - **Radiation induced bystander effect in plants is generated by radicals formed in irradiated media**
Igor Kovalchuk, Franz Zemp, Trang Bui.

PS2014 - **Role of epigenetic effectors in the radiation-induced bystander effects in vivo**
Olga Kovalchuk, Igor Koturbash, Yaroslav Ilnystky, Kristy R. Kutanzi, Igor Pogribny.

PS2015 - **The role of miRNAs in the epigenetic regulation of bystander responses in 3D human tissue models**
Franz J. Zemp, Jennifer Dickey, Gloria Jenkins-Baker, Stephen A. Marino, David J. Brenner, William M. Bonner, Olga A. Sedelnikova, Olga Kovalchuk.

PS2016 - **Proteome analysis of proliferative response of bystander cells adjacent to cells exposed to ionizing radiation**
Bogdan I. Gerashchenko, Akira Yamagata, Ken Offusa, Katsutoshi Yoshizato, Sonia M. de Toledo, Roger W. Howell.

PS2017 - **Molecular mechanisms of the sex differences in the radiation induced bystander effect in vivo**
Igor Koturbash, Kristy Robin Kutanzi, Karl Hendrickson, Dmitriy Kogosov, Olga Kovalchuk.

PS2018 - **Imaging of chemical and structural aspects of low-LET bystander effects in living mammary epithelial cells**
Hoi-Ying N. Holman, Kathy A. Bjornstad, Al C. Thompson, Chris J. Rosen, Eleanor A. Blakely.

PS2019 - **DNA double-strand break formation in normal human fibroblasts can be triggered by exposure to human cancerous cultured cells in a bystander-like effect**
Mykyta Sokolov, Olga Sedelnikova, William Bonner.

PS2.3 - Cell Behavior/Stem Cells 2

PS2020 - **Effect of low dose of X rays and/or microwaves on human blood mononuclear cells *in vitro***
Wanda Stankiewicz, Aneta Cheda, Ewa M. Nowosielska, Jolanta Wrembel-Wargocka, Marek P. Dabrowski, Roman Kubacki, Marek K. Janiak, Stanisław Szmigielski.

PS2021 - **The noninvasive modulation of the blood stem cell's pool in human: circulating lymphocytes and somatic effects**
Marat A. Karamullin, Alexey V. Babak, Ludmila P. Ekimova, Vladimir V. Salukhov, Vjacheslav A. Phedorov, Elena B. Kireeva, Anatoly E. Sosukin, Alexey N. Shoutko.

PS2022 - **Metabolomics as a tool for understanding the cellular stress response of TK6 cells following ionizing radiation exposure**
Andrew D. Patterson, Henghong Li, Kristopher W. Krausz, Albert J. Fornace, Jr., Frank J. Gonzalez, Jeffrey R. Idle.

PS2023 - **Inhibition of p38 MAPK reduces ionizing radiation (IR)-induced hematopoietic suppression by preventing hematopoietic stem/progenitor cell senescence**
Yong Wang, Lingbo Liu, Daohong Zhou.

PS2024 - **Glutamate transporter response after exposure to low-dose gamma and proton radiation**
Martha C. Sanchez, Abigail Benitez, Leticia S. Ortloff, Lora M. Green.

PS2025 - **Local radiotherapy induces recruitment of hematopoietic stem cells to the irradiated bone marrow**
Carlo Bastianutto, Asim Mian, Julie Symes, Joseph Mocanu, Nehad Alajez, Will Shi, Jeff Medin, Armand Keating, Michael Crump, Mark Minden, Mary Gospodarowicz, **Fei-Fei Liu**.

PS2026 - **Evidence for genomic instability in human haemopoietic stem cells containing radiation-induced chromosome aberrations**
Natalia D. Sumption, Dudley T. Goodhead, **Rhona M. Anderson**.

PS2.4 - Clinical Therapeutic Radiobiology 2

PS2027 - **Possible influence of multiple SNP markers to urological morbidity induced by radiotherapy with carbon-ions among 133 prostate cancer patients**
Tomo Suga, Mayumi Iwakawa, Shuhei Noda, Hiroshi Tsuji, Eisei Oda, Yoshimi Otsuka, Atsuko Ishikawa, Hirohiko Tsujii, Takashi Imai.

PS2028 - **Relative biological effectiveness (RBE) of carbon ions in the rat spinal cord**
Peter Peschke, Christian P. Karger, Michael Scholz, Jürgen Debus, Peter Huber.

PS2029 - **Effect of radiation therapy of carbon -ion to Mesothelioma**
Kumie Nojima, Masao Suzuki, Yoshinobu Harada.

PS2030 - **Research of boron neutron capture therapy (bnct) for cancer at Kyoto University reactor (kur)**
Koji Ono, Shin-ichiro Masunaga, Minoru Suzuki, Kenji Nagata, Yuko Kinashi, Akira Maruhashi, Yoshinori Sakurai, Shin-ichi Miyatake, Junich Hiratsuka, Junich Hiratsuka, Itsuro Kato.

PS2031 - **Gene expression profiling in normal human fibroblasts following the irradiation with heavy ion particles by HIMAC**
Akira Fujimori, Katsutoshi Suetomi, Ryuichi Okayasu, Sentaro Takahashi.

PS2032 - **17-allylamino-17-demethoxygeldanamycin enhances the cytotoxicity of tumor cells irradiated with carbon ions**
Miho Noguchi, Dong Yu, Ryoichi Hirayama, Emiko Sekine, Koichi Ando, Ryuichi Okayasu.

PS2033 - **Characterization of cell death induced by high LET irradiation in head and neck squamous cell carcinomas: implications for future clinical application in hadrontherapy**
Mira Maalouf, Gersende Alphonse, Michael Beuve, Priscilla Battiston-Montagne, Claudia Fournier, Gisela Taucher-Scholtz, **Claire Rodriguez-Lafrasse**.

PS2034 - **Hydrogen peroxide enhances radiation-induced apoptosis in the PC-3 prostate cancer cell line**
Shinji Kariya, Ken Sawada, Toshihiro Kobayashi, Akihito Nishioka, Yasuhiro Ogawa.

PS2035 - **Elevated expression of Prx1 and Nrf2 in stage I non-small cell lung cancer: Prx1, but not Nrf2, is an independent prognostic factor for disease recurrence and reduced survival after surgery**
Xiaofei Yu, Joo-Heon Kim, Paul Bogner, Nithya Ramnath, Yoorim Park, Jihnhee Yu, Young-Mee Park.

PS2036 - **Hypofractionation results in reduced tumor cell kill compared to conventional fractionation for tumors with regions of hypoxia.**
David J. Carlson, Paul J. Keall, J. Martin Brown.

PS2037 - **The correlation of intrinsic radiosensitivity with bystander response in individual colorectal carcinoma patients undergoing radiotherapy treatment**
Orla L. Howe, Jacintha O Sullivan, Blathnaid Nolan, Brenden McClean, Fiona M. Lyng.

PS2038 - **Relative effectiveness equation of proliferative tumour cells: concept of hyper-extended fractionation: application to lung radiotherapy**
Rakesh M. Chandola.

PS2039 - **Tumor carbonic anhydrase 9 expression is associated with the**

presence of lymph node metastases in uterine cervical cancer
Hye-Jin Shin, Sun Lee, Jooyoung Kim.

PS2040 - **Cluster effects within the Local Effect Model - Application to in vitro and in vivo experiments**
Thilo Elsasser, Michael Scholz.

PS2041 - **IGF-IR gene expression as a predictor to radiation response in patients with advanced cervical carcinoma**
Pablo Moreno Acosta, Myriam Sánchez de Gómez, Alejandro García Carrancá, Ricardo Cendales, Jaime Triana, German Dario Díaz, Zoila Conrado, Antonio Huertas, Monica Molano, Maria Mercedes Bravo, Rosalba Ospino, Maria Cristina Plazas.

PS2042 - **Radio-sensitization by 17-AAG in insulin growth factor 1 receptor over-expressed tumor cells**
Dong Yu, Miho Noguchi, Emiko Sekine, Akira Fujimori, Masahiko Miura, Ryuichi Okayasu.

PS2043 - **Loratadine-mediated enhancement of radiation response**
Benjamin P. Soule, Nicole L. Simone, William DeGraff, John A. Cook, **James B. Mitchell**.

PS2044 - **Potential role for 13-cis-retinoic acid and alpha interferon to increase radiation effectiveness via abrogation of bcl-2 over expression in prostate tumor cells while sparing normal human colonic cells**
Colin K. Hill, Grant Dagliyan, Parvesh Kumar.

PS2.5 - DNA Damage 2

PS2045 - **TP53 and TP53-related genes associated with protection from apoptosis in the radioadaptive response**
Ryuji Okazaki, Akira Ootsuyama, Toshiyuki Norimura.

PS2046 - **A mechanism for the radiosensitizing effect of gold nanoparticles in radiotherapy: the increased generation of secondary electrons around DNA**
Yi Zheng, Darel Hunting, Leon Sanche, Patrick Ayotte.

PS2047 - **Effect of thorium and rare earth mixed dust on cytokines and genetics in occupational exposed workers**
Huimin Lu, Kejun Jia, Cuilan Zhang, Chunyan Wang, Wei Zhang, Hui Zheng, Yufei Liu, Xumin Tu, Shuxia Hao, Rong Zhen, Xu Su.

PS2048 - **The maximal protection by DMSO in mammalian cells exposed to very high LET radiation**
Ryoichi Hirayama, Atsushi Ito, Yoshiya Furusawa, Koichi Ando, Masanori Tomita, Teruyo Tsukada, Masako Izumi, Fumio Yatagai, Ryuichi Okayasu.

PS2049 - **American ginseng reduces micronuclei yield in human lymphocytes after low dose radiation exposure**

Wei-Dong Wang, T.K. Lee, H. Mota, R.R. Allison, R.M. Johnke, C. Sibata, A.L. Wiley.

PS2050 - **Histone H2AX phosphorylation (γ-H2AX) and cell survival following ionizing radiation with thiol containing drugs in human microvascular endothelial cells (HMEC)**
Yasushi Kataoka, Jeffrey S. Murley, David J. Grdina.

PS2051 - **Modulation of radiosensitivity in lung cancer cell line by a selenium-metabolizing enzyme**
Ji Hyun Lee, Su-Jae Lee, Yun-Sil Lee, **Sangwoo Bae**.

PS2052 - **Ionizing radiation and free radical induced DNA strand breaks: Effects of ion chelator and free radical scavenger**
Meriyani M. Odyuo, Rajeshwar N. Sharan.

PS2053 - **Hypersensitive γH2AX dose response and infrequent apoptosis in normal epidermal skin from radiotherapy patients**
Martin Simonsson, **Fredrik Qvarnstrom**, Jan Nyman, Karl-Axel Johansson, Ingela Turesson.

PS2054 - **γ-H2AX in blood as a biomarker for low dose irradiation exposure**
Christophe E. Redon, Olga A. Sedelnikova, William M. Bonner.

PS2055 - **Evaluation of radioprotection of a new chemical entity ON01210 (Ex-Rad™) using alkaline comet assay**
K. S. Kumar, M. W. Perkins, S Ghosh, T-C. Kao, K Hieber, S. Cosenza, MVR Reddy, E. P. Reddy[2], M. Maniar, A.A. Alfieri, T. M. Seed.

PS2056 - **Hemolytic anemia and iron accumulation in CuZn-superoxide dismutase knockout mice**
Micael Granstrom, Stefan L. Marklund, Goran Roos.

PS2057 - **Protection against direct type DNA damage by ligands containing tyrosine and tryptophan**
Sam Bullick, **Jamie Milligan**.

PS2058 - **Hot spot occurrence in a nickel resistance gene (*nrp*) of *Enterobacter* sp. Ni15 after a gamma ray irradiation**
Young-Keun Lee.

PS2059 - **Comparative studies on spontaneous and ionizing radiation induced mutagenesis between somatic and male germ cells**
Naoko Shiomi, Katsuko Noshiro, Seiji Kito, Kenichi Masumura, Takehiko Nohmi, Tadahiro Shiomi.

PS2060 - **Estimation of mutation induction rates in AT-rich sequences using a genome scanning approach following X-irradiation of mouse spermatogonia**
Jun-ichi Asakawa, Nori Nakamura, Hiroaki Katayama, Harry M. Cullings.

PS2061 - **Complex mutations in rpoB gene produced from irradiated Bacillus subtilis spores**

Nobuo Munakata, Toshiyuki Natsume, Atsushi Kamata, Kotaro Hieda.

PS2062 - **Effects of particle LET and dose fractionation on tissue-specific mutations in vivo**
Polly Y. Chang, James Bakke, Angela Puey, Sylvia Lin.

PS2063 - **Kinetics of CHO A_L mutant expression after treatment with radiation, EMS, MNNG and asbestos**
Stephen B. Keysar, MIchael H. Fox.

PS2064 - **Germline minisatellite mutation rate in the offspring of radiation workers from Sellafield Nuclear Facility, UK**
Gwen S. Rees, Laura Guyatt, Patricia A. Jonas, E Janet Tawn, David H. Macgregor.

PS2.6 - DNA Repair 2

PS2065 - **Role of DNA polymerase β in response to ionizing radiation: studies with a dominant negative**
Sari Neijenhuis, Manon Verwijs-Janssen, Gaby Rumping, Kerstin Borgmann, Ulla Kasten-Pisula, Ekkehard Dikomey, Conchita Vens, Adrian Begg.

PS2066 - **Accelerated formation of colour junctions directly after irradiation by manipulation of homologous recombination with mild hyperthermia**
Nicolaas A. Franken, Judith W. Bergs, Przemek Krwawczyk, Tony Cisouw, Jan Stap, Chris van Bree, Jaap Haveman, Jan Paul Medema, Jacob A. Aten.

PS2067 - **Development of a non-mammalian vertebrate model system to investigate mechanisms and pathways of genomic instability in vivo**
Wendy W. Kuhne, Lingling Ding, William S. Dynan.

PS2068 - **Imaging the direct interaction of Artemis with DNA in irradiated cells**
Geoffrey E. Brand, Kai Rothkamm, Kevin Prise.

PS2069 - **Interactions of the c-terminal domain of human ku70 with DNA substrate: a molecular dynamics study**
Shaowen Hu, Claudio Carra[1] Janice L. Huff, Janice M. Pluth, Francis A. Cucinotta.

PS2070 - **DNA double strand breaks are not sufficient to initiate recruitment of TRF2**
Eli S. Williams, Jan Stap, Jeroen Essers, Brian Ponnaiya, Martijn S. Luijsterburg, Przemek M. Krawczyk, Robert L. Ullrich, Jacob A. Aten, Susan M. Bailey.

PS2071 - **Studies on response to the challenging dose of x-rays in lymphocytes of prostate cancer patients and healthy donors**
Mateusz Krzysiek, Antonina Cebulska-Wasilewska, Zygmunt Dobrowolski, Agnieszka Panek, Wacław Lipczynski, Barbara Dobrowolska.

PS2072 - **A structure: function analysis of ku86**
Junghun Kweon, Eric A. Hendrickson.

PS2073 - **Telomeric sister chromatid exchange, DNA repair and aging**
Robert Hagelstrom, Sandy Chang, Laura Niedernhofer, Susan M. Bailey.

PS2074 - **Oxidative stress-induced intestinal tumorigenesis in mice with a targeted disruption of the Mutyh gene**
Teruhisa Tsuzuki, Takuro Isoda, Kazumi Yamauchi, Yusaku Nakabeppu, Yoshimichi Nakatsu.

PS2075 - **Characterization of a human DNA helicase, *PIF1*, which is responsible for chromosomal integrity**
Yongqing Gu, Yuji Masuda, Kenji Kamiya.

PS2076 - **Deoxycytidyl transferase activity of human REV1 and its substrate specificity**
Jinlian Piao, Yuji Masuda, Kenji Kamiya.

PS2077 - **Loss of FANCD2 sensitizes cells to topoisomerase II poisons but does not disrupt non-homologous end-joining**
Henning Willers, Li Li, Chen-Mei Luo, Jochen Dahm-Daphi, Lisa A. Kachnic.

PS2078 - **A novel role of DNA repair factor NBS1 in centrosome maintenance**
Mikio Shimada, Junya Kobayashi, Kenshi Komatsu.

PS2079 - **The meiosis-specific synaptonemal complex protein SCP3 is expressed in cancer and induces aneuploidy in somatic cells**
Noriko Hosoya, Sho Hangai, Kiyoshi Miyagawa.

PS2080 - **Low dose-rate effects and non-homologous end-joining repair pathway of double strand breaks**
Hiroshi Utsumi, Kuniyoshi Iwabuchi, Akihisa Takahashi, Akira Tachibana.

PS2081 - **DNA Double-strand break repair *in vivo* assessed by gamma-H2AX in blood lymphocytes and normal tissues of repair-proficient and -deficient mouse strains**
Martin Kuhne, Nicole Rief, Xiaorong Dong, Saskia Grudzenski, Christian Rübe, Markus Lobrich, **Claudia E. Rube**.

PS2082 - **Measurements of DNA-double strand breaks after tumour therapy-related carbon irradiation and comparison with γH2AX analysis after induction of highly complex DNA-lesions**
Yvonne Eva Schweinfurth, Jana Topsch, Philippe Barberet, Burkhard Jakob, Gisela Taucher-Scholz.

PS2083 - **Functional interaction between histone H2AX and NBS1 on ATM-dependent DNA damage response**
Junya Kobayashi, Hiroshi Tauchi, Shinya Matsuura, David Chen, Kenshi Komatsu.

PS2084 - **Homologous recombination repair is regulated by domains at the N- and C-terminus of NBS1 and is dissociated with ATM functions**
Kyosuke Nakamura, Syuichi Sakamoto, Kenta Iijima, Daisuke Mochizuki, Keisuke Teshigawara, Junya Kobayashi, Shinya Matsuura, Hiroshi Tauchi, Kenshi Komatsu.

PS2085 - **Inhibition of ATM may induce high frequency of misrepair in normal and AT heterozygous fibroblast cells**
Tetsuya Kawata, Francis Cucinotta, Kerry George, Naoyuki Shigematsu, Masayoshi Saito, Kouhei Inoue, Cuihua Liu, Hisao Ito.

PS2086 - **The Complexity of Phosphorylated H2AX foci and DNA repair proteins at ionizing radiation induced DNA double-strand breaks in mammalian cells**
Asako Nakamura, William M. Bonner.

PS2087 - **Late phase activation of ATM and DNA-PKcs kinases upon UV-induced replication stress**
Hirohiko Yajima, Kyung-Jong Lee, **Benjamin P.C. Chen**.

PS2088 - **The mechanism of DNA-PKcs regulating the phosphorylation of H2AX**
Jing An, Qin-Zhi Xu, Jian-Li Sui, Bei Bai, Ping-Kun Zhou.

PS2.7 - Experimental Therapeutics 2

PS2089 - **Novel chemical enhancers of heat shock increase thermal radiosensitization through a mitotic catastrophe pathway**
Konjeti R. Sekhar, Vijayakumar N. Sonar, Venkatraj Muthusamy, Andrei Laszlo, Jamil Sawani, Nobuo Horikoshi, Ryuji Higashikubo, Robert G. Bristow, Peter A. Crooks, Joseph L. Roti Roti, **Michael L. Freeman**.

PS2090 - **Inhibition of repair of radiation-induced damage by mild hyperthermia with reference to the effect on quiescent cells in solid tumors**
Shin-ichiro Masunaga, Kenji Nagata, Minoru Suzuki, Genro Kashino, Yuko Kinashi, Koji Ono.

PS2091 - **The anti-tumor effects of cisplatin-TSL with hyperthermia (HT) and radiation therapy (RT) in a human colorectal cancer xenograft**
Jessica A. Tashjian, Eric A. Lee, Benjamin L. Viglianti, Yulin Zhao, Ana M. Ponce, Bruce Bondurant, Mark W. Dewhirst.

PS2092 - **Localized hyperthermia combined with intratumoral dendritic cells induces systemic antitumor immunity**
Arunika Mukhopadhaya, Joseph Mendecki, XinYuan Dong, Alan A. Alfieri, Laibin Liu, Shalom Kalnicki, Madhur Garg, **Chandan Guha**.

PS2093 - **Increased granulocyte recovery from radiation exposure following mild hyperthermia**
Thomas Mace, Maegan Capitano, Adrienne Kisailus, Wainwright Jaggernauth, **Elizabeth Repasky**.

PS2094 - **Selective inhibition of cyclooxygenase-2 and activation of adenosine membrane receptors - two new promising approaches for treatment of radiation-induced myelosuppression**
Michal Hofer, Milan Pospíšil, Antonín Vacek, Jiřina Holá, Denisa Štreitová, Vladimír Znojil.

PS2095 - **Experimental studies of intestine damage caused by combined radiation-burn injury with chitosan DNA nanoparticles of [Gly2]GLP-2 and HD-5**
Ai Guoping, Su Yongping, Tan Hu.

PS2096 - **Oxidative stress and acetylcholinesterase activation in the brain after thorium administration in swiss mice**
Amit Kumar, Badri Narain Pandey, Kaushala Prasad Mishra.

PS2097 - **Chronic administration of the angiotensin II type 1 receptor antagonist (AT1RA) L158, 809 prevents radiation-induced cognitive impairment**
Weiling Zhao, Valerie Payne, Mitra Kooshki, David Riddle, Judy Brunso-Bechtold, Mike Robbins.

PS2098 - **Growth hormone protects against lethal irradiation**
Benny J. Chen, Divino DeOliveria, Nelson J. Chao.

PS2099 - **Redox modulation of oxidative stress by Mn porphyrin-based radioprotectors/anticancer therapeutics. The effect of charge distribution**
Júlio S. Rebouças, Ivan Spasojević, Ludmil Benov, Daryono H. Tajhjono, Ines Batinić-Haberle.

PS2100 - **Potent radioprotector/anticancer drug MnTE-2-PyP^{5+}: its pharmacokinetics and subcellular distribution**
Ivan Spasojević, Lichun Zhang, Yumin Chen, Teresa J. Noel, Marsha P. Cole, Yunfeng Zhao, Júlio S. Rebouças, Daret St. Clair, **Ines Batinic-Haberle**.

PS2101 - **Dose-dependent effects of cranial cesium irradiation on cognition in c57bl6/j mice**
Laura Villasana, Ken A. Jenrow, Steve L. Brown, Jae Ho Kim, **Jacob Raber**.

PS2102 - **Gender-related differences in radiation cataractogenesis**
Mark A. Henderson, Shailaja Valluri, Colleen DesRosiers, Jennifer T. Lopez, Christopher N. Batuello, Andrea Caperell-Grant, Marc S. Mendonca, Eva-Marie Powers, Robert M. Bigsby, Joseph R. Dynlacht.

PS2103 - **Prophylactic effect of flaxseed oil against radiation-induced hepatotoxicity in mice**
Arvind L. Bhatia.

PS2104 - **Comparison between photodynamic and sonodynamic cytotoxicities in vitro**
Jhony EL Maalouf, Jean Louis Mestas, Laurent Alberti, Sabrina Chesnais, Jean Paul Steghens, Cathignol Dominique.

PS2105 - **Effect of epothilone B and radiation in Chinese hamster cells**
Shungjun Yang, Mingliang Jiang, Hani Ashamalla.

PS2106 - **Enhancement of somatostatin-receptor targeted radionuclide therapy by gemcitabine pre-treatment mediated receptor up-regulation and cell cycle modulations**
Tapan K. Nayak, Eric R. Prossnitz, Robert W. Atcher, Jeffrey P. Norenberg.

PS2107 - **Chemosensitization by 2-deoxy-D-glucose in multicellular tumor spheroids results from the multiple death pathways stimulated by a combination of endogenous and induced oxidative stress**
Divya Khaitan, Sudhir Chandna, Bilikere S. Dwarakanath.

PS2108 - **Chemoradiosensitization of a novel camptothecin derivative**
Ge Huang, Huijuan Wang, Li-xi Yang.

PS2109 - **Intra-tumoral delivery of radio-labelled iododeoxyuridine**
Shirley Lehnert, Abraham Owusu, Yongbiao Li, Edward Bump, Bill Riddoch.

PS2110 - **FDG-PET predicts sensitivity of human head and neck cancer xenografts to cisplatin combined with 2-deoxy-D-glucose**
Andrean L. Simons, David M. Mattson, Melissa A. Fath, Susan A. Walsh, Brian J. Smith, Richard D. Hichwa, Michael M. Graham, Kenneth J. Dornfeld, Douglas R. Spitz.

PS2.8 - Physics/Chemistry 2

PS2111 - **On the chemical yield of base lesions, strand breaks, and clustered damage generated in plasmid DNA by the direct effect of X-rays**
William A. Bernhard, Shubhadeep Purkayastha, Jamie R. Milligan.

PS2112 - **Measurement of hydroxyl radicals and 8-hydroxydeoxyguanosine induced by high-LET heavy-ion irradiation**
Takashi Moritake, Kazunori Anzai, Kailash Manda, Megumi Ueno, Mitsuko Takusagawa, Mayumi Iwakawa, Takashi Imai.

PS2113 - **Deoxyribose damage is sensitive to base sequence context and end effects: the release of unaltered free base from oligodeoxynucleotides films by the direct effect of ionizing radiation**
Kiarn K. Sharma, William A. Bernhard.

PS2114 - **Photo-excitation of one-electron oxidized RNA nucleosides and**

rna-oligomers in the near uv-vis region produces sugar radicals
Amitava Adhikary, Sean Collins, Deepti Khanduri, David Becker, Michael D. Sevilla.

PS2115 - **An improved analytic description of the Bethe surface of liquid water: application to inelastic and stopping cross section calculations for low-energy electrons**
Dimitris Emfietzoglou, Isabel Abril, Rafael Garcia-Molina, Anand Pathak, **Hooshang Nikjoo**.

PS2116 - **An object oriented track-structure code for simulations of energy depositions from light ions**
Kristin Wiklund, Anders Brahme, Bengt K. Lind.

PS2117 - **Effects of microscopic target structures on local dose distributions**
Jacob A. Gersh, **Michael Dingfelder**, Larry H. Toburen.

PS2118 - **On OH radicals in water under heavy ion irradiation**
Mitsumasa Taguchi, Atsushi Kimura, Gérard Baldacchino, Yosuke Katsumura, Koichi Hirota.

PS2119 - **Proton induced electron emission spectra from condensed phase targets**
R. A. McLawhorn, S. L. McLawhorn, G. W. Kalmus, L. H. Toburen, E. L. B. Justiniano, J. L. Shinpaugh.

PS2120 - **Foliar absorption pathway and use efficiency of ^{45}Ca and ^{32}P radioisotope tracer technique on sweet persimmon**
Md. Belal N. Hossain.

PS2121 - **A study of anomalous behavior of radon in groundwater and soil gas for earthquake prediction**
Sandeep Mahajan.

PS2122 - **A novel analytical approach for estimating terrestrial cosmic-ray dose for anywhere in the world**
Tatsuhiko Sato, Hiroshi Yasuda, Koji Niita, Akira Endo, Lembit Sihver.

PS2123 - **Assessment of space radiation risk for future lunar missions**
Myung-Hee Y. Kim, Artem Ponomarev, Bill Atwell, Francis Cucinotta.

PS2124 - **Verification of the PHITS-based analytical model in application to dosimetry of cosmic radiation exposure in aircraft**
Hiroshi Yasuda, Tatsuhiko Sato, Masashi Takada, Takashi Nakamura.

PS2.9 - Radiation Carcinogenesis 2

PS2125 - **Modulation of the growth of pulmonary tumor colonies in mice after single or fractionated low-level irradiations with X-rays**
Jolanta Wrembel-Wargocka, Ewa M. Nowosielska, Aneta Cheda, Marek K. Janiak.

PS2126 - **Enzymatic alterations in rats' brain exposed to low level microwave radiation**
Paulraj Rajamani, Jitendra Behari.

PS2127 - **Activation of interleulin-9 receptor and downstream STAT3/5 in primary T-lymphomas in vivo in susceptible B6 and resistant C3H mouse**
Yi Shang, Shizuko Kakinuma, Yoshiko Amasaki, Mayumi Nishimura, Yoshiro Kobayashi, Yoshiya Shimada.

PS2128 - **Dose and dose rate dependency in radiation-induced mutation in liver and spleen of gpt-delta mice**
Tetsuya Ono, Naohito Okudaira, Yoshihiko Uehara, Tsuneya Matsumoto, Youichi Oghiso, Kimio Tanaka, Kazuaki Ichinohe, Shingo Nakamura, Satoshi Tanaka, Nao Kagawa, Kazuo Fujikawa, Akira Ootsuyama, Toshiyuki Norimura, Takehiko Nohmi.

PS2129 - **Reduction of the background mutation by a low dose X-irradiation of *Drosophila* spermatocytes at a low dose-rate**
Takao Koana, Mikie O. Okada, Keiji Ogura.

PS2130 - **Influence of p53 on the induction of mouse skin tumors by repetitive beta-irradiation**
Akira Ootsuyama, Ryuji Okazaki, Toshiyuki Norimura.

PS2131 - **High relative biological effectiveness of carbon ion radiation on induction of rat mammary carcinoma and its lack of H-*ras* and *Tp53* mutations**
Tatsuhiko Imaoka, Mayumi Nishimura, Shizuko Kakinuma, Yukiko Hatano, Yasushi Ohmachi, Akihiro Kawano, Akihiko Maekawa, Yoshiya Shimada.

PS2132 - **Combined effects of ionizing radiation and *N*-ethyl-*N*-nitrosourea in murine thymic lymphoma**
Shizuko Kakinuma, Yoshiko Amasaki, Kazumi Yamauchi, Mayumi Nishimura, Tatsuhiko Imaoka, Yoshiya Shimada.

PS2133 - **Effect of simultaneous of X-rays and *N*-ethyl-*N*-nitrosourea on lymphomagenesis in B6C3F1 mice**
Yoshiko Amasaki, Shinobu Hirano, Shizuko Kakinuma, Kazumi Yamauchi, Mayumi Nishimura, Tatsuhiko Imaoka, Yoshiro Kobayashi, Yoshiya Shimada.

PS2134 - **Promoter methylation of *Slc* family genes in rat mammary tumors induced by gamma rays or carbon ions**
Mayumi Nishimura, Tatsuhiko Imaoka, Shizuko Kakinuma, Yu Yamaguchi, Yasushi Ohmachi, Satoshi Yamashita, Toshikazu Ushijima, Yoshiya Shimada.

PS2135 - **Methylation of *SOCS3* and *p15* in carbon-ion-induced thymic lymphomas of B6C3F1 mice**
Yoshiya Shimada, Shigeko Ebishima, Yu Yamaguchi, Yoshikazu Kuwahara, Shizuko Kakinuma, Yoshiko Amasaki,

Mayumi Nishimura, Tatsuhiko Imaoka, Yoshiro Kobayashi, Yuichi Sato.

PS2.10 - Radioprotectors/Mitigators 2

PS2136 - **Radioprotection effect and anti-tumor immunity by yeast-derived β-glucan in mice**
Yeunhwa Gu.

PS2137 -**Polydrug: A novel concept for mitigation of radiation injury**
Mukut Sharma.

PS2138 - **Recombinant human epidermal growth factor accelerate the proliferation and migration of the irradiated human fibroblasts in vitro**
Sang-wook Lee, Soo Young Moon, Eun Kyung Choi.

PS2139 - **A novel somatostatin analogue, SOM230 (pasireotide), increases survival after total body irradiation**
Qiang Fu, Herbert Schmid, Marjan Boerma, Xiaohua Qiu, Junru Wang, **Martin Hauer-Jensen**.

PS2140 - **Influence of endothelin-1 receptor inhibition on functional, structural and molecular changes in the rat heart after irradiation**
Marjan Boerma, Junru Wang, Ashwini Kulkarni, Kerrey A. Roberto, Xiaohua Qiu, Martin Hauer-Jensen.

PS2141 - **Heat-killed mineral yeast as a potent post-irradiation radioprotector**
Kazunori Anzai, Nobuo Ikota, Megumi Ueno, Minako Nyuui, Makoto Akashi, Tsutomu V. Kagiya.

PS2142 - **Phosphorylation and sub-cellular localization of MAPK p38 in the bone marrow cells irradiated *in vivo* and the role of amifostine in these processes**
Helena R. Segreto, Celina T. Oshima, Maria Regina R. Silva, Mizue I. Egami, Priscilla B. Carvalho, Vicente P. Teixeira, Roberto A. Segreto.

PS2143 - **Protective effects of a new herbal composition (HemoHIM) against a gamma-radiation and anticancer drugs**
Sung-Kee Jo, Hae-Ran Park, Uhee Jung, Sung-Ho Kim, Sung-Tae Yee.

PS2144 - **Histone deacetylase inhibitors reduce lethality following total body irradiation**
Jae Ho Kim.

PS2145 - **Radioprotective effects of recombinant human epidermal growth factor (rhEGF) in C3H/HeJ mice**
Hae Jin Oh, Won Woo Kim, Sook In Chung, Jinsil Seong.

PS2146 - **Keratinocyte growth factor (Palifermin) accelerates the radiation-induced up-regulation of integrin linked kinase in oral mucosa (mouse) during daily fractionated irradiation**
Bettina Habelt, Margret Kuschel, **Wolfgang Doerr**.

PS2147 - **Mitochondrial targeting of a catalase transgene product further increases radioresistance induced by MnSOD overexpression in 32Dcl3 murine hematopoietic progenitor cells**
Michael W. Epperly, J Andres Melendez, Xichen Zhang, Darcy Franicola, Tracy Smith, Joel S. Greenberger.

PS2148 - **Radioprotective mechanisms by a new chemical entity ON01210 (Ex-Rad™) in HUVEC cells**
Sanchita P. Ghosh, Michael W. Perkins, Kevin Hieber, Stephen C. Cosenza, M.V. Ramana Reddy, E. Premkumar Reddy, Manoj Maniar, Alan Alfieri, Thomas Seed, K. Sree Kumar.

PS2149 - **Carbon monoxide protects the immature mouse hippocampus from radiation-induced apoptosis**
Glenn T. Gobbel, Kotaro Nakaya, Sait Sirin, Leo E. Otterbein, John C. Flickinger.

PS2150 - **The role of gap junctions on irradiated htori3-llu cells +/- radioprotector**
Virginia G. Serra, Leticia Ortloff, Pinal Pandya, Anil Kulkarni, Lora Green.

PS2151 - **Synthetic FGF2 peptide mitigates gastrointestinal radiation damage**
Lurong Zhang, Weimin Sun, Louis Pena, Jianjun Wang, Shanmin Yang, Shanmin Yang, Hengshan Zhang, Wei Wang, Mei Zhang, Chaomei Liu, Paul Okunieff.

PS2152 - **Single injection of novel radioprotectant CBLB502 significantly increases survival of lethally irradiated non-human primates**
Vadim Krivokrysenko, Farrel Fort, Eugenia Strom, Andrei Osterman, Ludmila Burdelya, Thomas Tallant, Natalia Tararova, Ratan Maitra, Joseph DiDonato, Andrei Gudkov, Elena Feinstein.

PS2153 - **Radioprotective effect of hypothermia on the blood system cells in mammals**
Andrei V. Rodionov.

PS2154 - **Radiation protection by toll like receptors (TLR) ligands and small molecules**
Damodar Gupta, Andrei Gudkov.

PS2.11 - Signaling 2

PS2155 - **Postirradiation dynamism of intratumoral HIF-1 activity; Balance of degradation and hyper-translation of HIF-1α protein**
Hiroshi Harada, Satoshi Itasaka, Shinae Kondoh, Masahiro Hiraoka.

PS2156 - **Cytotoxic and cytoprotective signaling pathways mediated by reactive oxygen and nitrogen species**
Takanori Katsube, Masahiko Mori, Hideo Tsuji, Tadahiro Shiomi, Makoto Onoda.

PS2157 - **Radiation-induced oxidative stress in lungs of mice knocked-out**

for genes involved in inflammatory processes
Carine Laurent, Wen-Chen Yeh, Richard P. Hill.

PS2158 - **Gene expression profiles of MCF-7 cells under hypoxic condition**
Chin-yu Lin, Mong-Hsun Tsai, William DeGraff, James B. Mitchell, Eric Y. Chuang.

PS2159 - **Regulation of mRNA translation is a major contributor to hypoxia regulated gene expression**
Twan van den Beucken, Marianne Koritzinsky, Michael Magagnin, Renaud Seigneuric, Philippe Lambin, Bradly G. Wouters.

PS2160 - **Activation of HIF-1 after mild hyperthermia and its downstream effect on tumor angiogenesis and metabolism**
Eui Jung Moon, Ines Batinic-Haberle, Mark W. Dewhirst.

PS2161 - **TRC8 regulates the chromosomal passenger protein, survivin. A potential role in hypoxia/reperfusion-induced G2 arrest and chromosome integrity**
Md Ashraful Islam, Wayne S. Zundel.

PS2162 - **Role of the Mitochondria-K^+ Channel Axis in the Response of Glioblastoma Cell Lines to Hypoxia**
Jason M. Derry, Joan Allalunis-Turner.

PS2163 - **NADPH oxidase mediates radiation-induced oxidative stress and inflammation in brain endothelium**
J Racquel Collins-Underwood, Weiling Zhao, Mike E. Robbins.

PS2164 - **Reactive oxygen species modulate CDK4/cyclinD1 in differentiation of PLB-985 cells**
Wakako Hiraoka, Yoshihiro Ando.

PS2165 - **Assessment of hypoxia after pulmonary irradiation in rats with exogenous and endogenous hypoxia markers (EF5, CA9, HIF1α)**
Katharina C. Fleckenstein, Benjamin M. Gauter-Fleckenstein, Zahid Rabbani, Thies Schroeder, Zeljko Vujaskovic.

PS2166 - **ATM-dependent signaling in response to ionizing radiation - a proteomic approach**
Amrita K. Cheema, Sung A. Lee, Lihua Zhang, Rency Verghese, Habtom Ressom, Anatoly Dritschilo, Mira Jung.

PS2167 - **Mechanisms of ATM regulation by TGFβ**
Jenny Paupert, Mary-Helen Barcellos-Hoff.

PS2168 - **ATM, MOF and DNA repair**
Tej K. Pandita.

PS2169 - **Persisted formation of phosphorylated ATM and 53BP1 foci and radiation induced permanent cell cycle arrest examined by single-cell based assay**

Yasuyoshi Oka, Keiji Suzuki, Masao Tomonaga.

PS2170 - **ATM/NF-κB-mediated adaptive radioresistanace in human keratinocytes**
Kazi Mokim Ahmed, Ming Fan, Danupon Nantajit, Junran Zhang, Jian Jian Li.

PS2171 - **The γ-ray irradiation induced lyGDI cleavage, cell apoptosis and its nuclear signal function**
Xinwen Zhou, Shiho Suto, Fumio Suzuki, T Ota.

PS2172 - **Role of Bcl-2/Bax ratio in predicting radiotherapy response in patients with local advanced non-small lung cancer**
Wei-Dong Wang, **Rong Li**, Zheng-tang Chen.

PS2173 - **Survivin expression is not altered during UV-B induced apoptosis in SCL-II cells**
Ralf Kriehuber, Marcus Unverricht, Nicole Busch, Dieter G. Weiss.

PS2174 - **Protein serine/threonine phosphatase type 2a regulates IR-induced apoptosis**
James M. Larner, Jun Mi.

PS2175 - **The DNA repair protein Nbs1 suppresses ionizing radiation-induced apoptosis**
Friederike Eckardt-Schupp, Daniel Sagan, Simone Moertl, Hedda Eichholtz-Wirth.

PS2.12 - Technical Advances/ Imaging/Models 2

PS2176 - **Possible role of synergistic interaction of ionizing radiation with other detrimental agents for radiation accident consequences**
Vladislav G. Petin, **Jin Kyu Kim**.

PS2177 - **Ionising radiation exposure of the eyes of patients during X-ray examinations**
Jaroslaw Jazwinski, Maria A. Staniszewska, Agnieszka Kowalska, Magdalena Zabicka, Radoslaw Rozycki, Ewa M. Nowosielska, Marek K. Janiak.

PS2178 - **Modeling effects of atomic bomb radiation on disease outcomes with radiation-influenced risk factors**
Lori A. Williams, Wan-Ling Hsu, Kenneth J. Kopecky.

PS2179 - **An "Effective functional subunit size" model for the dose response of rat spinal cord paralysis**
Magdalena Adamus-Górka, Panayiotis Mavroidis, Anders Brahme, Bengt K. Lind.

PS2180 - **PRIME I: a phase III randomised trial assessing the impact of adjuvant breast radiotherapy on quality of life in low risk older patients following breast conserving surgery**
Ian H. Kunkler, Robin J. Prescott, Linda J. Williams, Celia C. King.

Wednesday, July 11, 2007

7:30am - 8:15am
Eye Openers

EO 9: **Integration of data for systems biology**
Salon 7 Yerba Buena
Michelle Buchanan, Oak Ridge National Lab, Oak Ridge, USA
Chair: James Brown, Stanford University, Stanford, USA

EO 10: **New mechanistic approaches to modeling radiation-induced cancer**
Salons 1, 2, 3 Yerba Buena
Herwig Paretzke, GSF-National Research Center for Environment and Health, Neuherberg, Germany
Chair: Dudley Goodhead, Medical Research Council, Oxfordshire, UK

EO 11: **The silent treatment: delivering RNA interference**
Salons 4, 5, 6 Yerba Buena
Judy Lieberman, Harvard University, Boston, USA
Chair: Amy Kronenberg, Lawrence Berkeley National Lab, Berkeley, USA

EO 12: **Novel radioprotectors**
Salon 8 Yerba Buena
Roger Martin, Peter MacCallum Cancer Institute, Melbourne, Australia
Chair: Jacqueline Williams, University of Rochester, Rochester, USA

8:30am - 9:30am
Congress Lectures

CL 13: **Systems approach to predicting response to anticancer agents**
Salon 7 Yerba Buena
Joe W. Gray Lawrence Berkeley National Lab, Berkeley, USA
Chair: Mary Helen Barcellos-Hoff, Lawrence Berkeley National Lab, Berkeley, USA

CL 14: **Early epigenetic and genetic events in carcinogenesis**
Salon 8 Yerba Buena
Thea Tlsty, University of California, San Francisco, San Francisco, USA
Chair: Tracy Criswell, Case Western Reserve University, Cleveland, USA

CL 15: **Combining radiotherapy and immunotherapy: a revived partnership**
Salons 10, 11 Yerba Buena
Silvia C. Formenti, New York University, New York, USA
Chair: Kathy Mason, University of Texas MD Anderson Cancer Center, Houston, USA

CL 16: **From cellular to high-throughput predictive assays: going nowhere faster?**
Salons 1, 2, 3 Yerba Buena
Soren Bentzen, University of Wisconsin, Madison, USA
Chair: Mitchell Anscher, Virginia Commonwealth University, Richmond, USA

CL 17: **Stem cell therapy to reduce radiation-induced normal tissue damage**
Salons 4, 5, 6 Yerba Buena
Robert P. Coppes, University of Groningen, Groningen, The Netherlands
Chair: Richard Hill, Ontario Cancer Institute, Toronto, Canada

---

8:30am - 9:30am
Award Lectures

CL 18: **Radiation Research Society, Fry and Curie Award Lectures**
Salons 12, 13 Yerba Buena
Chairs: William McBride, University of California, Los Angeles, Los Angeles, USA
Mark Dewhirst, Duke University, Durham, USA

Michael Fry Award Lecture
Telomeres and double-strand breaks: all's well that ends well...
Susan M. Bailey, Colorado State University, Fort Collins, USA

Marie Curie Award Lecture
Excited states enhance DNA and RNA radiation Damage: excitation of guanine cation radicals produce sugar radicals
Amitava Adhikary, Oakland University, Rochester, USA

10:00am - 12:00pm
Symposia

S 23: **Genome Wide Approaches to Predicting DNA Damage Response from Yeast to Man**
Salon 7 Yerba Buena
Chairs: Martin Brown, Stanford University, Stanford, USA
Noelle Metting, Department of Energy, Washington DC, USA

10:00 - **Genome-wide screen of genes affecting response from yeast to radiation**
James Brown, Stanford University, Stanford, USA

10:30 - **Genome-wide analysis of DNA damage responses in C. elegans**
Marcel Tijsterman, Center for Biomedical Genetics, Utrecht, The Netherlands

11:00 - **Computational modeling of signaling systems in cancer**
Paul Spellman, Lawrence Berkeley National Laboratory, Berkeley, USA

S 24: **Radiation Damage and Electron Transfer in Nano-Materials**
Salon 15 Yerba Buena
Chair: John Miller, Brookhaven National Laboratory, Upton, USA

10:00 - **Radiation effect on carbon nanotubes in aqueous system**
Jing Peng, Peking University, Beijing, China

10:25 - **Barrier-controlled hole transfer in duplex DNA in aqueous solution**
Robert Anderson, University of Auckland, Auckland, NZ

10:50 - **Nucleation, growth and properties of metal clusters studied by radiation chemistry**
Jacqueline Belloni, Université Paris-Sud, Orsay, France

11:15 - **Radiation induced redox catalysis on naked metallic particles**
Dan Meisel, University of Notre Dame, Notre Dame, USA

11:40 - **Charge transfer in molecular wires**
John Miller, Brookhaven National Laboratory, Upton, USA

S 25: **Pathways Impacting Radiation-Induced Cell Death**
Salons 10, 11 Yerba Buena
Chairs: Michael Freeman**,** Vanderbilt University, Nashville, USA
Y-M Park**,** Roswell Park Cancer Institute, Buffalo, USA

10:00 - **Insights on cell death following radiation exposure**
Kathryn Held, Massachusetts General Hospital, Boston, USA

10:30 - **Prx 1 in radiation-induced cell death**
Young-Mee Park, Roswell Park Cancer Institute, Buffalo, USA

11:00 - **Insights on cell death following radiation exposure**
Kevin Prise, Queen's University, Belfast, UK

11:30 - **Regulation of radiation-induced cell death by PKC-delta**
Yun-Sil Lee, Korea Institute of Radiological & Medical Sciences, Seoul, Korea

---

S 26: **RRS Presidential Symposium: The Tumor Microenvironment, Immunity, and Radiation**
Salon 8 Yerba Buena
Chair: William McBride, University of California, Los Angeles, Los Angeles, USA

10:00 - **Immune cells in the tumor microenvironment: friend or foe?**
Theresa Whiteside, University of Pittsburg, Pittsburg, USA

10:30 - **Irradiated tumors recruit immune cells**
Sandra Demaria, New York University, New York, USA

11:00 - **Radiation and immunity in the tumor microenvironment: role of cytokines**
Edith Lord, University of Rochester, Rochester, New York, USA

11:30 - **Radiation affects on the composition and function of immune cells within the tumor microenvironment**
William McBride, University of California, Los Angeles, Los Angeles, USA

S 27: **Approaching the Holy Grail: Predicting Normal Tissue Sensitivity**
Salons 1, 2, 3 Yerba Buena
Chair: Lester Peters, Peter MacCallum Cancer Institute, Melbourne, Australia

Introduction
Lester Peters, Peter MacCallum Cancer Institute, Melbourne, Australia

10:00 - **Can individual risk of adverse radiotherapy effects be predicted from genetic profiles?**
Christian Andreassen, Aarhus University Hospital, Aahus, Denmark

10:30 - **Need for large bio/outcome databanks to predict normal tissue radiosensitivity - the GENEPI-ENTB project**
Tobias Holscher, University of Dresden, Dresden, Germany

11:00 - **Multiple genetic variants associated with risk for adverse skin reactions following radiotherapy in breast cancer patients**
Takashi Imai, National Institute of Radiological Sciences, Chiba, Japan

11:30 - **Screening radiosensitive patients cells for functional defects**
Michael McKay, Peter MacCallum Cancer Institute, Melbourne, Australia

---

S 28: **Normal Tissue Cells and Regenerative Medicine**
Salons 4, 5, 6 Yerba Buena
Chair: John R. Fike, University of California, San Francisco, San Francisco, USA

10:00 - **Hematopoietic stem cell survival after high-dose total body irradiation**
George Georges, Fred Hutchinson Cancer Research Center, Seattle, USA

10:30 - **Microenvironmental factors impact the radiation response of neural precursor cells**
John Fike, University of California, San Francisco, San Francisco, USA

11:00 - **Radiosensitivity of human epidermal stem cells**
Michelle Martin, Commissariat à l'Énergie Atomique, Evry, France

11:30 - **Ionizing irradiation effects on the stem cell microenvironment**
Joel Greenberger, University of Pittsburg, Pittsburg, USA

12:00pm – 1:00pm
Plenary Lecture

PL 4: **Systems biology applied to the DNA damage checkpoint**
Salon 9 Yerba Buena
Stephen J. Elledge, Harvard University, Boston, USA
Chair: Kathryn Held, Massachusetts General Hospital, Boston, USA

2:00pm - 4:00pm
Symposia

S 29: **Microbeam Facilities for Low Dose and Low Dose Rate Investigations**
Salon 15 Yerba Buena
Chairs: Silvia Gerardi, INFN, Padova, Italy
Melvyn Folkard, Gray Cancer Institute, Northwood, UK

2:00 - **Electron microbeam studies of radiation induced bystander effects and adaptive responses**
Marianne Sowa, Pacific Northwest National Laboratory, Richland, USA

2:30 - **Photon microbeam**
Melvyn Folkard, Gray Cancer Institute, Northwood, UK

3:00 - **Imaging modes with the Columbia University microbeam**
Alan Bigelow, Columbia University, New York, USA

3:30 - **Ion microbeam**
Silvia Gerardi, INFN, Padova, Italy

S 30: **Industry/Academic Collaborations: The Ins and Outs**
Salons 1, 2, 3 Yerba Buena
Chairs: Robert Sutherland, Varian Biosynergy, Mountain View, USA
Robert Radinsky, Amgen, Thousand Oaks, USA

2:00 - **Technology transfer in academia**
Ken Porter, University of Colorado, Boulder, USA

2:30 - **Medical device industry perspective on collaborations with academia**
Richard Morse, Calypso Medical Technologies, Seattle, USA

3:00 - **Pharmaceutical industry perspective on collaborations with academia**
Dai Chaplin, Oxigene, Oxford, UK

3:30 - **NCI's commitment to translational research**
Ernest Hawk, National Institutes of Health, Bethesda, USA

S 31: **Cutting Edge Mitigation Treatments**
Salon 8 Yerba Buena
Chairs: Jacqueline Williams, University of Rochester, Rochester, USA
Chris Kalman, Astley Ainslie Hospital, Edinburgh, UK

Introduction
Shigenobu Nagataki, Japan Radioisotope Association, Tokyo, Japan

2:00 - **Advances in the treatment of whole body irradiation**
Patrick Gourmelon, Institut de Radioprotection et de Sûreté Nucléaire, Fontenay aux Roses, France

2:30 - **Eating your way out of radiation late effects injury**
Jennifer Lemon, McMaster University, Hamilton, Canada

3:00 - **New aspects in pathophysiology and treatments following radiation exposure**
Viktor Meineke, Federal Armed Forces Medical Academy, Munich, Germany

3:30 - **Cytokines and radiation treatment: mitigators or mitigating targets?**
Jacqueline Williams, University of Rochester, Rochester, USA

S 32: **Space Radiation: What We Know and What We Need to Know**
Salons 10, 11 Yerba Buena
Chairs: Francis Cucinotta, NASA, Johnson Space Center, Houston, USA
Amy Kronenberg, Lawrence Berkeley National Laboratory, Berkeley, USA

2:00 - **DNA radical signatures of heavy ion track structure**
Mike Sevilla, Oakland University, Rochester, USA

2:30 - **DNA damage and repair in mammalian cells following exposure to heavy ions in the presence or absence of shielding**
Antonella Tabocchini, Instituto Superiore di Sanita, Rome, Italy

3:00 - **Charged particle-induced mutagensis and genomic instability in vitro and vivo**
Amy Kronenberg, Lawrence Berkeley National Laboratory, Berkeley, USA

3:30 - **Charged particle radiation effects in neural cells and tissues**
Charles Limoli, University of California, Irvine, Irvine, USA

2:00pm - 4:00pm
Workshops

W 4: **Use of Gene Expression to Predict Response in the Clinic**
Salon 7 Yerba Buena
Chairs: Adrian C. Begg, Netherlands Cancer Institute, Amsterdam, The Netherlands
Sally Amundson, Columbia University, New York, USA

W 5: **Temporal Dynamics of DNA Damage Response in Mammalian Cells**
Salons 4, 5, 6 Yerba Buena
Chairs: David Chen, University of Texas Southwestern, Dallas, USA
Michael Weinfeld, Cross Cancer Institute, Edmonton, Canada

W 6: **Controversies and Issues in Radiation Cytogenetics**
Salons 12, 13 Yerba Buena
Chairs: Joel Bedford, Colorado State University, Fort Collins, USA
Michael Cornforth, University of Texas Medical Branch, Galveston, USA

4:00pm
Poster Session 3

5:45pm - 6:30pm
Bacq & Alex Award Lecture (ERRS)
Salon 9 Yerba Buena

From "DNA depolymerization" to systems radiobiology - evolution of the concept of intrinsic radiation sensitivity
Irena Szumiel, Institute of Nuclear Chemistry & Technology, Warsaw, Poland

---

6:30pm - 7:15pm
Gray Medal Lecture (ICRU)
Salon 9 Yerba Buena

Some characteristics of biological damage induced by ionizing radiations
Eric Hall, Columbia University, New York, USA

7:30pm
Awards Reception
San Francisco Museum of Modern Art

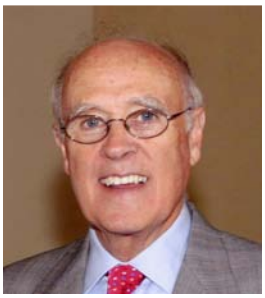
ERRS Bacq and Alexander Award

The Bacq and Alexander Award was established by the European Radiation Research Society in 1996 to honor an outstanding European researcher in the field of radiation research. It honors the memory of Professors Zenon Bacq and Peter Alexander who performed pioneering studies of basic radiobiology and of sulfhydryl containing radioprotectors in the 1950's and 1960's. Their classic textbook graced the bookshelves of most young radiation investigators for many years.

This year's recipient of the award is Professor Irena Szumiel of Institute of Nuclear Chemistry and Technology, Warsaw, Poland. She is honored for her work on the mechanisms of the effects of radiation, particularly the influence of iron and copper ions in the Fenton reaction that generates OH radicals and the role of cellular signaling involving calcium ions and protein kinase C activity in the development of the adaptive response. She started her scientific career as biochemist at the Warsaw University where she obtained her PhD degree in 1965.

Professor Szumiel obtained her DSc degree in 1978; she is author or co-author of 117 peer-reviewed papers and numerous review papers in Polish journals. She has obtained two awards from the National Council for Atomic Energy for studies in the field of radiobiology and five awards from the Polish Association for Radiation Research for studies in the field of cellular radiobiology. Other honors include the Maria Sklodowska-Curie medal from the Polish Radiation Research Society and the Hanns Langendorff medal from the German Radiation Protection Medical Association.

ICRU Gray Medal



The Gray Medal was established in 1967 by the International Commission on Radiation Units and Measurements (ICRU) to honor a scientist who has made outstanding contributions to basic or applied radiation sciences of interest to the ICRU. It honors the late Louis Harold (Hal) Gray, former member and Vice-Chairman of the Commission and a pioneer in experimental radiotherapy especially of the relevance of the oxygen effect.

Profesor Eric J. Hall, this year's recipient of the Gray Medal, is honored for his many contributions to the field of applied radiation sciences particularly for his pioneering work on radiation carcinogenesis and risk estimation from the medical use of radiation. Prof. Hall is The Higgins Professor of Radiation Biophysics at Columbia University, Professor of Radiology and Radiation Oncology and Director of The Center for Radiological Research.

He has been in New York for over 35 years, after receiving his doctorate in radiobiology from Oxford University in the U.K. He has received more than 30 honors and awards, from societies in the U.S. and the U.K. including gold medals from ASTRO and RSNA, the Janeway Medal from The American Radium Society the Failla Award from the Radiation Research Society and the Kaplan Award of the IARR. Eric is an honorary fellow of both the American College of Radiology and The Royal College of Radiology, an honor conferred on few laboratory scientists. He is also a Fellow of ASTRO and the Society of Radiological Protection.

Eric is the author of over 370 publications in peer-reviewed journals and has authored or co-authored four books, one of which, Radiobiology for the Radiologist, is the definitive text for students of radiation biology and is in its 6th edition. He is past president of the Radiation Research Society, the American Radium Society and the International Association for Radiation Research.

Poster Session 3

PS3.1 - Biodosimetry 3

PS3001 **- Operational issues influencing dose assessment by the dicentric assay: The effect of blood transport temperature and cell culture type**
Maria Moroni.

PS3002 - **Clonal structure of human lymphocyte pool predicts frequent presence of normal clones: Possible impact on cytogenetic biodosimetry several decades after radiation exposure for retrospective biodosimetry**
Yoshiaki Kodama, Mimako Nakano, Kazuo Ohtaki, Asao Noda, Nori Nakamura.

PS3003 - **Chromosome aberrations in the progeny of human lymphocytes exposed to energetic heavy ions**
Kerry George, Marco Durante, Todd Elliott, Francis Cucinotta.

PS3004 - **Variable sensitivity of chromosomes 2, 8 and 14 in human peripheral blood lymphocytes exposed to 480 MeV/n ^{12}C-IONS**
Marta Deperas-Kaminska, Gennady N. Timoshenko, Eugene A. Krasavin, Andrzej Wojcik.

PS3005 - **Chronological changes of chromosomal translocation rates in spleen cells from mice continuously exposed to low dose-rate gamma-rays**
Atsushi Kohda, Takuo Toyokawa, Kazuaki Ichinoh, Yoichi Oghiso, Kimio Tanaka.

PS3006 - **Experience with biological dosimetry**
Horst Romm, Ursula Oestreicher.

PS3007 - **Micronucleus (MN) versus nucleoplasmic bridge (NPB) assessment for radiation biodosimetry in human lymphocytes**
Irena A. Nowak, Ollivier Hyrien, Yuhchyau Chen.

PS3008 - **Optimizing cytogenetic analysis for radiation-induced chromosomal aberration in C57Bl/6 mice**
Ying Tsai, Catherine Ferrarotto, Nancy Wang, Ruth Wilkins, Yuhchyau Chen.

PS3009 - **Relative biological effectiveness of low energy alpha particles in the survival of V79 hamster cells**
Bliss L. Tracy, Mark A. Hill, David L. Stevens, Dudley T. Goodhead.

PS3010 - **Comparison of BAC FISH with specific telomeres and centromere probes and chromosome painting on detection of radiation induced chromosome translocation and dose reconstruction**
Qing-Jie Liu, Xue Lu, Xiao-Wei Wang, Jiang-Bin Feng, Xiao-Ning Chen, Julie R. Korenberg, De-Qing Chen.

PS3.2 - Bystander Effects 3

PS3011 - **Radiation-induced chromosome instability and bystander effect in human peripheral blood lymphocytes in delayed terms following Chernobyl accident**
Maria A. Pilinskaya, Sergey S. Dibskiy, Olena W. Shemetun, Yelena B. Dibskaya, Oksana A. Talan, Ludmila R. Pedan.

PS3012 - **Radiation induced bystander studies in human prostate tumor cells**
Vered Anzenberg, Jeffrey A. Coderre.

PS3013 - **Radiation-quality dependence of genomic instability in mutation induced by the pre-treatment with low-fluence heavy ions**
Masao Suzuki, Chizuru Tsuruoka, Yukio Uchihori, Hisashi Kitamura.

PS3014 - **Analysis of heavy-ion induced bystander effect using microbeam irradiation**
Tomoo Funayama, Seiichi Wada, Takehiko Kakizaki, Nobuyuki Hamada, Yuichiro Yokota, Tetsuya Sakashita, Yasuhiko Kobayash.

PS3015 - **New in vitro micronucleus assay to investigate bystander effect in artificial human 3D tissue system following low LET irradiation**
Giuseppe Schettino, David J. Brenner.

PS3016 - **Cellular response in imrt: three types of bystander effects**
Natalka Suchowerska.

PS3017 - **How do experimental conditions and radiation affect cytokine signals?**
Angelica Facoetti, Daniele Alloni, Francesca Ballarini, Andrea Mairani, Luca Mariotti, Rosanna Nano, Andrea Ottolenghi.

PS3018 - **Initiation and manifestation of genomic instability in irradiated and bystander populations**
Ryonfa Lee, James W. Kelly, Kim L. Chapman, Munira A. Kadhim.

PS3019 - **Study on bystander cell death inV79 cells using SR X-ray microbeam**
Munetoshi Maeda, Masanori Tomita, Noriko Usami, Katsumi Kobayashi.

PS3020 - **Low dose radiation-induced bystander effects in the spleen**
Benjamin J. Blyth, Edouard I. Azzam, Roger W. Howell, Pamela J. Sykes.

PS3021 - **Bystander response in human lymphocytes and leukemic cells by irradiated conditioned medium from human leukemic cells exposed to low and high dose of gamma radiation**
Badri N. Pandey, Amit Kumar, Lori Rastogi, Kaushala P. Mishra.

PS3022 - **Bystander effect in normal human fibroblast cells induced by very low-doses of X-ray irradiation**
Mitsuaki Ojima, Nobuhiko Ban, Michiaki Kai.

PS3.3 - Cell Behavior/Stem Cells 3

PS3023 - **Biochemical regularities of post-radiation recovery in animal spermatozoa**
Kateryna Andreychenko, Alla Klepko, Nataliya Nurischenko.

PS3024 - **Cranial irradiation as a non-invasive tool to specifically alter adult hippocampal neurogenesis and induce hippocampal-dependent cognitive deficits**
Nada Ben Abdallah, Robert K. Filipkowski, Piotr Jaholkowski, Leszek Kaczmarek, Martin Pruschy, Lutz Slomianka, Hans-Peter Lipp.

PS3025 - **X-ray sensitivity of endothelial stem/progenitor cells does not correlate with induction of apoptosis or absence of checkpoints**
Marc S. Mendonca, Helen Chin-Sinex, Ryan Dhaemers, Laura Mead, Merv C. Yoder, David A. Ingram.

PS3026 - **Effect of irradiation on labeling retaining cell population of the mouse mammary gland**
Irineu Illa Bochaca, Rodrigo Fernandez-Gonzalez, Markus C. Fleisch, Mary Helen Barcellos-Hoff.

PS3027 - **Application of flow cytometry for the assessment of spermatozoid quality after ionizing irradiation**
Denys Vatlitsov, Ksenia Igrunova, Sergiy Andreychenko.

PS3028 - **Comparison of radiation sensitivity of rat respiratory tract epithelial cells**
Yutaka Yamada, Akifumi Nakata, Yoshiya Shimada.

PS3029 - **Effect of ionizing radiation on differentiation of human embryonic stem cells in culture**
Irina V. Panyutin, Eleanore J. Chuang, Igor G. Panyutin, Ronald D. Neumann.

PS3030 - **Intraesophageal manganese superoxide dismutase plasmid/liposome (MnSOD-PL) administration before irradiation increases engraftment of intraveneously injected esophageal stem cells**
Yunyun Niu, Michael W. Epperly, Hongmei Shen, Joel Greenberger.

PS3031 - **A single dose of gamma or proton radiation rapidly compromises skeletal structure of adult mice**
Hisataka Kondo, Jonathan Phillips, Charles L. Limoli, Eduardo A.C. Almeida, David John Loftus, Wenonah Vercoutere, Emily Morey-Holton, Rose Mojarrab, Munroop K. Atwal, Ruth K. Globus, Nancy D. Searby.

PS3032 - **Impact of ^{56}Fe ion radiation on human neural stem cell differentiation**
Yongjia Yu, Yuanyuan Gao, Ping Wu.

PS3033 - **Valproic Acid significantly radiosensitzes MCF-7 cells in 2D, adherent clonogenic assays, but does not radiosensitize MCF-7 cells**

grown in 3D, self-renewing non-adherent mammosphere culture
Wendy A. Woodward, Jessica Li Li.

PS3034 - **Accumulation and persistence of mutations induced in somatic stem cells of mice during irradiation with low dose-rate gamma rays for 483 days**
Kazuo Fujikawa, Nao Kagawa, Tetsuya Ono, Isamu Hayata.

PS3035 - **Low dose irradiation inhibits BMP-induced osteodifferentiation with low LET X-rays and high LET ^{56}Fe-HZE particles**
Paban K. Agrawala, Xinhua Lin, Louis A. Pena.

PS3.4 - Clinical Therapeutic Radiobiology 3

PS3036 - **Systolic blood pressure and systolic hypertension in adolescence of in utero exposed atomic-bomb survivors**
Eiji Nakashima, Masazumi Akahoshi, Kazuo Neriishi, Saeko Fujiwara.

PS3037 - **Radiation effects on noncancer diseases among the prenatally exposed atomic bomb survivors**
Yoshimi Tatsukawa, Eiji Nakashima, Michiko Yamada, Sachiyo Funamoto, Masazumi Akahoshi, Saeko Fujiwara.

PS3038 - **A review of epidemiological associations between low and moderate doses of ionizing radiation and late cardiovascular effects, and their possible mechanisms**
Mark P. Little, E Janet Tawn, Ioanna Tzoulaki, Richard Wakeford, Guido Hildebrandt, Francois Paris, Paul Elliott.

PS3039 - **Relationship between radiation exposure and age at menopause**
Ritsu Sakata, Yukiko Shimizu, Nobuo Nishi, Hiromi Sugiyama, Fumiyoshi Kasagi, Hiroko Moriwaki, Mikiko Hayashi, Manami Konda, Midori Soda, Akihiko Suyama, Kazunori Kodama.

PS3040 - **Circulatory disease mortality in atomic bomb survivors, 1950-2003**
Yukiko Shimizu, Kazunori Kodama, Nobuo Nishi, Fumiyoshi Kasagi, Akihiko Suyama, Midori Soda, Hiromi Sugiyama, Ritu Sakata, Hiroko Moriwaki, Mikiko Hayashi, Manami Konda, Roy Shore.

PS3041 - **Therapeutic advantage of GRID therapy for a single high dose fraction using a multileaf collimator**
Kai Dou, John Ashburn, Prakash Aryal, Ellis Lee Johnson, Robert Zwicker.

PS3042 - **Cancer cure for a common man: experiences in delivering radiation treatment in rural India**
Mudundi R. Raju.

PS3043 - **Mathematical modeling of breast irradiation protocols - treatment success and failure**

Heiko Enderling, Alexander R. Anderson, Mark A. Chaplain, Jayant S. Vaidya, Lynn Hlatky, Philip Hahnfeldt.

PS3044 - **Pulsed dose rate brachytherapy for carcinoma of cervix: experience at our institute**
DN Sharma, GK Rath.

PS3045 - **Stationary magnetic filed from MRI: A study on the exposed subjects**
Arnav Bhatia, Alka Kuma, Atul Kumar.

PS3046 - **A unified framework for biologically conformal radiation therapy (BCRT) treatment planning**
Yong Yang, **Lei Xing**.

PS3.5 - DNA Damage 3

PS3047 - **Analysis of differential transcriptional and proteome response of human lung derived cells exposed to single and multiple doses of gamma-rays**
Daniela Trani, Marco Cassone, Chiara Lucchetti, Marco Durante, Mario Caputi, Antonio Giordano.

PS3048 - **Study for genetic effects of atomic-bomb radiation by using of a DNA microarray-based comparative genomic hybridization (array-CGH) method**
Norio Takahashi, Yasunari Satoh, Keiko Sasaki, Mieko Kodaira, Yoshiaki Kodama, Keiko Sugita, Naohiro Tsuyama, Hiroaki Katayama.

PS3049 - **Systemic effects of low-dose and low-dose-rate irradiation in C57BL/6 mice**
Hee-sun Kim, Seung-yeon Song, Suk-chul Shin, Shin-hye Oh, Cha-soon Kim, Meeseon Jeong, Kwang-hee Yang, Seon-yong Nam, Ji-young Kim, Chong-soon Kim.

PS3050 - **Polymorphisms in XRCC1 and XRCC3 genes as predictors of individual radiosensitivity**
Selena Palma, Tommaso Cornetta, Renata Cozzi, Tommaso Poggioli, Donatella Tirindelli, Antonella Testa.

PS3051 - **Combined effects of ionizing radiation and cadmium ions on DNA damage and gene expression in cultured medaka fish cells**
Dmytro Grygoryev, Oleksandr Moskalenko, John Zimbrick.

PS3052 - **Effects of gamma irradiation on the viability of *Cryptosporidium parvum* measured by real-time PCR**
Mikyo Joung, Sooung Lee, Woo-Yoon Park, **Jae-Ran Yu**.

PS3053 - **Genomic instability induced in the descendants of normal human fibroblasts surviving heavy-ion irradiation**
Nobuyuki Hamada, Takamitsu Hara, Tetsuya Sakashita, Tomoo Funayama, Sakura Sora, Yasuhiko Kobayashi.

PS3054 - **Analysis of Common Deletion (CD) and a novel deletion of**

mitochondrial DNA induced by ionizing radiation
Ai Kurihara, Lu Wang, Yoshikazu Kuwahara, Taisuke Baba, Koji Ono, Manabu Fukumoto.

PS3055 - **Chromosome model reveals dynamic redistribution of DNA damage into nuclear sub-domains**
Sylvain V. Costes, Artem L. Ponomarev, James Chen, Francis A. Cucinotta, Mary Helen Barcellos-Hoff.

PS3056 - **Reproductive and genetic toxicity in male mice after chronic oral exposure to low level of depleted uranium**
Rong Li, Yanbing Leng, Yongping Su.

PS3057 - **Cytogenetic instability in peripheral blood T lymphocytes cultured in vitro from A-bomb survivors**
Kanya Hamasaki, Yoshiaki Kodama, Yoichiro Kusunoki, Eiji Nakashima, Norio Takahashi, Nori Nakamura, Kei Nakachi.

PS3058 - **Permissible dose limit based on the analysis of stable chromosome aberrations in the lymphocytes**
Isamu Hayata.

PS3059 - **Effect of smoking reflected in the stable chromosome aberrations in the lymphocytes of the residents in the areas exposed to different environmental mutagens including radiation**
Wei Zhang, Chunyan Wang, Masako Minamihisamatsu, Luxin Wei, Tsutomu Sugahara, Isamu Hayata.

PS3060 - **Stable chromosome aberrations in the lymphocytes of the residents in different areas: A large city, and a high background radiation area and its control area in China**
Chunyan Wang, Wei Zhang, Masako Minamihisamatsu, Luxin Wei, Tsutomu Sugahara, Isamu Hayata.

PS3061 - **Transmission of genomic instability from a single irradiated human chromosome to the progeny of unirradiated cells**
Seiji Kodama, Naoki Mukaida, Hisakatsu Nawata, Kentaro Ariyoshi, Sanae Watanabe, Kazunori Shiraishi, Keiji Suzuki, Mitsuo Oshimura, Masami Watanabe.

PS3062 - **LET and ion-species dependence for cell-killing effect, mutation induction and chromosome aberration in normal human fibroblasts**
Tsuruoka Chizuru, Suzuki Masao, Furusawa Yoshiya, Okayasu Ryuichi, Anzai Kazunori.

PS3063 - **Long term transmissibility and stability of chromosome rearrangements in human cells exposed to ionizing radiation**
Richard Eberle, Bradford Loucas, **Michael Cornforth**.

PS3064 - **Single break driven chromosome instability in human cells**
Laure M. Sabatier.

PS3065 - **Induction of genome aneuploidization and nuclear DNA loss in gamma-irradiated rat spermatozoa**
Veronika Bulavytska.

PS3066 - **Potential evidence of radiation-induced genomic instability under chronic radiation exposure in man**
Galina Veremeyeva, Tatyana Varfolomeyeva, Alexander Akleyev.

PS3067 - **Cell killing and genomic instability in mutation induction on long-term CHO cells cultures irradiated with 290MeV/u carbon ions**
Xiao Wang, Yoshiya Furusawa, Masao Suzuki, Ryoichi Hirayama, Yoshitaka Matsumoto, Ying Qin.

PS3068 - **M-BAND analysis of chromosome aberration in human epithelial cells exposed to γ-ray and secondary neutrons of low dose rate.**
Megumi Hada, Premkumar B. Saganti, Bradford Gersey, Richard Wilkins, Francis A. Cucinotta, Honglu Wu.

PS3069 - **Chromosomal aberrations in hypoxic cells with Cu-ATSM induced by Cu-K shell ionization**
Kaoru Takakura, Ayaka Shimmi, Yoshirou Kaji, Katsumi Kobayashi, Noriko Usami, Munetoshi Maeda, Yasuhisa Fujibayashi, Takako Furukawa, Hitoshi Imazeki, Hiroyuki Iso, Takahiro Ishikawa, Ryuichi Okayasu.

PS3070 - **Relative biological effectiveness of 30 kV x-rays for micro-nucleated reticulocyte induction in mice, *in vivo***
Lindsay Churchley, Jennifer Lemon, Fiona McNeill, Douglas Boreham.

PS3071 - **Genetic instability for Fruit Fly in the Terms of chronic irradiation**
Irene A. Kozeretskaya, Zhanna A. Omeltchenko, Alexandra P. Kravets.

PS3072 - **Distribution of micronuclei in human fibroblasts across the Bragg curve of light and heavy ions**
Megumi Hada, Shareen Lacy, Daila S. Gridley, Adam Rusek, Francis A. Cucinotta, Honglu Wu.

PS3073 - **Low-dose radioadaptive response of mouse blood and brain tissue to DNA damage**
Thomas Ernst Schmid, Francesco Marchetti, Sandhya Bhatnagar, Andrew Julius Wyrobek.

PS3.6 - DNA Repair 3

PS3074 - **Comparison of initial chromosome break repair in cells irradiated with high and low LET radiation**
Emiko Sekine, Maki Okada, Dong Yu, Miho Noguchi, Akira Fujimori, Ryuichi Okayasu.

PS3075 - **Mutagenic potential of clustered DNA damage site in *Escherichia coli***
Naoya Shikazono, Colin Pearson, John Thacker, Peter O'Neill.

PS3076 - **Generation and characterization of DNA double-strand break repair gene deficient human cell lines**
Masahiko Mori, Takanori Katsube, Naoko Shiomi, Tadahiro Shiomi, Makoto Onoda.

PS3077 - **Effect of thiol-antioxidants, selenium-antioxidants and p53 inhibitor on ionizing radiation induced micronucleus formation in human lymphocytes**
Prabha Tiwari, Balakrishnan Sreedevi, S Kannan, H. S. Kushwaha, Kaushala Prasad Mishra.

PS3078 - **Aneuploidy and G1 checkpoint activation in human cells with reduced homologous recombination activity**
Mari Katsura, Yoshitaka Tomoda, Kiyoshi Miyagawa.

PS3079 - **Response of human peripheral lymphocytes to DNA damage caused by fractionated irradiation *in vivo* an *in vitro***
Martina Rezacova, Jirina Vavrova, Doris Vokurkova, Emilie Lukasova, Karel Vodrazka.

PS3080 - **DSB repair kinetics after the exposure to high and low-LET conventional and microbeam radiation**
Rasa Ugenskiene, Kevin M. Prise, Melvyn Folkard, Janusz Lekki, Zbigniew Stachura, Wojciech M. Kwiatek, Monika Zazula, Jerzy Stachura.

PS3081 - **Mutation induction in mammalian cells by 30 kV X-rays**
Juergen Kiefer, Hermann Witzenberger.

PS3082 - **Role of DNA crosslinks and DNA monoadducts in the toxicity of the mitomycins to Fanconi anemia cells**
Sara Rockwell, Maureen Gilmore-Hebert, Yanfeng Liu, Maria Tomasz.

PS3083 - **Distinct temporal associations between human RAD51, RAD52, and BCCIP after ionizing radiation and replication fork stalling**
Justin W. Wray, Jingmei Liu, Jac Nickoloff, Zhiyuan Shen.

PS3084 - **Lysine63 poly-ubiquitination protects against endogenous mutations**
Chantal Ramaekers, Roland K. Chiu, Philippe Lambin, Bradly G. Wouters.

PS3085 - **Induction and processing of oxidative clustered DNA lesions in the human breast cell lines MCF-7, MCF-10A, and HCC1937**
Jessica M. Hair, Prakash Peddi, Dave Francisco, Brittany Flood, Angela Cecil, Alexandros Georgakilas.

PS3086 - **Low fluences of alpha particles do not induce SCE in cells defective in Rad51 paralogs**
Hatsumi Nagasawa, Paul F. Wilson, Yuanlin Peng, Y-C Lio, Nan Liu, Małgorzata Z. Zdzienicka, Larry H. Thompson, David J. Chen, Joel S. Bedford, John B. Little.

PS3087 - **Persistence of radiation-induced foci after exposure of proliferating human mammary epithelial cells to sparsely and densely ionizing radiation**
Torsten Groesser, Bahram Parvin, Sylvain V. Costes, Mary Helen Barcellos-Hoff, Bjorn Rydberg.

PS3088 - **P53 inhibits *in vitro* and *in vivo* double-strand break repair in the absence of serine 15-phosphorylation**
Peter Keng, Yi-Jang Lee, Dawn Mazzatti.
.

PS3089 - **Assessment of individual variation in DNA double-strand break repair capacity in human primary diploid fibroblasts**
Paul F. Wilson, Salustra S. Urbin, Peter B. Nham, Cynthia B. Thomas, John M. Hinz, Irene M. Jones, **Larry H. Thompson**.

PS3090 - **Relative biological efficiency for micro-nuclei induction after low doses of HZE Fe-ions, and the effect of polyethylene shielding**
Torsten Groesser, Eugene Chun, Mary Helen Barcellos-Hoff, **Bjorn Rydberg**.

PS3091 - **Changes in the distribution of human HAT1 after DNA damage**
Stefan T. Tafrov.

PS3092 - **Repair of strand breaks in *E. coli* by the *Mycobacterium tuberculosis* non-homologous end-joining proteins**
Douglas Wright, Svitlana Malyarchuk, Reneau Castore, Emily Klepper, Bernard Weiss, Aidan Doherty, Lynn Harrison.

PS3093 - **Characterization of radiobiological endpoints in cells from RI mice**
Guanxiong Xiao, Hatsumi Nagasawa, Simon D Bouffler, Natalie L Degg, Yuanlin Peng, F. Andrew Ray, Alexander C Roby, Robert I Ullrich, Joel S Bedford, Michael M Weil.

PS3094 - **Repair of dsb at a specific site of chromosome: influence of low-dose/low-dose-rate gamma-rays**
Fumio Yatagai, Masao Suzuki, Noriaki Ishioka, Hitoshi Ohmori, Masamitsu Honma.

PS3095 - **Human Rad54B associates with werner syndrome protein WRN**
Yoshitaka Tomoda, Mari Katsura, Kiyoshi Miyagawa.

PS3096 - **Cohesin and the repair of radiation-induced DNA double-strand breaks**
Christina Bauerschmidt, Cecilia Arrichiello, Michael Woodcock, David L. Stevens, Mark A. Hill, Susanne Burdak-Rothkamm, Kai Rothkamm.

PS3.7 - Experimental Therapeutics 3

PS3097 - **The role of MEF/ELF4 in potentially lethal damage repair**
Chris van Bree, Nicolaas A.P. Franken, Jan Paul Medema.

PS3098 - **Survivin-t34a and -d53a enhanced radiation-induced apoptosis through abrogation of interaction with smac/diablo**
Aki Ogura, Osamu Inanami, Daisuke Iizuka, Hironobu Yasui, Mikinori Kuwabara.

PS3099 - **In vitro and in vivo studies of atm roles on growth kinetics, ros level, and sldr and pldr ability of human glioma cells**
Chu-Chiao Wu, Chi-Shiun Chiang.

PS3100 - **Effect of the trifunctional antibody catumaxomab to human tumor cells (FaDu) in 3D spheroid co-cultures**
Franziska Wawrsinek, Tobias Leidig, Wolfgang Mueller-Klieser.

PS3101 - **AMP-activated protein kinase: a potential novel target for radiotherapy in prostate cancer**
Sofie Isebaert, Johan Swinnen, Annelies Debucquoy, Willy Landuyt, William H. McBride, Adrian Begg, Karin Haustermans.

PS3102 - **CI-1033, a pan-ErbB tyrosine kinase inhibitor, enhances the radiation response of human glioma cell lines**
Laurine E. Wedekind, M. Vincent.M. Lafleur, T. Rianne Stoter, Mark Luttjeboer, Peter Sminia, Ben J. Slotman, Gitta K. Kuipers.

PS3103 - **Radiosensitization effects of hsp27 gene silencing in different human tumor cells. *in vivo* validation on head and neck squamous carcinoma cells xenografted tumors**
Elie Hadchity, Marie-Thérèse Aloy, Patrice Jalade, Christian Paulin, André-Patrick Arrigo, Martin Gleave, Claire Rodriguez-Lafrasse.

PS3104 - **MicroRNAs and Radelegans: understanding the genetic basis of the radiation response**
Joanne B. Weidhaas, Imran Babar, Sunitha Nallur, Sarah Roush, Michelle Boehm, Erin Gillespie, Frank J. Slack.

PS3105 - **Experimental study on expression property of pEgr-p16 and its anti-tumor effects induced by ionizing irradiation**
Jianxiang Liu, Xu Su.

PS3106 - **High-LET radiation enhanced apoptosis but not necrosis regardless of *p53* status**
Akihisa Takahashi, Ken Ohnishi, Yoshiya Furusawa, Takeo Ohnishi.

PS3107 - **Significance of tumor heterogeneity in determining biological effectiveness of low and high LET radiation**
Koichi Ando, Sachiko Koike, Akiko Uzawa, Yoshiya Furusawa, Ryoichi Hirayama, Yoshitaka Matsumoto, Masahiko Watanabe.

PS3108 - **Normal tissue effect and growth delay of transplanted cancer in mice by synchrotron generated microplaner beam**
Yoshiya Furusawa, Masahiro Natsuhori, Arane Kasuya, Mitsunobu Muto, Toshifumi

Oyamada, Nobuhiko Ito, Naoto Yagi, Masami Torikoshi, Ymiko Ohno, Masao Suzuki, Akiko Uzawa.

PS3109 - **Cellular sensitivity and *p53*-independent apoptosis on human gingival cancer cells by heavy-ion beams**
Nobuhiro Yamakawa, Akihisa Takahashi, Ken Ohnishi, Yoshiya Furusawa, Takeo Ohnishi.

PS3110 - ***p53*-dependent regulation of induction of angiogenic regulatory factors by ion beam irradiation *in vitro***
Masanori Hatashita, Keiichi Takagi, Kyo Kume, Shigekazu Fukuda, Sachiko Hayashi, Hideki Matsumoto.

PS3111 - **Smac gene enhances the bio-effect of EJ cells induced by $^{12}C^{6+}$ ions irradiation**
Zhao Baofeng, Tian Mei, Ruan Jianlei, Su Xu.

PS3112 - **Protein expression profiles by radiation in a rat cirrhotic model**
Sookin Chung.

PS3113 - **Microarray analysis of radiation-induced genes in PC3 and DU 145 cells after single (10 Gy) and fractionated (1 Gy and 2 Gy) dose irradiation**
Molykutty J. Aryankalayil, Sanjeewani T. Palayoor, David Cerna, Mike Falduto, Scott Magnuson, Norman Coleman.

PS3114 - **Biophysical calculations of cell killing probability by the MK model and the LE model for heavy-ion beams**
Yuki Kase, Tatsuaki Kanai, Naruhiro Matsufuji, Yoshiya Furusawa, Thilo Elsaässer, Michael Scholz.

PS3115 - **Absorbed dose calculations predict therapeutic response in sodium iodide symporter expressing tumors**
Kimberly J. Krager, Andrew W. Gaut, Mark T. Madsen, Richard D. Hichwa, Michael M. Graham, Frederick E. Domann.

PS3.8 - Physics/Chemistry 3

PS3116 - **Enhancement of DNA damage in ion beam radiotherapy through use of heavy atom doping**
Jean A. Wyer, V Senthil, Karl Butterworth, Shane W. J. Scully, Colin J. Latimer, Fred Currell, David Hirst, Dolan F. Byrne, Robert J. Pollard, Mansukh B. Shah.

PS3117 - **Specialties of animal reproduction under x-rays irradiation**
Olga Petrova, Sergiy Andreychenko.

PS3118 - **Secondary neutron production from patients during therapy with hadrons: are there potential risks**
Anwar M. Chaudhri.

PS3119 - **Photochemistry of the III generation photosenisitizers and Raman spectroscopy for breast cancer diagnosis**

Halina Abramczyk, B. Brozek-Pluska, K. Kurczewski,. Kurczewska, P. Ciacka, M. Tazbir, Z. Morawiec, P. Wozniak, J. Parulski.

PS3120 - **Increased mercury release from dental amalgam restorations after exposure to microwave radiation emitted from mobile phones**
Seyed Mohammad Javad Mortazavi, Elham Daiee.

PS3121 - **Individual doses incurred from 1986 to 2006 by personnel of the health care units of the Ministry of National Defence and the Ministry of Interior and Administration in Poland.**
Agnieszka Kowalska, Jaroslaw Jazwinski, Marek K. Janiak.

PS3.9 - Radiation Carcinogenesis 3

PS3122 - **Secondary cancers after fractionated radiotherapy: stochastic population dynamics effects**
Rainer K. Sachs, David J. Brenner, Igor Shuryak, Hatim Fakir, Lynn Hlatky, Philip Hahnfeldt.

PS3123 - **Preliminary evidence for a dose-rate-dependent threshold for low dose suppression of low-LET radiation-induced neoplastic transformation in vitro**
J. Leslie Redpath, Xiaoyan Lao, Rubena Kapadia, Eric Giedzinski, Charles Limoli, Eugene Elmore.

PS3124 - **The biophysical model for risk extrapolation needs modification**
Antone L. Brooks.

PS3125 - **Lung cancer risk of Mayak workers: Modelling of carcinogenesis and the bystander effect**
Peter Jacob, Reinhard Meckbach, Mikhail Sokolnikov, Viktor V. Khokhryakov, Evgeni Vasilenko.

PS3126 - **Two-stage carcinogenesis modeling: acute myeloid leukemia induced by X-rays and neutrons in mice**
Fieke Dekkers, Harmen Bijwaard.

PS3127 - **Theoretical approaches to cancer risk estimation**
Philip Hahnfeldt, Rainer K. Sachs, Lynn Hlatky.

PS3128 - **Verification of cancer induction model based on rat skin irradiations with different LET values**
Fredric J. Burns, Krystyna Frenkel, Moon-shong Tang, Arthur Nadas, Feng Wu, Ronghe Zhang.

PS3129 - **Effects of oxidative metabolism on carcinogenesis *in vitro***
Hanako Yoshii, Masami Watanabe.
.

PS3130 - **A novel phenomenon "delayed division delay": evidence for delayed dna double-strand break and rejoining in the clonogenic progeny of cells surviving alpha or x irradiation**
Hiroshi Sasaki.

PS3131 - **Persistent phenotypic responses of human mammary epithelial cells induced by sparsely and densely ionizing radiation**
P. Kumari L. Andarawewa, Sylvain Costes, William S. Chou, Mary Helen Barcellos-Hoff.

PS3132 - **Determination of individuals sensitive to ionizing radiation on the base of cytogenetic examinations**
Emiliya Dyomina, Natalia Ryabchenko.

PS3133 - **Investigation of hot-spots associated with elements in the breakpoint cluster regions surrounding spi.1 gene deletions on chromosome 2 in radiation-induced aml in cba mice**
David G. Maranon, Michael M. Weil, Susan M. Bailey, Maria C. Muhlmann, Joel S. Bedford.

PS3134 - **Hydrogen peroxide mediates persistent radiation-induced genomic instability**
Disha Dayal, Sean M. Martin, Charles L. Limoli, Douglas R. Spitz.

PS3135 - **Hrad9 gene expression associated with prostate cancer**
Aiping Zhu, Xia Zhang, Xiangyuan Wang, Harshwardhan M. Thaker, Mahesh M. Mansukhani, Howard B. Lieberman.

PS3136 - **The "Cosmic Silence" experiment: on the potential adaptive role of environmental background radiation**
Massimo Pinto, Francesca Antonelli, Fernanda Amicarelli, Marco Balata, Mauro Belli, Maria Cristina Carbone, Anna Maria Cimini, Laura Conti Devirgilis, Luca Ioannucci, Stefano Nisi, Orazio Sapora, Luigi Satta, Giustina Simone, Eugenio Sorrentino, Maria Antonella Tabocchini.

PS3137 - **Proteomic analysis of low dose arsenic and ionizing radiation exposure on keratinocytes**
Susanne R. Berglund, Alison R. Santana, Dan Li, David M. Rocke, Zelanna Goldberg.

PS3138 - **Patched1 and DNA-repair deficiencies in radiation induced cerebellar tumors**
Simonetta Pazzaglia, Mirella Tanori, Emanuela Pasquali, Mariateresa Mancuso, Simona Leonardi, Simonetta Rebessi, Vincenzo Di Majo, Roland Kanaar, Leon HF Mullenders, Anna Saran.

PS3139 - **Epigenetic signature of radiation exposure in the male germline**
Jan Tamminga, Olga Kovalchuk.

PS3140 - **Differential effects of low and high dose ionizing radiation on gene networks and pathways in human epithelial cells**
Sanchita Bhattacharya, L Ding, Mary Helen Barcellos-Hoff, AJ Wyrobek.

PS3.10 - Radioprotectors/Mitigators 3

PS3141 - **Effect of metalloporphyrin antioxidant to reduce the radiation**

population damage in rat retinal following proton irradiation: A pilot study
Xiao Wen Mao, Tsehay Mckomen, Nathan Lindsay, James Crapo, John Archambeau.

PS3142 - **Radiation-induced injury localized to the rat lung: changes in pulmonary function**
Swarajit N. Ghosh, Marylou L. Mäder, John E. Moulder, Elizabeth R. Jacobs, Timothy Lowry, Meetha Medhora.

PS3143 - **Evaluation of the radioprotective effects of genistein: survival, hematology, cytokines, and behavior**
M R. Landauer, V Srinivasan, V K. Singh, M H. Whitnall, T A. Davis, S R. Mog.

PS3144 - **Small molecule inhibitors of glycogen synthase kinase-3 beta modulate radioprotection in developing hippocampus**
Dinesh Kumar Thotala, Dennis E. Hallahan, Eugenia M. Yazlovitskaya.

PS3145 - **Radioprotection of normal lung tissue by two manganese porphyrin superoxide dismutase mimics**
Benjamin M. Gauter-Fleckenstein, Katharina C. Fleckenstein, Zahid N. Rabbani, Ines Batinic-Haberle, Zeljko Vujaskovic.

PS3146 - **LPS pretreatment changes the activation of irradiation response pathways in small intestinal crypt cells**
Fengchao Wang, Yongping Su, Yu Ning, Junping Wang, Xinze Ran.

PS3147 - **EsA protects the lung against radiation-induced peumonitis and fibrosis**
Shanmin Yang, Hengshan Zhang, Wei Wang, Weimin Sun, Mei Zhang, Chaomei Liu, Yanghua Yi, Zhenyu Xiao, Paul Okunieff, Lurong Zhang.

PS3148 - **Radioprotective effects of ginsenoside rg1 on intestinal epithelial cells *in vitro* and *in vivo***
Xing Cui, Makoto Akashi.

PS3149 - **A gastrointestinal radioprotector, FGF-P, normalizes circulating digestive protein levels after radiation**
Mei Zhang, Weimin Sun, Louis Pena, Jianjun Wang, Shanmin Yang, Hengshan Zhang, Wei Wang, Chaomei Liu, Steven Swarts, Paul Okunieff, Lurong Zhang.

PS3150 - **Mitigation and Treatment of Radiation-Induced Lung Damage by Genistein**
Andrea Para, Victoria Calveley, Aimee Langan, Ivan Yeung, Jake Van Dyk, Richard P. Hill.

PS3151 - **Induction of manganese superoxide dismutase (SOD2) activity in normal and tumor tissues by amifostine**
Jeffrey S. Murley, Yasushi Kataoka, Kenneth L. Baker, Mitchell C. Coleman, Douglas R. Spitz, David J. Grdina.

PS3152 - **Mitigation of radiation-induced skin injury by AAV2-mediated MnSOD gene therapy**
Shiqing Yan, Stephen L. Brown, Andrew Kolozsvary, Svend O. Freytag, Jae Ho Kim.

PS3153 - **Does total body irradiation result in chronic oxidative stress in normal kidney?**
Marek Lenarczyk, Mukut Sharma, Brian L. Fish, Marcus A. Crosby, John E. Moulder.

PS3154 - **Gene transfer of the multi-drug resistance 1 (MDR1) and manganese superoxide-dismutase (MnSOD) gene confers radioprotection on normal tissue cells**
Frederik Wenz, Marlon R. Veldwijk, Patrick Maier, Katharina Fleckenstein, Stefanie Laufs, Wolfgang J. Zeller, Stefan Fruehauf, Carsten Herskind.

PS3155 - **Absence of delayed negative sequelae in manganese superoxide dismutase-plasmid liposome intravenously treated protected survivors of total body irradiation**
Joel S. Greenberger, Tracy Smith, James J. Schlesselman, Michael W. Epperly.

PS3156 - **Radioprotection of protein by manganese (II)**
Elena K. Gaidamakova, Vera Y. Matrosova, Min Zhai, Michael J. Daly.

PS3157 - **Minicircle Plasmid delivery of the human manganese superoxide dismutase (MnSOD) transgene confers radioprotection to 32Dcl3 hematopoietic progenitor cells in vivo**
Xichen Zhang, Michael W. Epperly, Mark A. Kay, Zhi-Ying Chen, Tracy Smith, Darcy Franicola, Joel S. Greenberger.

PS3158 - **Radiation countermeasure efficacy of superoxide dismutase (SOD)/catalase (CAT) mimetic EUK-189 in mice exposed to Cobalt-60 gamma radiation**
Venkataraman Srinivasan, Susan Doctrow, Vijay K. Singh, Mark H. Whitnall.

PS3.11 - Signaling 3

PS3159 - **NF-kB and MnSOD mediated adaptive radioresistance in low dose-irradiated mouse skin epithelial cells**
Ming Fan, Kazi Mokim Ahmed, Mitchell Coleman, Douglas R. Spitz, **Jian Jian Li**.

PS3160 - **Internal tandem duplication of FLT3 transduces increased ROS production, increased DNA damage, and reduced end-joining fidelity: Implications for disease progression in acute myeloid leukemia**
Kamal Datta, Kyu-Tae Kim, Dan Grosu, Annahita Sallmyr, Thomas A. Winters, Paul Shapiro, Donald Small, Feyruz V. Rassool.

PS3161 - **CuZnSOD overexpression enhances radioresistance of human**

glioma cells by increasing cyclin B1 mRNA turnover and suppressing late reactive oxygen species accumulation
Prabhat C. Goswami, Zhen Gao, Ehab Sarsour, Amanda Kalen.

PS3162 - **Cross talk between cell cycle checkpoint proteins and mitochondrial antioxidant defense in irradiated cells**
Ehab H. Sarsour, Sarita G. Menon, Iman M. Ahmad, Maher Abdalla, Venkatasubbaiah A. Venkatesha, Prabhat C. Goswami.

PS3163 - **Amplification of ATM-dependent checkpoint signals coupled with DNA double strand break repair**
Keiji Suzuki, Motohiro Yamauchi, Seiji Kodama, Masami Watanabe.
.

PS3164 - **Ku70/80 modulates ATM and ATR signaling pathways in response to DNA double strand breaks**
Nozomi Tomimatsu, Candice G.T. Tahimic, Akihiro Otsuki, Sandeep Burma, Akiko Fukuhara, David J. Chen, Akihiro Kurimasa.

PS3165 - **EGFR-ERK signaling through PARP coordinates DNA repair, apoptosis and proliferation**
Adly Yacoub, Joseph Kelley, Timothy Wallace, Paul Dent, **Michael Hagan**.

PS3166 - **Bioinformatics of high-throughput, quantitative mass spectrometry applied to radiation-induced genome instability**
John H. Miller, Shuangshuang Jin, William Morgan, David Springer.

PS3167 - **TNF-α-induced genomic instability in primary vascular endothelial cells**
Catherine F. Gibbons, Mohan Natarajan, Sumathy Mohan, Munira A. Kadhim, Andrew J. Grosovsky.

PS3168 - **Multiple molecular alterations in fibroblasts of a patient with radiation hypersensitivity / chromosomal fragility syndrome**
Reinhard Kodym, Gazi Alsbeih, **Micheal Dean Story**.

PS3169 - **Amplification of G1 checkpoint signalling by growth of IR-induced foci**
Motohiro Yamauchi, Yasuyoshi Oka, Seiji Kodama, Masami Watanabe, Keiji Suzuki.

PS3170 - **Phosphorylation of c-Myc on Ser62 by CDK5 is Essential for Cyclin G1-Mediated Transcriptional Activation of Cyclin B1**
Haeng Ran Seo.

PS3171 - **Importance of 5'-AMP-activated protein kinase (AMPK) for tumor development**
Keith Laderoute, Khalid Amin, Joy Calaoagan, Merrill Knapp, Benoit Viollet.

PS3172 - **Distinct gene expression profiles following 10 Gy or iso-survival doses of radiation in human lymphoblastoid cells**

Tzu-Pin Lu, Mong-Hsun Tsai, James B. Mitchell, Eric Y. Chuang.

PS3173 - **Regeneration mechanisms of ontogenetic radioadaptation in plants**
Alexandr Mikhyeyev, **Svitlana Sytnik**, Ludmila Ovsyannikova, Alla Dyachenko, Dmytro Grodzinzky.

PS3174 - **Characterisation of a novel protein, FKBPL; protein interactions and implications for pathways controlling cell growth and survival**
Keeva McClelland, Hayley McKeen, Andrea Valentine, David Hirst, **Tracy Robson**.

PS3175 - **Targeting the COP9 signalosome for cancer therapy**
Katharine S. Richardson, Ashraful Islam, Wayne Zundel.

PS3176 - **Sirt3: modulator of foxo3a activity?**
Mark V. Mishra, Kristi Muldoon-Jacobs, Phuongmai Nguyen, David Gius.

PS3177 - **Transcriptomic analysis of the effect of embryonic irradiation on cognitive functions**
Joris Verheyde, Arlette Michaux, Ann Janssen, Louis de Saint-Georges, Luc Leyns, **Abderrafi Benotmane**.

PS3178 - **Radiation-induced stress response in human skin**
Ray Warters, Sergey Zhuplatov, Sancy Leachman.

PS3179 - **Changes in the expression of Keratinocyte Growth Factor and its receptor in oral mucosa (mouse) during daily fractionated irradiation**
Wolfgang Doerr, Astrid Fehrmann, Stefan Pieck.

PS3.12 - Technical Advances/ Imaging/Models 3

PS3180 - **Identification of differentially expressed genes contributing to radioresistance in lung cancer cells using microarray analysis**
Guozheng Guo, Wangfeng Guo.

PS3181 - **Establishment of reverse genetics in Medaka**
Takeshi Todo, Yasuhiro Kamei, Tomoko Ishikawa, Jin-hyong Kim.

PS3182 - **Develop a method to study radiation induced alternative splicing transcripts**
Tzu-Hung Hsiao, Eric Y. Chuang, Konan Peck.

PS3183 - **Genetic sensitivity in the transcriptomic response to low dose ionizing radiation**
Brynn Voy, Lisa Branstetter, Sudhir Naswa, Michael Langston, Arnold Saxton.

PS3184 - **Genetic dissection of susceptibility/resistance to ionizing radiation by use of recombinant congenic strain mice**
Alexander K. Vaglenov, Bernhard Kaltenboeck, William R. Brawner, David M. Carpenter, Anny Fortin, Henry W. Brandhorst, Li Yihang.

PS3185 - **Application of assisted reproductive technologies (ARTs) for radiobiological research** **Seiji Kito**, Yuki Ohta, Yumiko Kaneko, Hiroko Yano, Tadahiro Shiomi, Naoko Shiomi, Shimada Yoshiya, Kazuo Sakai.

PS3186 - **Lab-on-a-chip-system for systems radiation biology** **Stefan Thalhammer**, Achim Wixforth, Wolfgang Heidenreich, Herwig Paretzke.

Thursday, July 12, 2007

7:30am - 8:15am
Eye Openers

EO 13: **Hematopoetic stem cells guide metastases**
Salon 7 Yerba Buena
Ruth Muschel, Oxford University, Oxford, UK
Chair: Eric Wright, University of Dundee, Dundee, UK

EO 14: **Nanoparticles in cancer and radiation biology**
Salons 1, 2, 3 Yerba Buena
Gayle Woloschak, Northwestern University, Chicago, USA
Chair: Zvi Fuks, Memorial Sloan-Kettering Cancer Center, New York, USA

EO 15: **Understanding the chemistry of stored defense nuclear waste: Studies of waste stimulants**
Salons 4, 5, 6 Yerba Buena
Donald Camaioni, Pacific Northwest National Lab, Richland, USA
Chair: Simon Pimblott, University of Manchester, Manchester, UK

EO 16: **The good and the bad of tumor suppression**
Salon 8 Yerba Buena
Gerard Evan, University of California, San Francisco, San Francisco, USA
Chair: Laura Attardi, Stanford University, Stanford, USA

8:30am - 9:30am
Congress Lectures

CL 19: **Radiation response of cancer stem cells**
Salon 7 Yerba Buena
Jeremy Rich, Duke University, Durham, USA
Chair: Mark Dewhirst, Duke University, Durham, USA

CL 20: **Repair of radiation induced DNA double strand breaks during the mammalian cell cycle**
Salon 8 Yerba Buena
Markus Lobrich, University of Saarland, Saarbrucken, Germany
Chair: Bo Stenerlow, Uppsala University, Uppsala, Sweden

CL 21: **Radiation chemistry of DNA in cells**
Salon 15 Yerba Buena
Jean Cadet, Commissariat à l'Énergie Atomique, Grenoble, France
Chair: Melanie Spotheim-Maurizot, Centre National de la Recherche Scientifique, Orleans, France

---

CL 22: **Late effects of radiation**
Salons 4, 5, 6 Yerba Buena
Michael Robbins, Wake Forest University, Winston-Salem, USA
Chair: Eleanor Blakeley, Lawrence Berkeley National Laboratory, Berkeley, USA

CL 23: **Radiation induced bystander effects: The good, the bad and the ugly**
Salons 10, 11 Yerba Buena
Carmel Mothersill, McMaster University, Hamilton, Canada
Chair: Kathryn Held, Massachusetts General Hospital, Boston, USA

CL 24: **Influence of angiogenesis on cancer treatment**
Salons 1, 2, 3 Yerba Buena
Gillian Tozer, University of Sheffield, Sheffield, UK
Chair: Sydney Evans, University of Pennsylvania, Philadelphia, USA

10:00am - 12:00pm
Symposia

S 33: **Adaptive Response Induction by Low Dose and Low Dose Rate**
Salons 1, 2, 3 Yerba Buena
Chair: Ron Mitchel, Atomic Energy of Canada Limited, Chalk River, Canada

10:00 - **Molecular pathways utilized by human cells that undergo the cytogenetic radioadaptive response**
Andrew Wyrobek, Lawrence Berkeley National Laboratory, Berkeley, USA

10:30 - **Adaptive responses to EXTREMELY low conditioning doses of low LET radiation**
Pam Sykes, Flinders University of South Australia, Adelaide, Australia

11:00 - **Combined effects of low dose/dose-rate irradiation and some tumorigenic agents**
Kazuo Sakai, Central Research Institute of Electric Power Industry, Japan

11:30 - **Exploring the mechanisms of the adaptive response at Chernobyl**
Brenda Rodgers, Texas Tech University, Lubbock, USA

S 34: **Reaction Pathways Leading to DNA Damage**
Salon 15 Yerba Buena
Chair: Thierry Douki, Commissariat à l'Énergie Atomique, Grenoble, France

10:00 - **Independent generation of reactive and metastable intermediates for elucidating the effects of ionizing radion on DNA**
Marc M. Greenberg, John Hopkins University, Baltimore, USA

10:30 - **Clustered damage due to auger electrons**
Pavel Lobachevsky, Peter MacCallum Cancer Centre, Melbourne, Australia

11:00 - **Biological oxidants produce unique sequence-selective oxidation patterns in double-stranded DNA**
Yelena Margolin, Massachusetts Institute of Technology, Boston, USA

11:30 - **Spectrum of lesions observed *in vivo***

Thierry Douki, Commissariat à l'Énergie Atomique, Grenoble, France

---

S 35: **Radiation Biology, Chemistry and Physics of Nuclear Power**
Salon 14 Yerba Buena

Chairs: Yosuke Katsumura, University of Tokyo, Tokyo, Japan
Dorota Swiatla-Wojcik, Institute of Applied Radiation Chemistry, Lodz, Poland

Introduction
Xu Su, Chinese Center for Medical Response to Radiation Emergency, Beijing, China

10:00 - **Chemistry of closing the nuclear fuel cycle**
Carol Burns, Los Alamos National Laboratory, Los Alamos, USA

10:30 - **Interfacial processes in water-urania systems**
Catherine Corbel, Commissariat à l'Énergie Atomique, Gif-sur-Yvette, France

11:00 - **Radiation damage to nuclear materials**
Colin English, Nexia Solutions Ltd., Sellafield, UK

11:30 - **Radiation chemistry of water at high temperature and pressures**
Yosuke Katsumura, University of Tokyo, Tokyo, Japan

S 36: **Mechanisms of Radiation Induced Bowel Damage and Possible Intervention Strategies**
Salons 4, 5, 6 Yerba Buena

Chairs: Fiona Stewart, Nethelands Cancer Institute, Amsterdam, The Netherlands
Marie-Catherine Vozenin-Brotons, Institute de Radioprotection et de Surete Nucleaire, Villejuif, France

10:00 - **Molecular mechanisms of radiation induced intestinal inflammation**
Meritxell Molla, University of Barcelona, Barcelona, Spain

10:30 - **Radiation induced rectal telangiectasis**
Jacqueline Kruse, Netherlands Cancer Institute, Amsterdam, The Netherlands

11:00 - **Cytokine cascades and radiation induced fibrosis**
Marie-Catherine Vozenin-Brotons, Institute de Radioprotection et de Surete Nucleaire, Villejuif, France

11:30 - **Endothelial dysfunction: key to the chronicity of intestinal radiation fibrosis**
Martin Hauer-Jensen, University of Arkansas, Little Rock, USA

S 37: **Radiation-induced genomic instability**
Salon 8 Yerba Buena

Chairs: Takeo Ohnishi, Nara Medical University, Nara, Japan,
Munira Kadhim**,** Medical Research Council, Oxford, UK

10:00 - **The biological function of radiation-induced nitric oxide radicals through Hdm2-p53 interaction**
Takeo Ohnishi, Nara Medical University, Nara, Japan,

10:30 - **A role for mitochondrial dysfunction in radiation induced genomic instability**
William Morgan, University of Maryland, Baltimore, USA

11:00 - **NHEJ and the double-strand break response in IgH class switch recombination and translocations**
Frederick Alt, Harvard University, Cambridge, USA

11:30 - **Fetal irradiation induced genomic instability in mouse hemopoietic stem cells**
P. Uma Devi, Kasturba Medical College, Manipal, India

S 38: **Tumor Metabolism and Metastases**
Salon 7 Yerba Buena
Chairs: Ian Stratford, University of Manchester, Manchester, UK
Amato Giaccia, Stanford University, Stanford, USA

10:00 - **The tumor microenvironment and metastasis**
Richard Hill, University of Toronto, Toronto, Canada

10:30 - **The role of hypoxia-induced lysyl oxidase in metastasis**
Janine Erler, Stanford University, Stanford, USA

11:00 - **Hypoxia and remodeling of tumor microenvironment**
Zhong Yun, Yale University, New Haven, USA

11:30 - **Inhibiting metastatic spread and metastatic growth**
Ian Stratford, University of Manchester, Manchester, UK

12:00pm - 1:00pm
Plenary Lecture

PL 5: **Stem cells in cancer**
Salon 9 Yerba Buena
Irving L. Weismann, Stanford University, Stanford, USA
Chair: Elizabeth Travis, The University of Texas MD Anderson Cancer Center, Houston, USA

2:00pm - 4:00pm
Symposia

S 39: **Cancer Stem Cells**
Salon 7 Yerba Buena
Chair: Michael Clarke, Stanford University, Stanford, USA

2:00 - **The response of breast cancer stem cells to cancer treatment**
Frank Pajonk, University of California, Los Angeles, Los Angeles, USA

2:30 - **Wnt/β-catenin signaling in intestinal and mammary cancer stemness**
Ricardo Fodde, Erasmus University Medical Center, Rotterdam, The Netherlands

3:00 - **Epithelial cancer stem cells and resistance to radiation**
Michael Clarke, Stanford University, Stanford, USA

S 40: **The Relationship between Checkpoint Signaling and DNA Repair**
Salon 8 Yerba Buena
Chair: Ted DeWeese, Johns Hopkins University, Baltimore, USA

2:00 - **Investigating the molecular network involving NFBD1/MDC1 in response to DNA damages**
Phang-Lang Chen, University of California, Irvine, Irvine, USA

2:30 - **Chromatin remodeling in checkpoints and repair**
Sang Eun Lee, University of Texas, San Antonio, San Antonio, USA

3:00 - **The role of ATM and ATR in hypoxia induced replication arrest and recovery**
Esther Hammond, Stanford University, Stanford, USA

4:00 - **Activation of the DNA damage checkpoint in the absence of DNA damage**
David Toczyski, University of California, San Francisco, San Francisco, USA

S 41: **Clustered and Tandem DNA Lesions**
Salons 10, 11 Yerba Buena
Chairs: Peter O'Neill, Medical Research Council, Oxford, UK
Naoya Shikazono, Japan Atomic Energy Research Institute, Takasaki, Japan

2:00 - **DNA repair of clustered DNA damage in cells**
Lynn Harrison, Louisiana State University, Shreveport, USA

2:30 - **Mechanisms of processing clustered DNA damage and "dirty" DSB**
Peter O'Neill, Medical Research Council, Oxford, UK

3:00 - **Chemical detection and mechanisms of formation of tandem DNA damage**
Jean Luc Ravanat, Commissariat à l'Énergie Atomique, Grenoble, France

3:30 - **Induction of clustered DNA damage in cells**
Betsy Sutherland, Brookhaven National Laboratory, Upton, USA

S 42: **Radiation and Polymers**
Salon 15 Yerba Buena
Chairs: Seiichi Tagawa, University of Osaka, Osaka, Japan
Alison M. Funston, University of Melbourne, Melbourne, Australia

2:00 - **Charge and energy transfer through conjugated polymers**
Sina Burkert, Leibniz Institute of Polymer Research, Dresden, Germany

2:30 - **Production of H2 in the radiolytic degradation of polymers**
Shu Seki, University of Osaka, Osaka, Japan

3:00 - **Polymer nanowire formation along single particle tracks**
Seicchi Tagawa, University of Osaka, Osaka, Japan

3:30 - **Properties of oligofluorenes**
Piotr Ulanski, Technical University of Lodz, Lodz, Poland

S 43: **Influence of the Tumor Vasculature on Response to Therapy**
Salons 1, 2, 3 Yerba Buena
Chairs: Adriana Haimovitz-Friedman, Memorial Sloan-Kettering Cancer Center, New York, USA
Donald McDonald, University of California, San Francisco, San Francisco, USA

2:00 - **Cellular actions on angiogenesis inhibitors on tumor blood vessels**
Donald McDonald, University of California, San Francisco, San Francisco, USA

2:30 - **Optimization of the treatment modality combining ionizing radiation with inhibitors of angiogenesis**
Martin Pruschy, University Hospital Zurich, Zurich, Switzerland

3:30 - **Assessment of novel hypoxia response pathways as clinical molecular targets**
Adriana Haimovitz-Friedman, Memorial Sloan-Kettering Cancer Center, New York, USA

2:00pm - 4:00pm
Workshops

W 7: **Is the Bystander Effect Relevant to Radiation Response *in vivo*?**
Salons 4, 5, 6 Yerba Buena
Chairs: Colin Seymour, McMaster University, Hamilton, Canada
William Morgan, University of Maryland, Baltimore, USA

W 8: **Relevance of Telomeres to Radiation Biology**
Salons 12, 13 Yerba Buena
Chairs: Susan Bailey, Colorado State University, Fort Collins, USA
John Murnane, University of California, San Francisco, San Francisco, USA

4:00pm - 5:30pm
Poster Session 4

5:45pm
Closing Ceremony
Salons 9 Yerba Buena

7:00pm
Gala Dinner
Salons 7, 8 Yerba Buena

Poster Session 4

PS4.1 - Biodosimetry 4

PS4001 - **Discovery of Sam68 as a Biomarker of Apoptosis induced by γ-irradiation in immune system**
Yang Kwang-Hee, Moo Hyun Choi, Min Young Kim, Seon Young Nam, Meeseon Jeong, Cha Soon Kim, Hee Sun Kim, Young-Woo Jin, Sungkwan An, Suhkneung Pyo, Chong Soon Kim.

PS4002 - **Investigation of the serum proteome to look for ionizing radiation biomarkers**
Olivier Guipaud, Valerie Vereycken-Holler, Joëlle Vinh, Patrick Gourmelon, Marc Benderitter.

PS4003 - ***In vivo* expression of p53 and stat3 dependent genes after ionizing radiation**
Marcy B. Grace, Antonino Germana, Dadin Fu, Thomas B. Elliott, William F. Blakely, G. David Ledney.

PS4004 - ***In vivo* murine dose-response calibration curves for early-response exposure assessment using multiple radiation-responsive blood protein biomarkers**
Natalia I. Ossetrova, David J. Sandgren, William F. Blakely.

PS4005 - **Radiation-induced phosphorylation of p53 on ser 15 in MOLT4 cells is dose-dependent**
Ales Tichy, Darina Zaskodova, Martina Rezacova, Jirina Vavrova, Zuzana Rehakova, Zdena Vilasova, Jaroslav Pejchal, Jan Osterreicher.

PS4006 - **Expression monitoring of six new radiation responsive genes**
M. Ahmad Chaudhry.

PS4007 - **Risk assessment of radiation exposure using molecular biodosimetry**
Todd F. Elliott, Kerry George, Dianne K. Hammond, Francis A. Cucinotta.

PS4008 - **Development of a risk assessment system of toxicants by HiCEP**
Katsutoshi Suetomi, Akira Fujimori, Yoshihisa Kubota, Sentaro Takahashi.

PS4009 - **Radiation metabolomics permits discovery of mouse urinary biomarkers for gamma radiation exposure**
John B. Tyburski, Josef Slavik, Kristopher W. Krausz, Kathryn Doiron, Christian Lanz, Albert J. Fornace, Jr, Frank J. Gonzalez, Jeffrey R. Idle.

PS4010 - **A novel method for biodosimetry**
Jeff W. Bacher, Wael Abdel Megid, Martin G. Ensenberger, Richard B. Halberg, Stephen A. Stanhope, Marijo G. Kent-First, Tomas A. Prolla.

PS4011 - **Estimating the genotoxic effects of Fe-ions: impact of cell cycle effects, apoptosis and intra-individual variability**
Sylvia Ritter, Ryonfa Lee, Sylvester Sommer, Elena Nasonova.

PS4012 - **Gene expression profiles for radiation biodosimetry with a fully integrated biochip**
Sunirmal Paul, Ralf Lenigk, Christine Orosco, Mark Richards, Frederic Zenhausern, Sally A. Amundson.

PS4013 - **Stable amino acid end-products in proteins irradiated in the solid state: potential use as biodosimeters of radiation exposure in human populations**
Steven G. Swarts, Katerina A. Naumenko, William A. Bernhard.

PS4014 - **Potential use of early cytokine changes as surrogate markers of low dose irradiation**
Eric Hernady, Jacqueline P. Williams, Carl Johnston, Christina Reed, Jacob N. Finkelstein.

PS4015 - **Proteomic expression studies after *in vivo* irradiation**
Daniela L. Stricklin, Margaretha Lundquist, Micael Granström.

PS4016 - **Differential diagnosis of responses caused by radiation or chemical exposure**
Hee-Kyung Kwon, Hyung-A Kim, Hyun-Jin Yun, Ji-Eun Kim, Hye-Kyung Shin, Su-Jae Lee, **Chang-Mo Kang**.

PS4.2 - Bystander Effects 4

PS4017 - **Radio-adaptive response of cultured salmon cells exposed to ionizing radiation**
Michael F. Kilemade, Jennifer A. Lennon, Douglas R. Boreham.

PS4018 - **Effects of low dose irradiation on the quantitative and qualitative changes of major immune parameters and on the immune surveillance in mice**
Katalin Lumniczky, Tunde Szatmari, **Geza Safrany**.

PS4019 - **Targeted irradiation of single fibroblasts with heavy ions reveals transient cell cycle related changes but no DNA damage in bystander cells**
Claudia Fournier, Philippe Barberet, Thomas Pouthier, Sylvia Ritter, Gisela Taucher-Scholz.

PS4020 - **"Medium mediated" bystander effect induced by α-particle irradiated human fibroblasts**
Francesca Antonelli, Mauro Belli, Giuseppe Esposito, Orazio Sapora, Giustina Simone, Eugenio Sorrentino, Maria Antonella Tabocchini.

PS4021 - **Distinct neuroinflammatory responses to gamma versus HZE particle irradiation**
Sean D. Hurley, Jaqueline Williams, Lee A. Trojanczyk, Michael J. Moravan, John A. Olschowka, M. Kerry O'Banion.

PS4022 - **Delayed genomic instability in bystander cells**
Burong Hu, Peter Grabham, Adayabalam Balajee, Brian Ponnaiya, Tom K. Hei, Charles R. Geard.

PS4023 - **Radiation-induced bystander responses in mouse testes**
Prasad V.S.V. Neti, Venkat R. Narra, Hosea F. Huang, Edouard I. Azzam, Roger W. Howell.

PS4024 - **X-ray irradiated lymphoblastoid cells caused media mediated bystander effects**
Asima Chakraborty, Robert W. Redmond, Martin Purschke, Kathryn D. Held.

PS4025 - **Performance of an energy-tunable X-ray microbeam irradiation system developed at the Photon Factory**
Katsumi Kobayashi, Noriko Usami, Munetoshi Maeda, Hiroshi Maezawa, Tohru Hayashi, Kotaro Hieda, Kaoru Takakura, Yoshiya Furusawa.

PS4026 - **Study of combined action of very low dose-rate gamma-radiation and radioactive strontium on mice *in vivo*: dose response, adaptive response, and genetic instability**
Elena Niyazova, Svetlana Zaichkina, Olga Rozanova, Gella Aptikaeva, Asiya Akhmadieva, Elena Smirnova, Olga Vachrusheva.

PS4027 - **Tracking Genomic Instability within irradiated and bystander populations**
James W. Kelly, Jeremy S. Taylor, Munira A. Kadhim.

PS4028 - **Bystander response to an X-ray microbeam using three different DNA damage response markers in epithelial cells**
Eleanor A. Blakely, Polly Y. Chang, Richard I. Schwarz, Kathleen A. Bjornstad, Chris J. Rosen, Rajeeb Khatua, Christy L. Wisnewski, Bahram Parvin[1], Al C. Thompson.

PS4.3 - Cell Behavior/Stem Cells 4

PS4029 - **Anti-tumor activity of murine NK cells after single or fractionated exposures to 0.1, 0.2 or 1.0 Gy X-rays**
Aneta Cheda, Ewa M. Nowosielska, Jolanta Wrembel-Wargocka, Tomasz Ołdak, Marek K. Janiak.

PS4030 - **Anti-tumor activity of murine peritoneal macrophages after single or fractionated exposures to 0.1, 0.2 or 1.0 Gy X-rays**
Ewa M. Nowosielska, Aneta Cheda, Jolanta Wrembel-Wargocka, Tomasz Ołdak, Marek K. Janiak.

PS4031 - **Using hybrid spheroids to assay cancer stem cell sensitivity to ionizing radiation and chemotherapeutics**
Christopher S. Lange, Bozidar Djordjevic, Shy'Ann Jie, Saira Hafeez, Joshua Garren, David J. Goff, Ovadia Abulafia, Allison Wagrich, Marvin Rotman.

PS4032 - **Radiation-induced genomic instability in tandem repeat sequences is not predictive of unique sequence instability**
Asao Noda, Yoshiaki Kodama, Harry M. Cullings, Nori Nakamura.

PS4033 - **P53 mutant dependent and glutathione independent glucose regulated γ radiation response in human cancer cells**
Iraimoudi S. Ayene, Jie Li, Kathleen Ward.

PS4034 - **Ionizing radiation modulates HLA expression in two human melanoma cell lines**
Severino Michelin, Diana Dubner, Maria del R Perez, Mariana Malvicini, Edgardo Carosella, Michel Bourguignon.

PS4035 - ***In vitro* lactate consumption in human cancer cell lines**
Kelly Kennedy, Thies Schroeder, Ashley Chi, Mark W. Dewhirst.

PS4036 - **Adaptive responses of long term radiation on tumorigenic and non-tumorignic human prostate cell lines**
Danupon Nantajit, Kazi Mokim Ahmed, Ming Fan, Zhaoqing Wang, Jian Jian Li.

PS4037 - **A translationally controlled angiogenic switch in breast cancer**
Robert J. Schneider, Ksenia Karpisheva, Steve Braunstein, Carolina Pola, Judith Goldberg, Silvia C. Formenti.

PS4038 - **Glioma cancer stem cells promote tumor radioresistance and angiogenesis**
Jeremy N. Rich, Shideng Bao, Qiulian Wu, Roger E. McLendon, Sith Sathornsumetee, Zhizhong Li, Mark Dewhirst, Darell D. Bigner, Anita B. Hjelmeland.

PS4.4 - Clinical Therapeutic Radiobiology 4

PS4039 - **Radiogenomics of prostate cancer: identification of genomic markers for normal tissue radiotoxicity**
Sambasivarao Damaraju, David Murray, Gino Fallone, Carol Cass, John Hanson, Matthew Parliament.

PS4040 - **Volume effects in the rat lung for late radiation-induced loss of lung function**
Peter van Luijk, Hette Faber, Jacobus M. Schippers, Harm Meertens, Johannes A. Langendijk, Robert P. Coppes.

PS4041 - **Impact of SNP´s in risk genes on fibrosis after radiotherapy**
Kerstin Borgmann, Inga Boeckelmann, Sonko Borstelmann, Annette Raabe, Oliver Zschenker, Ulrike Hoeller, Dirk Rades, Ekkehard Dikomey.

PS4042 - **A little to a lot or a lot to a little: evaluation of lung response to ionizing radiation using a rat model**
Vladimir A. Semenenko, Robert C. Molthen, Swarajit N. Ghosh, Meetha

M. Medhora, Natalya V. Morrow, X. Allen Li.

PS4043 - **Association between polymorphisms in candidate genes and late complications to radiotherapy in Head and Neck cancer patients**
Ghazi Alsbeih, Najla Al-Harbi, Khaled Al-Hadyan, Muneera Al-Buhairi, Medhat El-Sebaie, Nasser Al-Rajhi.

PS4044 - **The implications of DNA damage checkpoints on acute radiation effects in normal epithelium**
Ingela Turesson, Jan Nyman, Ragnhild Bernefors, Majlis Book, Ingegerd Hermansson, Fredrik Qvarnstrom, Martin Simonsson, Sunna Sigurdardottir, Ulf Thunberg, Karl-Axel Johansson.

PS4045 - **Heart irradiation and late radiation-induced loss of lung function**
Peter van Luijk, Hette Faber, Jacobus M. Schippers, Johannes A. Langendijk, Harm Meertens, Robert P. Coppes.

PS4046 - **p53 polymorphism at codon 72 predicts individual radiosensitivity of acute skin reactions**
Ulf Thunberg, Jan Nyman, Majlis Book, Ingegerd Hermansson, Karl-Axel Johansson, **Ingela Turesson**.

PS4047 - **Radiation-induced pathophysiology, in particular late effects after radiotherapy, is inversely proportional to the rate of induction of radiation-induced apoptosis in T lymphocytes**
Nigel E. Crompton, Joel Strehl, Natalie Kent, Catherine Carter, Elianna Bootzin, Rick Hay.

PS4048 - **Stereotactic radiosurgery (SRS) improves locomotor recovery and function after spinal cord injury**
Chitti Moorthy, Ronald Rocchio, Alan Alfieri, Lynn Shih, Nagwa, Saleh, Richard J. Zeman, Xialing Wen, Nengtai Ouyang, Joseph D. Etlinger.

PS4.5 - DNA Damage 4

PS4049 - **Hierarchy of complex double-strand break repair: 8-oxoguanine retards DSB repair when in close proximity to the break termini**
Tracey A. Dobbs, Philip Palmer, Martine E. Lomax, Peter O'Neill.

PS4050 - **Extremely low frequency magnetic fields enhance chemically induced formation of apurinic/apyrimidinic sites in A172 cells**
Shin Koyama, Tomonori Sakurai, Takehisa Nakahara, Junji Miyakoshi.

PS4051 - **Development of a true internal standard for the comet assay to minimise variability in the measures of radiation-induced DNA damage formation and repair**
George Don D. Jones, Murizal Zainol, Julia Stoute, Karen Bowman, Gabriela Almeida.

PS4052 - **Analysis of clustered DNA damage generated by high LET radiations**
Hiroshi Ide, Hiroaki Terato, Yusuke Nakaarai, Ryoichi Hirayama, Yoshiya Furusawa.

PS4053 - **Role of DNA-PKcs in DSB repair following high and low dose radiation**
Jennifer Anderson, Jane Harper, Peter O'Neill.

PS4054 - **Rbe of double-strand breaks from 211at**
Kristina Claesson, Bo Stenerlow, Lars Jacobsson, Kecke Elmroth.

PS4055 - **Rejoining of DNA double-strand breaks and clastogenic effects in higher-plant tobacco cells irradiated with gamma rays**
Yuichiro Yokota, Seiichi Wada, Atsushi Tanaka, Issay Narumi.

PS4056 - **Induction of strand breaks, and base lesions in dry plasmid DNA films induced by 270 - 560 eV ultrasoft X-rays**
Kentaro Fujii, Akinari Yokoya, Naoya Shikazono.

PS4057 - **A novel methodology for characterizing strand-break termini and damaged bases in plasmid DNA exposed to ionizing radiations**
Ken Akamatsu, Seiichi Wada, Yasuhiko Kobayashi.

PS4058 - **DNA double-stranded breaks indicate general cell stress**
Jennifer S. Dickey, Olga A. Sedelnikova, Mykyta V. Sokolov, William M. Bonner.

PS4059 - **DNA strand breaks, DNA-protein cross-links and apoptosis in mice exposed to low dose-rate gamma-radiation**
Andreyan N. Osipov.

PS4060 - **Understanding interstrand cross-link formation in bromodeoxyuridine substituted DNA**
Marie-Eve Dextraze, Sylvain Cecchini, Sonia Girouard, Richard J. Wagner, Darel J. Hunting.

PS4061 - **Double strand break repair in human lymphocytes irradiated with ionising radiation and incubated in microgravity**
Maddalena Mognato, Roberto Cherubini, Lucia Celotti.

PS4062 - **Cancer cells modulate DNA DSB/Repair in nontransformed cells**
Afshin Beheshti, Heiko Enderling, Matthew Perkins, Aaron Burg, Katarina Luptakova, Amir Abdollahi, Philip Hahnfeldt, Lynn Hlatky.

PS4063 - **UV-C radiation induces single strand breaks in DNA by inducing conformational relaxation of the helix and affects the restriction profile of DNA**
Chaitali Bhattacharjee.

PS4064 - **A novel technique using DNA denaturation to analyze clustered DNA damage sites induced by densely ionizing radiation**
Akinari Yokoya, Naoya Shikazono, Takeshi Ushigome, Ayumi Urushibara, Kentaro Fujii.

PS4065 - **Formation of DNA repair protein foci at clustered damage sites in high-LET irradiated cells**
Bo Stenerlow, Irina Radulescu, Kristina Viktorsson, Martin Simonsson, Fredrik Qvarnstrom, Karin H. Karlsson, Rolf Lewensohn.

PS4066 - **Analysis of DNA damage spectra induced by irradiations with the same HZE ion and different energies**
Deborah J. Keszenman, Betsy M. Sutherland.

PS4067 - **Visualization of the damage induction and the accumulation of RAD51 in the cells irradiated with synchrotron X-ray microbeam**
Noriko Usami, Kiyomi Eguchi-Kasai, Masahiko Mori, Katsumi Kobayashi.

PS4068 - **Iodine-125 radioprobing of intramolecular quadruplex conformation of human telomeric DNA: effects of flanking sequences, ionic conditions and quadruplex-specific drugs**
Timur I. Gaynutdinov, Ronald D. Neumann, Igor G. Panyutin.

PS4069 - **Cultured endothelial human cells prematurely enter senescence as a non-cancer effect of high- and low-LET irradiation**
Lorenzo Manti, Marco Durante, Cecilia Arrichiello, Thilo Elsasser, Giancarlo Gialanella, Mariagabriella Pugliese, Sylvia Ritter, Paola Scampoli, Gianfranco Grossi.

PS4070 - **Hyper diploid lymphocytes due to aging in a woman living in the high level natural radiation area in Ramsar, Iran**
Masako Minamihisamatsu, Akira Furukawa, Mojtaba Saghirzadeh, Reiko Kanda, Tsutomu Sugahara, Isamu Hayata.

PS4071 - **Telomere dysfunction and DNA repair deficiency: markers of sensitivity to mutagens and carcinogens?**
Jennifer Newman, Birendranath Banerjee, Lakshmidevi Balakrishnan, Manikandan Jayapal, Aik Kia Khaw, Anuradha Poonepalli, Rabindra N. Bhattacharjee, Rajamanickam Baskar, Han-Woong Lee, Alirio Melendez, **M. Prakash Hande**.

PS4072 - **Radiation quality effect on telomere elongation of irradiated mammalian cells**
Francesco Berardinelli, Antonella Sgura, Antonio Antoccia, Giacomo Cuttone, Roberto Cherubini, Silvia Gerardi, Caterina Tanzarella.

PS4073 - **Association of radiation-induced senescence of articular chondrocytes with plakoglobin accumulation**
Eun-Hee Hong, Ji-Yeon Park, Su-Jae Lee, **Sang-Gu Hwang**.

PS4.6 - DNA Repair 4

PS4074 - **Base damage near double-strand break ends affects rejoining efficiency and the chronology of repair events for these lesions**

Shubhadeep Purkayastha, Kamal Datta, Ronald D. Neumann, Thomas A. Winters.

PS4075 - **A proteolytic fragment of Cyclin E enhances apoptosis through inhibition of DNA repair by interacting with Ku70 and preventing the recruitment of XRCC4, Ligase IV, and XLF**
Dragos C. Plesca, Suparna Mazumder, Alex Almasan.

PS4076 - **The human RAD51AP1/PIR51 protein is required for homologous recombination and genomic stability**
Claudia Wiese, Torsten Groesser, David W. Collins, Bjorn Rydberg, **David Schild**.

PS4077 - **The role of homologous recombinational repair (HRR) in determining radiosensitivity throughout the mammalian cell cycle**
Paul F. Wilson, John M. Hinz, Salustra S. Urbin, Peter B. Nham, Larry H. Thompson.

PS4078 - **Molecular basis of radioresistance in glioblastomas: proficient repair of DNA double-strand breaks in astrocytes expressing egfrviii**
Bipasha Mukherjee, Cristel Vanessa Camacho, Robert Bachoo, Sandeep Burma.

PS4079 - **Modulation of the DNA damage response to hze particles by shielding**
Bipasha Mukherjee, Jack Miller, **Sandeep Burma**.

PS4080 - **Does non-homologous end joining (NHEJ) prevent repair of clustered DNA damages from converting to double strand break (DSB)?**
Svitlana G. Malyarchuk, Lynn Harrison.

PS4081 - **Molecular dynamics (MD) simulation of Ku heterodimer with double strand DNA molecule**
Hirofumi Fujimoto, Miroslav Pinak, Juraj Kotulic Bunta, Toshiyuki Nemoto, Naoko Takada, Hideaki Maekawa, Kozo Tsuchida.

PS4082 - **Response to the challenging dose of X-rays in lymphocytes of prostate cancer patients and healthy donors**
Antonina Cabulska-Wasilewska, Zygmunt Dobrowolski, Zofia Rudek, Mateusz Krzysiek, Nazym Balegenowa, Zbigniew Drag, Agnieszka Panek, Stanislaw Krasnowolski, Waclaw Lipczynski, Barbara Dobrowolska.

PS4083 - **Deletion of histone modifying enzymes Bre1 and Dot1 causes sensitivity to ionizing radiation**
Kelly E. McCann, Tatiana Spicakova, Marsha Williamson, John C. Game, J. Martin Brown.

PS4084 - **Ionizing radiation induces microhomology-mediated non-homologous end joining in yeast and mammalian cells**
Zorica Scuric, Cecilia Y. Chan, Kurt Hafer, Robert H. Schiestl.

PS4085 - **Ionizing radiation and restriction enzymes induce microhomology-mediated illegitimate recombination in trans in Saccharomyces cerevisiae**
Cecilia Y. Chan, Markus Kiechle, Palaniyandi Manivasakam, Robert H. Schiestl.

PS4086 - **Heterogeneity in the response of the Fanconi Anemia pathway to genotoxic stress**
Lisa A. Kachnic, Chen-Mei Luo, Li Li, Martin Purschke, Kerstin Borgmann, Kathryn D. Held, Simon N. Powell, Henning Willers.

PS4087 - **Vitamin D antagonizes radiation-induced expression of Rad51 in head and neck squamous cell carcinoma**
Christopher A. Bradley, Shey-Jen Shih, Andrew T. Vaughan, Danny J. Enepekides, Gregory Farwell, **Joanna S. Albala**.

PS4088 - **Werner Syndrome Protein is phosphorylated by DNA-PK and regulates DNA double-strand break repair**
Asaithamby Aroumougame, Steven M. Yannone, David J. Chen.

PS4089 - **Mice lacking DNA polymerase POLQ have increased radiation-induced micronuclei in vivo and radiosensitization of marrow stromal cells in vitro**
Julie P. Goff, Michael W. Epperly, Donna Shields, Tracy Smith, Mineaki Seki, John Wittschieben, Richard D. Wood, Stephen Dertinger, Dorothea Torous, Joel S. Greenberger.

PS4090 - **Differential expression of DNA repair genes following irradiation of human fibroblast and endothelial cells**
Swati Girdhani, Amir Abdollahi, Philip Hahnfeldt, Sharon Kunder, Christian Schwager, Ute Wirkner, Peter Huber, Lynn Hlatky.

PS4091 - **Homologous recombination is the principal pathway for the repair of DNA damage induced by tirapazamine**
Sophia B. Chernikova, James W. Evans, Lisa A. Kachnic, Judith P. Banath, Olivier Sordet, Yvette M. Delahoussaye, Alejandro Treszezamsky, Brian Chon, Zhihui Feng, Yves Pommier, Peggy L. Olive, Simon N. Powell, J. Martin Brown.

PS4092 - **Processing of low dose γ-radiation induced DNA strand breaks in eukaryotic cell lines *in vitro*: Insight from *pGFP* transfected SCID and +/+ cells**
Rajeshwar N. Sharan.

PS4.7 - Experimental Therapeutics 4

PS4093 - **Homing of transplanted stem cells in irradiated tissues**
Mohi Rezvani, Marc Cranfield, Steve Ray, Uday Tirlapur.

PS4094 - **Bmi1 polycomb gene has a novel radioresistance function in nasopharyngeal carcinoma**

Nehad M. Alajez, Wei Shi, Angela BY Hui, Fei-Fei Liu.

PS4095 - **Prx1 interacts with androgen receptor and enhances its trans-activation by hypoxia/reoxygenation**
Soo-Yeon Park, Xiaofei Yu, Clement Ip, James L. Mohler, Paul N. Bogner, Young-Mee Park.

PS4096 - **Human Prx1 and Prx2 are not duplicative proteins: The unique presence of Cys^{83} in Prx1 plays a critical role in providing structural and functional differences between Prx1 and Prx2**
Yun-Jeong Kim, WeonSup Lee, Kyoung-Soo Choi, Jonah Riddell, Clement Ip, Debashis Ghosh, Jong-Hoon Park, Young-Mee Park.

PS4097 - **Characterization of spatio-temporal fluctuations in vascular pO_2 in three rat tumor lines**
Laura Isabel Cardenas-Navia, Daniel Mace, Rachel Ann Richardson, Siqing Shan, David F. Wilson, Mark W. Dewhirst.

PS4098 - **Inhibitory effects on tumor growth and suppressive effects on hypoxia of a ribonucleoside anticancer drug, tas106 in x-irradiated tumor**
Hironobu Yasui, Osamu Inanami, Taketoshi Asanuma, Daisuke Iizuka, Akira Matsuda, Mikinori Kuwabara.

PS4099 - **Tumor pO_2 of orthotopic gliomas and their response to irradiation and hyperoxygenation: how this information could be potentially used to individualize and optimize radiotherapy**
Nadeem Khan, Hongbin Li, Huagang Hou, Jean P. Lariviere, Shi Y. Lu, Eugene Demidenko, David J. Gladstone, Julia A. O'Hara, Harold M. Swartz.

PS4100 - **Modulation of peripheral tumor hypoxia by topical vasodilator (benzyl nicotinate): an EPR oximetry study**
Huagang Hou, Zrinka Abramovic, Marjeta Sentjurc, Jean P. Lariviere, Hongbin Li, Shiyi Lu, Eugene Demidenko, David J. Gladstone, Harold M. Swartz, Nadeem Khan.

PS4101 - **Hypoxic and acidic tumor environment markedly alters the radiation-induced gene expression and radiosensitivity of tumor cells**
Yeon Hee Kook, Hyewon Youn, Eun Taex Oh, Kyung Hee Park, Chang Won Song, Eun Kyung Choi, Byung Uk Lim, Heon Joo Park.

PS4102 - **Hypoxic induction of neurotensin in lung carcinoma cells: its involvement in a resistance to γ-radiation and anticancer drug**
Tae Lim Kim, Jee Sun Oh, Kug Chan Kim, Il Lae Jung, Eun Wie Cho, Sang Ki Paik, **In Gyu Kim**.

PS4103 - **Radiosensitization by the combination of SR-2508 and paclitaxel in hypoxic human tumor cells in vitro**
Cheng Jin, Ling Bai, Guozhen Guo.

PS4104 - **Antizyme suppression leads to induction of HIF-1α protein and increment of cellular redox potential in lung carcinoma cells: its involvement in resistant to γ-radiation**
Tae Lim Kim, Jin Sik Kim, Sang Gi Paik, Hai Won Chung, In Gyu Kim.

PS4105 - **Lifespan of Rat-1 fibroblasts overexpressing dominant negative Ku70 under hypoxic conditions**
Muneyasu Urano, Yun-Fong Huang, Fuqiu He, Clifton Ling, Gloria Li.

PS4106 - **Using hypoxic hypoglycemia to selectively starve hypoxic cancer cells: influence of hypoxia and glucose availability on glucose consumption and cell survival**
Thies Schroeder, John P. Kirkpatrick, Mark W. Dewhirst.

PS4107 - **Short-term effects of a 15Gy - 79keV synchrotron tomographic irradiation on healthy mice brain microvasculature**
Clement Ricard, Jean-Claude Vial, Sonia Teypaz, Jerome Gastaldo, Manuel Fernandez, Francois Esteve, Christoph Segebarth, Boudewijn van
der Sanden.

PS4108 - **Combining antiangiogenic therapy with radiotherapy enhances tumor response without functionally normalizing the tumor vasculature**
Bruce M. Fenton, Scott F. Paoni.

PS4109 - **Importance of scheduling of anti-VEGFR2 antibody DC101 combined with fractionated irradiation (FXRT) in the treatment of human head and neck carcinoma xenografts**
Oliver Riesterer, David Valdecanas, Kathy Mason, Walter Hittelman, Daniel Hicklin, Luka Milas, Kian Ang.

PS4110 - **Systemic overexpression of angiopoietin-2 promotes tumor microvessel regression, inhibits angiogenesis and tumor growth**
Yiting Cao, Pierre Sonveaux, Shanling Liu, Yulin Zhao, Jing Mi, Bryan M. Clary, Chuan-Yuan Li, Christopher D. Kontos, Mark W. Dewhirst.

PS4111 - **Inhibition of cytosolic phospholipase A2 ($cPLA_2$) leads to decreased function in irradiated vascular endothelium**
Amanda G. Linkous, Kyle C. Cuneo, Andrej Lyshchik, Dennis E. Hallahan, Eugenia M. Yazlovitskaya.

PS4112 - **The bone marrow derived myelomonocytic cells restore vasculogenesis in irradiated tumor bed by secreting matrix metalloproteinase-9**
G-One Ahn, J. Martin Brown.

PS4113 - **TNF-alpha-related apoptosis-inducing ligand (TRAIL) enhances radiation-induced cell killing in human carcinoma *in vitro* and *in vivo***
Momoko Takahashi, Osamu Inanami, Mikinori Kuwabara.

PS4114 - **Radiosensitization of multicellular tumor spheroids by 2-deoxy-D-glucose is stimulated by a combination of TNFα and glucodeprivation induced oxidative stress**
Bilikere S. Dwarakanath, Divya Khaitan, Sudhir Chandna.

PS4115 - **Combining radiation therapy with interstitial radiation-inducible TNF-α expression for local regional cancer treatment**
Mira Jung, Alexandre Dimtchev, Arron Foxworth, Anatoly Dritschilo.

PS4.8 - Radiation Carcinogenesis 4

PS4116 - **Differential effect of low and high dose X-rays on mutation induction by *N*-ethyl-*N*-nitrosourea in thymocytes of B6C3F1 *gpt*-delta mice**
Kazumi Yamauchi, Shizuko Kakinuma, Satomi Sudo, Seiji Kito, Yuki Oota, Takehiko Nohmi, Ken-ichi Masumura, Mayumi Nishimura, Yoshiya Shimada.

PS4117 - **Leukemogenesis and early loss of *PU.1* on chromosome 2 in CBA/CaJ and C57BL/6 mice after irradiation with HZE iron ions**
Yuanlin Peng, Christy L. Warner, Xianan Liu, Paula C. Genik, Matthew A. Callan, F. Andrew Ray, Michael M. Weil, Robert L. Ullrich, Joel S. Bedford.

PS4118 - **Radiation increases the outgrowth of p16INK4a(-) human mammary epithelial cells in serum-free cultures**
Rituparna Mukhopadhyay, Alexey Bazarov, William C. Hines, Mary Helen Barcellos-Hoff, **Paul Yaswen**.

PS4119 - **Identification of radiation specific gene signatures in rat mammary tumors**
Hae-June Lee.

PS4120 - **ROS levels and mutations in atrophic thymuses after γ-irradiation**
Ryo Kominami, Hiroyuki Ohi, Masaki Maruyama, Kenya Kamimura, Yukio Mishima, Ohtsura Niwa.

PS4121 - **Distinct structural abnormalities of chromosomes 11 and 12 associated with loss of heterozygosity in X-ray-induced mouse thymic lymphomas**
Akifumi Nakata, Mitsuaki A. Yoshida, Miho Akiyama, Shizuko Kakinuma, Toshihiko Sado, Mayumi Nishimura, Yoshiya Shimada.

PS4122 - **Influence of genetic background on hair-cycle dependent basal cell carcinoma tumorigenesis in irradiated *Ptc1*$^{+/-}$ mice**
Mariateresa Mancuso, Simona Leonardi, Mirella Tanori, Emanuela Pasquali, Simonetta Rebessi, Vincenzo Di Majo, Simonetta Pazzaglia, Anna Saran.

PS4123 - **Sex- and tissue- specific microRNAome changes upon irradiation in a mouse model**

Yaroslav Ilnytskyy, Olga Kovalchuk.

PS4124 - **Combined effects of radiation and estrogen on the epigenetic processes in rat mammary gland**
Kristy Kutanzi, Igor Koturbash, Rocio Rodriguez-Juarez, Olga Kovalchuk.

PS4125 - **The irradiated stroma increases tumors arising from non-irradiated, p53 null mammary epithelium**
David H. Nguyen, Hellen A. Oketch-Rabah, Daniel Medina, Mary Helen Barcellos-Hoff.

PS4.9 - Radioprotectors/Mitigators 4

PS4126 - **Study on radiation-induced adaptive response in fetal mice**
Bing Wang, Kaoru Tanaka, Yi Shang, Guillaume Vares, Yasuko Morimoto, Tetsuo Nakajima, Mitsuru Nenoi, Isamu Hayata.

PS4127 - **Adaptive response in embryogenesis: comparative microarray analysis of gene expressions in mouse fetuses**
Guillaume Vares, Bing Wang, Yi Shang, Harumi Ohyama, Kaoru Tanaka, Tetsuo Nakajima, Mitsuru Nenoi, Isamu Hayata.

PS4128 - **Simvastatin ameliorates radiation enteropathy development after localized, fractionated irradiation by a protein C-independent mechanism**
Junru Wang, Marjan Boerma, Qiang Fu, Louis M. Fink, Martin Hauer-Jensen.

PS4129 - **Radiation-induced changes in vasoconstriction of rat pulmonary arteries to angiotensin II are mitigated by captopril**
Rong Zhang, Ying Gao, Swarajit Ghosh, John Moulder, Brian Fish, Elizabeth Jacobs, Meetha Medhora.

PS4130 - **Evaluation of carnosine as a radiation countermeasure agent**
Theodor A. Zainal, Venkataraman Srinivasan, Mark H. Whitnall.

PS4131 - **Exploring mechanisms for the efficacy of ACE inhibitors and AII blockers in radiation nephropathy**
John E. Moulder, Brian L. Fish, Amy A. Irving, Marylou Mader, Eric P. Cohen.

PS4132 - **Ramipril mitigates radiation-induced impairment of dentate gyrus neurogenesis**
Kenneth A. Jenrow, Jianguo Liu, Andrew Kolozsvary, Stephen L. Brown, Jae Ho Kim.

PS4133 - **Ramipril mitigates whole brain radiation injury observed by contrast enhanced MRI**
Stephen L. Brown, James R. Ewing, Sanath Kumar, Swayamprava Panda, Kenneth A. Jenrow, Joseph D. Fenstermacher, Tavarekere N. Nagaraja, Andrew Kolozsvary, Kelly Ann Keenan, Jae Ho Kim.

PS4134 - **Defined doses of the radioprotectors amifostine and**

phosphonol protect against chromosomal inversion in pKZ1 spleen
Antony M. Hooker, David J. Grdina, Madhava Bhat, Pamela J. Sykes.

PS4135 - **ACE inhibition immediately following irradiation may increase GI morbidity and mortality**
Mary F. Otterson, Shawn Leming, Jennifer Callison, John E. Moulder, Parvaneh Rafiee.

PS4136 - **Amifostine modulates lethal and non-lethal toxicities induced in mice by gamma-ray and neutron exposure**
Tatjana Paunesku, David Paunesku, Andrew Wahl, Yasushi Kataoka, David Grdina, Gayle E. Woloschak.

PS4137 - **Amifostine metabolite WR-1065 mitigates high and low LET radiation-induced genomic instability**
Janet E. Baulch, Jaroslaw Dziegielewski, Jeffrey S. Murley, David J. Grdina, William F. Morgan.

PS4138 - **Epithelial mesenchymal transition (emt) in radiation (rt) induced pulmonary fibrosis**
Isabel Jackson, Vasily Yakovlev, Ross Mikkelsen, Mitchell S. Anscher, Zeljko Vujaskovic.

PS4139 - **CBLB600s: a family of novel compounds with radioprotective and hematopoetic stem cells stimulating activity, acting via activation of TLR2 receptor complexes**
Frederic Bone, Eugenia Strom, Jason Young, Yevgeniy Kononov, Andrei Gudkov, Elena Feinstein, **Alexander Shakhov**.

PS4140 - **Radioprotection of murine hematopoietic and human bone marrow cells by Ex-Rad, ON 01210.Na, a novel radiation protectant**
Stephen C. Cosenza, A Kang, M Bonagura, M V. Reddy, M Maniar, A A. Alfieri, S Ghosh, K S. Kumar, E P. Reddy.

PS4141 - **Radioprotective effect of zinc yeast is P53 dependent manner to human lymphoblastoid cells**
Yoshihiro Fujii, Takamitsu A. Kato, Akira Fujimori, Nobuo Kubota, Ryuichi Okayasu.

PS4142 - **Modulation of radiation induced haematological alterations in swiss albino mice by brassica compestris (var sarason) seed extract**
Anil K. Soni, Manish Kumar, Shalini Shukla, Punar Dutt Meena, Madhu Kumar, Ashok Kumar.

PS4143 - **Biomimetic lanthanide & actinide decorporation agents: preclinical development**
Patricia W. Durbin, Eleanor A. Blakely, David K. Shuh, Polly Y. Chang, Kenneth N. Raymond.

PS4144 - **Cytokine expression after 5-androstenediol administration and gamma-irradiation in mouse hematopoietic tissues *in vivo***

Vijay K. Singh, Marcy B. Grace, Kenneth O. Jacobsen, Cheng-Min Chang, Vaishali I. Parekh, Cynthia E. Inal, Randi L. Shafran, Alexander D. Whitnall, Tzu-Cheng Kao, William E. Jackson, Mark H. Whitnall.

PS4.10 - Signaling 4

PS4145 - **Metastasis dissemination is mediated by CXCR4 receptor in HPV/E6+ cells and can be therapeutically controlled by combination of Cidofovir with irradiation**
Amine Abdessamad.

PS4146 - **U87 glioblastoma cells are radiosensitized by double transfection with EGFR and PTEN**
Phyllis R. Wachsberger, Rochelle Halko, Lindsay Uribe, Paul Mischel, Adam P. Dicker.

PS4147 - **Spatio-temporal responses to different UV wavelengths in human skin organ culture**
Eiichiro Mori, Akihisa Takahashi, Ken Ohnishi, Yoshiya Furusawa, Takeo Ohnishi.

PS4148 - **PPARs reduction by γ-irradiation as a mechanism to inflammatory and immune process in rat colon**
Christine Linard, Marc Benderitter.

PS4149 - **Analysis of crosstalk between low-dose-radiation-induced signaling and insulin signaling in human breast cancer cells**
Tetsuo Nakajima, Mitsuru Nenoi.

PS4150 - **Possible intervention strategies to reduce the initiation and progression of radiation-induced atherosclerosis**
Saske Hoving, Sylvia Heeneman, Hans te Poele, Jeffrey Pol, Nicola Russell, Marion Gijbels, Mat Daemen, Fiona Anne Stewart.

PS4151 - **Characterization of the role for p38 MAP kinase in the in vivo radiation-induced inflammatory response**
Henghong Li, Hukjin Cha, Dmitry V. Bulavin, Albert Fornace.

PS4152 - **Molecular crosstalk between PIKK and MAPK in cellular response to ionizing radiation**
Yanrong Su, Jarah A. Meador, **Adayabalam S. Balajee**.

PS4153 - **Identification and characterization of factors involved in delayed effects of radiation**
David L. Springer, Jonathan S. Peters, Cheryl L. Baird, Donald S. Daly, Ronald J. Moore, Jin Shuangshuang, William F. Morgan, John H. Miller.

PS4154 - **Impact of partial marrow sparing on plasma inflammatory molecules after total body irradiation**
Paul Okunieff, Weimin Sun, Shanmin Yang, Hengshan Zhang, Wei Wang, Chaomei Liu, Mei Zhang, Steven Swarts, Bruce Fenton, Lurong Zhang, Paul Okunieff.

PS4155 - **Biomarkers of radiation exposure: *ex vivo*, *in vitro* and *in vivo* studies**
Karen Thomas, Paul Babyn, **Diana Wilkinson**, Wendy Doda, Hillary Boulay, Louise Prud'homme-Lalonde, Sylvie Lachapelle, Sami Qutob, Stacey Gibson, Louise Lemyre.

PS4156 - **Role of TNF-alpha in radiation-induced bystander effects**
Vladimir N. Ivanov.

PS4157 - **Proton radiation induced fibrosis: effects of protein kinase C on integrin expression**
Pinal R. Pandya, Virginia GC Serra, Leticia S. Ortloff, Lora M. Green.

PS4158 - **Radiation-induced sialyltransferase involves in radioresistance**
Minyoung Lee.

PS4159 - **The chemopreventive agent Curcumin, is a potent radiosensitizer of human cervical tumor cells by a mechanism that involves increased ROS production and overactivation of the MAPK pathway**
Prashanthi Javvadi.

PS4160 - **Molecular switches of the cytogenetic radioadaptive response in human cells**
Francesco Marchetti, Sanchita Bhattacharya, Matthew A. Coleman, Andrew J. Wyrobek.

PS4161 - **Transcriptional analysis of the effect of ionising radiation at the gastrula stage**
Abderrafi Benotmane, Arlette Michaux, Ann Janssen, Jasmine Buset, Mieke Neefs, Paul Jacquet.

PS4162 - **Transcriptional regulation of endothelial cell thrombomodulin by statins**
Qiang Fu, Junru Wang, Marjan Boerma, Xiaohua Qiu, Louis M. Fink, Martin Hauer-Jensen.

PS4163 - **Involvement multiple factors in regulation of the *CDKN1A* gene promoter in response to ionizing radiation**
Mitsuru Nenoi, Kazuhiro Daino, Tetsuo Nakajima, Keiko Taki, Ayana Kakimoto.

PS4164 - **Role of the WW binding motif of the EGR-1 in its binding and transactivation function**
Anna Reeves, Marius Sudol, Mark Bedford, Mohammed Momin Shareef, Mansoor M. Ahmed.

PS4165 - **Gene expression in the spleen of mice after irradiation with middle-dose-rate γ-rays**
Takashi Sugihara, Hayato Murano, Kimio Tanaka, Yoichi Oghiso.

PS4166 - **Nf-κB-mediated her-2 overexpression promotes radioresistance**
Ning Cao, Ming Fan, Kazi Mokim Ahmed, Jian Jian Li.

PS4167 - **Analysis of gene expression profiles in mice exposed to low-dose rate radiation**
Keiko Taki, Bing Wang, Tetsuo Nakajima, Jianyu Wu, Tetsuya Ono, Tsuneya Matsumoto, Yoichi oghiso, Kimio Tanaka, Kazuaki Ichinohe, Shingo Nakamura, Satoshi Tanaka, Mitsuru Nenoi.

PS4168 - **Single versus fractionated doses of radiation lead to differences in gene expression in human tumor cell lines**
John A. Cook, Mong-Hsun Tsai, Gadisetti V.R. Chandramouli, William DeGraff, C. Norman Coleman, Eric Y. Chuang, James B. Mitchell.

PS4169 - **Low-dose rate photons and simulated solar particle event protons: gene expression in liver**
Daila S. Gridley, Asma Rizvi, Adeola Y. Makinde, Xian Luo, Jian Tian, Melba Andres, George B. Coutrakon, Michael J. Pecaut.

PS4170 - **Modulation of nuclear factor kappa B dependent gene expression in human cells after microbeam irradiation with accelerated alpha particles**
Christa Baumstark-Khan, Christine E. Hellweg, Luis F. Spitta, Andrea Arenz, Roland Ruscher, Klaus-Dieter Greif, Ulrich Giesen, Guenther Reitz.

PS4.11 - Technical Advances/ Imaging/Models 4

PS4171 - **Dosimetric evidence of cell extra nuclear sensitivity to alpha irradiation?**
Nicolas Chouin, Manuel Bardias, Michel Cherel, Alain Faivre-Chauvet, Christos Apostolidis, Alfred Morgenstern, Albert Lisbona, Jacques Barbet, Karine Bernardeau, Francois Davodeau.

PS4172 - **Mechanisms of adaptive response induction by low dose and low dose rate: modeling approach**
Olga A. Smirnova.

PS4173 - **Three-dimensional model of tissue and heavy ions effects**
Artem L. Ponomarev, Alamelu Sundaresan, Janice L. Huff, Francis A. Cucinotta.

PS4174 - **Effects of X-ray micro beam irradiation on the function of neuronal network**
Takahiro Kuchimaru, Fuminobu Sato, Tomohisa Fujita, Toshiji Ikeda, Kikuo Shimizu, Yushi Kato, Toshiyuki Iida.

PS4175 - **New perspectives in modeling of carcinogenesis induced by ionizing radiation**
Igor Akushevich, Galina Veremeeva, Aliaksandr Kulminski, Svetlana Ukraintseva, Konstantin Arbeev, Alexander Akleyev, Anatoli Yashin.

PS4176 - **Auger electron therapy**
Rebecca Hinrichsen, Helge Thisgaard, Mikael Jensen, Michael Lyngkjær, Lars Martiny.

PS4177 - **Automatic unstained cells recognition for single-cell irradiations**
Marcin Skoczylas, Roberto Cherubini, Silvia Gerardi.

PS4178 - **New improvements of the Krakow single ion hit facility for cells irradiation**
Oleksandr Veselov, Janusz J. Lekki, Rasa Ugenskiene, Zbigniew Stachura, Kateryna Lebed, Wojciech M. Kwiatek.

PS4179 - **A fast analytical model for assessing biological effectiveness of light ion beams in radiotherapy**
Pavel Kundrat.

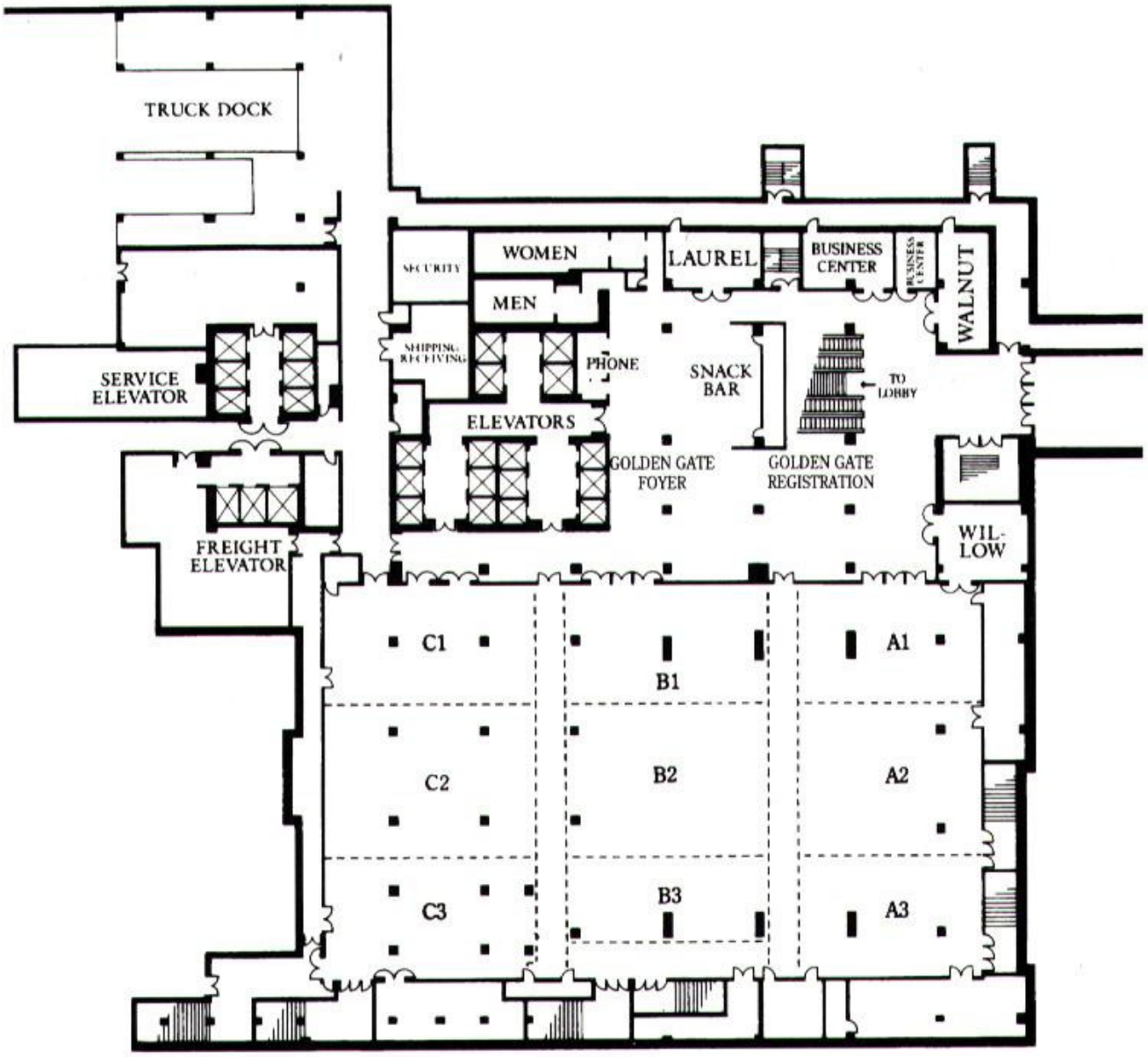
PS4180 - **Podcasting information in the radiological sciences to health care professionals**
Carl D. Elliston, David J. Brenner, Nitin Gumaste, John Zimmerman, Eric J. Hall.

PS4181 - **Characterization of a pre-cell hit detector to be used in single cell irradiation experiments at the Lund Nuclear Microprobe**
Charlotta Nilsson, Jan Pallon, Goran Thungstrom, Natalia Arteaga-Marrero, Mikael Elfman, Per Kristiansson, Christer Nilsson, Marie Wegden.

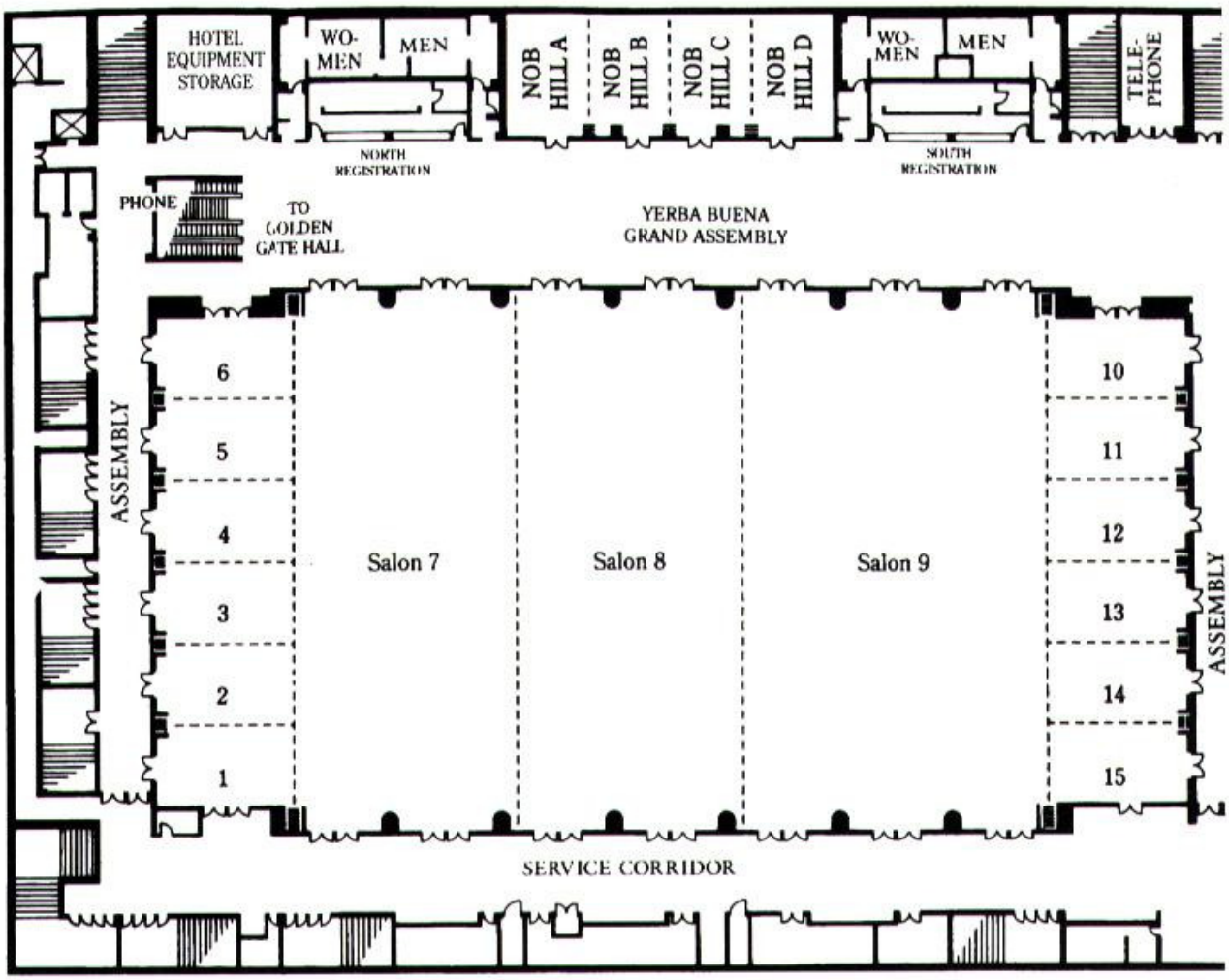
PS4182 - **Monte Carlo Microdosimetry for targeted Irradiation of Individual cells using a microbeam facility**
Fredrik L. Andersson, Sebastien Incerti, Odile Boissonade, Philippe Barberet, Carlos Furtado, Claire Habchi, Philippe Moretto, Duy Thuy Nguyen, Thomas Pouthier, Hervé Seznec.

PS4183 - **Development of nanotechnology based high spatial and temporal resolution cellular and small animal irradiation systems**
Sha X. Chang, Jian Zhang, Sigen Wang, David Bordelon, Eric Schreiber, Sarah Graboski, Adrienne D. Cox, Otto Zhou.

GOLDEN GATE HALL
(B2 Level)



YERBA BUENA BALLROOM
(Lower B2 Level)




Bush St.
Financial District
Sutter St.
Mason St.
Post St.
Powell St.
Union Square
Stockton St.
Grant Ave.
Kearny St.
Montgomery St.
Sansome
Battery
BART/Muni Station
Second St.
New Montgomery
Geary St.
Third
O'Farrell St.
Market St.
San Francisco Marriott
Cyril Magnin
Ellis St.
SF Visitor Information Center
Eddy
Fourth St.
Mission St.
Museum of Modern Art
BART/Muni Station
Fifth St.
Moscone Center North
Howard St.
Moscone Center