

# WSUDRO

WAYNE STATE UNIVERSITY DEPARTMENT OF RADIATION ONCOLOGY, DETROIT, MI

## Chairman's Corner

By: Andre A. Konski, M.D., M.B.A., M.A., F.A.C.R.

Welcome to our Inaugural issue of the WSUDRO, a newsletter of the WSU Department of Radiation Oncology. It's been just a little over a year since I came on board, but in that year we have made immense progress.

The department has also welcomed a new physician, Dr. Steve Miller. Dr. Miller received his medical degree from Wayne State University School of Medicine. An internship in Internal Medicine at the Naval Medical Center in San Diego was followed by successfully completing his residency in Radiation Oncology at the University of North Carolina, Chapel Hill in 2002. Dr. Miller is board certified in Radiation Oncology and has been in practice at the Naval Medical Center in Portsmouth, VA where he served as a Commander, United States Navy, Medical Corps until his retirement from the military at the end of July 2009.



*A list of physicians, their areas of interest and contact information is included on the last page of this newsletter.*



*New Varian iX accelerator at Gershenson*

## New Equipment Additions at the ROC

By: Jacob W. Burmeister, Ph.D., Chief of Physics

The Karmanos Cancer Center continues to stay at the forefront of radiation oncology technology with the implementation of new equipment in both the Gershenson and Weisberg treatment centers. New Varian iX accelerators were installed and commissioned at both facilities during the past 6 months.

These new accelerators have cone beam CT capability for image guidance as well as the ability to delivery RapidArc®, Varian's volumetric arc therapy technology. RapidArc has the ability to deliver a full intensity modulated treatment in 1 to 2 minutes, and the faster the treatment is delivered the less time there is for internal or external movement after image guidance is performed. The Gershenson accelerator is also equipped with the Real-time Position Management (RPM) system for respiratory gating.

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## Clinical Trials Update



Protocol 2009-053: Phase I study of low-dose fractionated radiotherapy (LDRT) as a chemosensitizer for gemcitabine and erlotinib in patients with locally advanced or limited metastatic pancreatic cancer.

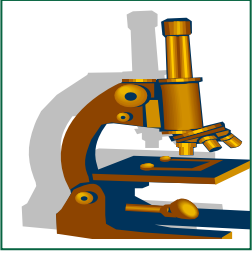
This phase I study is investigating the effect of LDRT with full-dose gemcitabine and erlotinib. There has been encouraging results of gemcitabine plus erlotinib with standard external beam radiotherapy. LDRT has been developed because standard RT doses require a 40-50% dose reduction of gemcitabine. LDRT has been shown to increase cell kill in low dose fractions (3 fractions of 0.4 Gy per day), compared with 1.2 Gy fractions, and also act as a chemopotentiator. LDRT to the entire abdomen is being used to control limited metastatic disease, as well as prevent rapid development of metastases to areas such as the liver and abdominal lymph nodes.

Patients eligible for this study will have adenocarcinoma of the pancreas that is not amenable to curative surgical resection. This includes locally advanced unresectable and limited metastatic disease that can be encompassed in the radiation fields. Prior chemotherapy for locally advanced or metastatic pancreatic cancer or prior radiation therapy to the abdomen is not permitted. Patients must be able to provide informed consent, be 18 years of age or older, and have an ECOG performance status of 0-1. Patients must have adequate hematologic and organ function and not have a concurrent active malignancy requiring therapy. Patient must be able to swallow oral medication and comply with study and follow up procedures.

This study is open to the second cohort of patients. Seven patients were put on the first cohort, receiving 1000 mg/m<sup>2</sup> of gemcitabine, 100 mg of erlotinib, and 40 cGy per fraction of radiation. Of the seven initial patients, one experienced a dose limiting toxicity. The second cohort will start with three patients and an increase of the radiation dose per fraction to 50 cGy.

*For questions regarding this protocol you may contact the Principal Investigator, Dr. Andre Konski at (313) 966-2274 or the Clinical Research Coordinator, Shauna Campbell at (313) 745-2472.*





## Research Update

By Michael C. Joiner, Ph.D.

Radiation Oncology is *multidisciplinary* – merging intimately together clinical therapy, physics and biology. ROC research is showcased by six large multidisciplinary themes where we believe that clinical gains can be made soon, based on the interests and skills of all our faculty, residents, students and staff.

Our first showcase theme is to evaluate Soy isoflavones in the treatment of non-small cell lung cancer with stereotactic body radiotherapy. Already, SBRT is having clinical successes, and we believe that Soy would be a non-toxic addition which could both enhance our effect on the tumor whilst protecting normal lung.

Secondly, we are putting together a new theme on the use of stem cells to protect normal tissues and allow us to escalate radiation dose particularly where we currently do less well with cancers like lung and brain, but also in head and neck where we could improve salivary gland function following radiotherapy. We have recruited Dr. Steven Zielske to work on this theme, and he will join us in June.

In our third theme, we are developing strategies to enhance radiation effect using nanoparticles made of metals like copper and iron, which can convert incident X rays into low-energy emissions which have high-LET properties that could help us treat more radioresistant cancers.

In collaboration with the Departments of Biology and Engineering, our fourth example is funded by a large federal grant and is allowing us to identify expression of genes which may be able to better predict the actual effect of radiotherapy in individual patients.

Our fifth showcase project has developed a complete system of treatment planning based on biologically effective dose which we expect to improve our ability to account for variability in biological factors such as radiosensitivity, hypoxia and cell proliferation from patient to patient.

*“Research is thriving in the ROC!”*

Finally in our sixth theme, we will be researching the best means to identify patients who will best benefit from radiotherapy with neutrons, and the best way to deliver the neutron radiotherapy. Research is thriving in the ROC!



## Farewell to our Graduating Residents

As the academic year nears to a close, we must say goodbye to our graduating residents, who have been members of the ROC family for the past 4 years:

**Iftekhhar Ahmad, M.D.**

**Tushar Kumar, M.D.**

**Keqin Tang, M.D.**

Best of luck to all of you in your future endeavors!

## Current Faculty and Staff

### Attendings

Andre A. Konski, MD (GI, Lung, Peds)

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### Medical Physics

Jacob W. Burmeister, PhD

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Joseph T. Rakowski, PhD

Michael Snyder, PhD

Colin G. Orton, PhD (Emeritus)

### Radiobiology Division

Michael C. Joiner, PhD

Gilda Gali Hillman, PhD

Stephen P. Zielske, PhD

### Residents

Iftekhhar Ahmad, MD (PGY5)

George Chen, MD (PGY3)

Michael Christensen, MD (PGY2)

Tushar Kumar, MD (PGY5)

Peter Paximadis, MD (PGY2)

Brooke Spencer, MD (PGY3)

Keqin Tang, MD (PGY5)

### Staff

Jill Moore, Administrator

Patty Smirnes, Administrative Coordinator

Sharon Piotrowski, Executive Assistant

Patty Hill, Administrative Assistant

Lisa Boyce, Billing Specialist

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*Visit us at:*

<http://radiationoncology.med.wayne.edu/>

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*If you have news or suggestions for future issues, please contact Patty Smirnes at [psmirnes@med.wayne.edu](mailto:psmirnes@med.wayne.edu)*