



## *Short Course on* **Introduction to Monte Carlo Treatment Planning**

Department of Radiation Oncology, Fox Chase Cancer Center, Philadelphia, PA 19111

April 12-14, 2012

**Course Director:** C-M Charlie Ma, Ph.D.  
**Course Coordinator:** Jinsheng Li, Ph.D.

The short course is designed to train future Monte Carlo RTP users and researchers in the use of Monte Carlo treatment planning software. The course will include didactic instruction and hands-on workshops. The course is specially suited for previous EGS4 and OMEGA/BEAM course participants, who want to expand their research into clinical RTP. Working knowledge on Unix/Linux-based system is expected to run our Monte Carlo RTP software. Medical Physics Continuing Education Credits (MPCEC) are being applied for.

The lectures will include

Day 1	Introduction to Monte Carlo Monte Carlo photon transport Monte Carlo electron transport Introduction to accelerator simulation codes Lab: beam simulation Linac simulation Source modeling beam commissioning Lab: beam modeling and commissioning
Day 2	Random number generators Geometry and scoring Variance reduction techniques Lab: variance reduction techniques CT data conversion Monte Carlo dose calculation codes Statistical analysis MU calculation Lab: patient dose calculation
Day 3	Treatment planning applications IMRT dose verification Monte Carlo inverse planning Lab: tutorials Code installation Course evaluation

### **Key Instructors:**

Jiajin Fan, Ph.D.,	FCCC	Eugene Fourkal, Ph.D.	FCCC
Jinsheng Li, Ph.D.,	FCCC	Charlie Ma, Ph.D.	FCCC
Robert A Price Jr., Ph.D.,	FCCC	Lu Wang, Ph.D.,	FCCC

To facilitate instruction at the hands-on labs, enrollment will be limited to 20 people. Registration will be strictly on a first-come basis. The course registration fee is \$1600, which covers the course materials, 2 lunches, 2 dinners and refreshments. For more detailed information about the course contents and nearby hotels, please contact the course coordinator:

Jinsheng Li, Ph.D.

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