Radiation Research Society
Scholars In Training (SIT)
Newsletter – April 2013, Issue 128

RRS MEETING SITE
RRS 2013 – NEW ORLEANS, LA
SEPTEMBER 15-19, 2013
Registration for RRS 2013 in New Orleans NOW OPEN!

4/5/2013 to 9/6/2013

http://www.radres.org/?page=59thAnnualMeeting

SIT REGISTRATION RATES

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Tentative SIT Workshop Schedule RRS 2013 (9/14/2013)

Theme: Low Dose

8:30 am - 9:00 am: Registration/breakfast

9:00 am – 9:55 am: TBD “How I made my career accomplishments”
10:00 am – 10:40 am: **Doug Boreham**, McMaster University – bystander effect for low LET gamma-radiation

10:45 am – 11:00 am: Coffee Break

11:00 am – 12:00 pm: Interactive session

**Career development**: Training opportunities for radiation scientists in the US and Europe

**Ming Lei**, National Cancer Institute National Institutes of Health  
**Jeff Willey**, Wake Forest School of Medicine  
**Iris Eke**, National Center for Radiation Research in Oncology, Dresden

12:15 pm – 1:15 pm: Lunch

1:30 pm – 1:55 pm: **Paul Wilson**, BNL – Effects of low LET ionizing radiation on normal, tumor and DNA damage signaling and repair-deficient cells, tissues and animal models

2:00 pm – 2:25 pm: **George Iliakis**, University of Duisburg-Essen – DNA damage from the perspective of a physicist

2:30 pm – 2:55 pm: **Carmel Mothersill**, McMaster University – Risks of very low doses of ionizing radiation to humans and the environment

3:00 pm – 3:15 pm: Coffee Break

3:15 pm – 3:40 pm: **Don Jones**, University of Leicester – Mechanisms, measurement and consequences of radiogenic, oxidative and drug-induced damage to DNA

3:45 pm – 4:10 pm: **Charles Limoli**, University of California, Irvine – The adverse effects of exposure to the space radiation environment, where in vitro and in vivo models are used to define biological responses to charged particle irradiation

4:15 pm – 4:40 pm: **Bill Morgan**, Pacific Northwest National Laboratory – Discussion session – Wrap up

4:45 pm: Adjourn
Don’t forget we will have a SIT social following the workshop. Look for upcoming details!

New this year:
Ask you mentor and/or affiliation (University, hospital, etc) to contribute to the support of our workshops and SITs.
The pictures of supporters/institutions will be featured in the upcoming workshop.

Mentors Lunch Suggestions!
Do you have any suggestions for potential mentors for the “Mentors Lunch” event?
All SITs who contribute will have their names featured during this event!

Please send your suggestions to Elizabeth Moore; elmoore2@wakehealth.edu

New Website!
RRS has launched a new website!
We are still at the old address but now there are many new features, including a career section for SITs!
Please take the time to go through the website and explore the new networking opportunities we have for you!
Are you a SIT member and just had a publication accepted?

Highlight your accomplishments here in the SIT Newsletter! Just email your citation and abstract to: sit@radres.org
Nontoxic radioactive *Listeria*\textsuperscript{at} is a highly effective therapy against metastatic pancreatic cancer

Quispe-Tintaya W, Chandra D, Jahangir A, Harris M, Casadevall A, Dadachova E, Gravekamp C.

*Proc Natl Acad Sci U S A.* 2013 Apr 22. [Epub ahead of print]

Department of Microbiology and Immunology and Department of Radiology, Albert Einstein College of Medicine, Bronx, NY 10461.

No significant improvement in therapy of pancreatic cancer has been reported over the last 25 y, underscoring the urgent need for new alternative therapies. Here, we coupled a radioisotope, \textsuperscript{188}Rhenium, to an attenuated (at) live *Listeria monocytogenes* (*Listeria*\textsuperscript{at}) using *Listeria*-binding antibodies, thus creating a unique radioactive *Listeria*\textsuperscript{at} (RL). We then demonstrated in a highly metastatic pancreatic mouse tumor model (Panc-02) that RL delivered radioactivity to the metastases and less abundantly to primary tumors in vivo, without harming normal cells. This result was possible because *Listeria*\textsuperscript{at} was efficiently cleared by the immune system in normal tissues but not in the heavily immune-suppressed microenvironment of metastases and primary tumor. Multiple treatments with low doses of the RL resulted in a dramatic decrease in the number of metastases (~90%) compared with control groups in the Panc-02 model. This is the first report of using live attenuated bacteria delivering a highly radioactive payload to the metastases, resulting in killing tumor cells in vivo without harming normal cells. The nontoxic RL treatment is attractive for clinical development as a therapy to prevent pancreatic cancer recurrence and metastases.

The clinical relevance of cancer cell lines.

Gillet JP, Varma S, Gottesman MM.


Laboratory of Cell Biology, National Cancer Institute, 37 Convent Dr, Rm 2108, Bethesda, MD 20892
Although advances in genomics during the last decade have opened new avenues for translational research and allowed the direct evaluation of clinical samples, there is still a need for reliable preclinical models to test therapeutic strategies. Human cancer-derived cell lines are the most widely used models to study the biology of cancer and to test hypotheses to improve the efficacy of cancer treatment. Since the development of the first cancer cell line, the clinical relevance of these models has been continuously questioned. Based upon recent studies that have fueled the debate, we review the major events in the development of the in vitro models and the emergence of new technologies that have revealed important issues and limitations concerning human cancer cell lines as models. All cancer cell lines do not have equal value as tumor models. Some have been successful, whereas others have failed. However, the success stories should not obscure the growing body of data that motivates us to develop new in vitro preclinical models that would substantially increase the success rate of new in vitro-assessed cancer treatments.

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**Big biology: The ’omes puzzle**

Baker M


‘Omics bashing is in fashion. In the past year, The New York Times and The Wall Street Journal have run pieces poking fun at the proliferation of scientific words ending in -ome, which now number in the thousands. One scientist has created a bad-omics generator, which randomly adds the suffix to a list of biological terms and generates eerily plausible titles for scientific papers (example: ‘Sequencing the bacteriostaticome reveals insights into evolution and the environment’).

Jonathan Eisen, a microbiologist at the University of California, Davis, regularly announces awards for unnecessary additions to the scientific vocabulary on his blog (recent winner: CircadiOmens, for genes involved in daily circadian rhythms).
Application of molecular biology to radiobiology and radiation oncology has improved our understanding of cellular radiation responses of both tumor and normal cells. Consequently, mechanistic insights resulting from molecular radiation biology/oncology research will thus provide tools to develop new strategies of individualized therapy and molecular targeting in modern radiation oncology to further improve tumor responses and reduce normal tissue reactions.

Cutting-edge results to these aspects are discussed in the Wolfsberg Meeting Series on Molecular Radiation Biology/Oncology, which was started in 1997 and is organized since 2005 in association with ESTRO, the European Society of Radiation Therapy and Oncology. The Wolfsberg Meeting Series brings together both experienced as well as young basic and clinical scientists of the disciplines Molecular and Cell Biology, Tumor and Normal Tissue Biology, Radiobiology and Radiation Oncology to discuss the newest developments in molecular radiation biology/oncology, which most likely will have tremendous impact on the development of future treatment strategies in radiation oncology.

As translation of basic research findings into clinical application needs an intensified dialogue between basic and clinical scientists, the structure and spirit of the Wolfsberg Meeting Series creates the informal atmosphere and platform to discuss specific questions without time pressure usually encountered at bigger conferences.

http://www.wolfsberg-meeting.com/
40th Annual Meeting of the European Radiation Research Society in Dublin (9/1/2013-9/5/2013)

The European Radiation Research Society (formerly the European Society of Radiation Biology) was founded in 1959 with the aim of promoting radiation research. The Annual Meeting of the Association for Radiation Research (UK) will be held jointly with ERR2013.

The scientific programme will cover all of the major disciplines of radiation science including physics, chemistry, biology, medicine, and radiation protection. We look forward to welcoming you to Dublin!

Deadline for submission of abstracts: 1st April 2013
Notification of acceptance of abstracts: 8th May 2013
Deadline for early registration: 6th June 2013
Conference dates: 1st – 5th September 2013

If you would like further information on the programme or the call for abstracts, please contact:
Fiona Lyng, DIT Kevin Street, Dublin 8. Tel: +353 402 7972 Email: fiona.lyng@dit.ie

http://www.err2013.ie/
The ECCO - ESMO - ESTRO European Cancer Congress is the premier cancer congress in Europe.

This series of congresses represents the largest European platform for presenting the latest, ground-breaking data, with a late-breaking submission policy to capture even more practice-changing abstracts.

Building on past successes and widespread international coverage garnered by previous Congresses, the Congress in Amsterdam promises an even stronger media campaign to increase exposure. The European Cancer Congress is without boundaries. ECCO 17 - ESMO 38 - ESTRO 32 will continue this trend to advance multidisciplinarity throughout Europe and beyond. The comprehensive Scientific Programme of excellence is being devised based on your input and feedback by leading scientific experts in our field, ensuring exceptional quality and educational opportunity. The wide-ranging Scientific Tracks guarantee a multidisciplinary and multi professional appeal unique to the European Cancer Congress, creating a level playing field for all stakeholders in oncology.

Our Congress is the only European cancer meeting to promote and foster continued improvement at EU level through a dedicated Oncopolicy Track, specifically tailored to address issues of prime importance to the European cancer community head-on.

http://eccamsterdam2013.ecco-org.eu/
ASTRO 55th Annual Meeting in Atlanta  (9/22/2013-9/25/2013)

Georgia World Congress Center, Atlanta

ASTRO’s Annual Meeting is the premier radiation oncology scientific event in the world and draws more than 11,000 attendees each year. During the 2013 Annual Meeting, we will look at patient-centered care and the importance of the physician's role in helping with patient reported outcomes and the quality and safety of patient care.

For more information, please see the website;


RRS Resources

SIT Discussion board   SIT Facebook page   RRS Podcast   RRS BR-IDGE program

Postdoctoral Fellowship Opportunities

Many different fellowships are being offered at the following websites. Check them out often!

http://www.kumc.edu/rrsnews/JobMart.htm
http://dceg.cancer.gov/reb/fellowships/generalinformation

Career Forum
Visit these links for job search opportunities and career information:
www.nationalpostdoc.org/site/c.eoJMIWOBlrH/b.1464039/
www.nature.com (click on “job search” then “career magazine”)
www.sciencemag.org (click on “Find a new job” under “careers”)

SIT Contact Details

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