Stanford IGRT Short Course

Time: September, 26-27, 2008
Sept. 27th (optional stay for hands-on practice, 2pm to 5pm)

Place: Cancer Center conference rooms, 2nd floor, Stanford School of Medicine, Stanford, CA 94305

Course Director:

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==========Day I: September 26, 2008==========

08:30am	Overview of IGRT and solutions from different vendors--L. Xing, Ph.D.
09:20am	**Dealing with inter-fraction organ movement I: On board imaging (OBI) system: simulation and treatment delivery verification**----P. Maxim, Ph.D.
10:10am	Coffee break
10:30am	**Dealing with inter-fraction organ movement II: Use of fiducials for IGRT**: ----P. Keall, Ph.D.
11:20pm	Dealing with inter-fraction organ movement III: Volumetric verification and guidance --- D. Hristov, Ph.D.
12:10pm	Lunch break
01:30pm	**Physicians' perspective of IGRT** ---- S. Hancock, MD
02:20pm	Physics, design attributes, QA and clinical implementation of PET/CT –K. Teo, Ph.D.
03:10 pm	Coffee break
03:30pm	IGRT treatment of lung cancer ---B. Loo, M.D.
04:20pm	**Metabolic imaging III:** FDG/FLT PET/CT and IGRT for GI cancers – A Koong, M.D.
05:10pm	IGRT treatment planning and imaging fusion D. Carlson, Ph.D.
06:30pm	**Reception at Bing Dinning Room**

==========Day II: September 27, 2008==========

08:30am	**Quality assurance related issues and tools in IGRT** – R. Wicha, Ph.D.
09:20am	Comparison of different vendors' IGRT solutions**--- Lei Xing**Ph.D.
10:10am	Coffee break
10:30am	**Managing intra-fraction organ motion I: 4D CT and IGRT treatment planning** ---- Rodney Wiersma, Ph.D.
11:20am	**Managing intra-fraction organ motion II: Clinical experience with gated radiation therapy**--- G. Luxton, Ph.D.
12:10pm	Image-Guided (RT, SRS, SBRT…) with the Cyberknife---S. Tenn, Ph.D.
12:30pm	Lunch break

==========Afternoon of September 27, 2008==========

02:00pm - 05:00pm (optional) In-depth hands-on practice of cone beam CT simulation, OBI auto-patient positioning, gated delivery, QA, planning and 3D and 4D PET/CT image acquisition. The attendees will go through the whole IGRT treatment procedure by using a motion-simulation phantom. Please sign up if you are interested to participate

in the optional hands-on session. We will meet 2:00pm on September 27th at the front desk area of Department of Radiation Oncology (basement of the Cancer Center).

Coordinator: D Carlson, L. Lee, Ph.D., and Rodney Wiersma, Ph.D.

- CBCT image acquisition of a phantom on Trilogy (pt scheduling, orthogonal kV imaging, full/half fan CBCT acquisition, image reconstruction) – W. Mao, L. Lee, Sharon Hanniff
- RPM & 4D PET/CT image acquisition (pr procedures for 4D PET/CT, marker placement, training, binning artifacts, etc.)- U. Langner and J. Wang
- Gated planning practice (4D CT image transfer, motion assessment, virtual 4D simulation, selection of gating phase, margin definition to count for residual motion, planning, plan QA, clinical issues)–D. Carlson, J. Anthony
- Gated treatment delivery (placement of RPM block, IMRT delivery using gating, gated dosimetric using ion chamber and ion chamber array, gated positioning using EPID) – R/ Wiersma and M. Chao

The above is only a tentative list of the talks and practices. The syllabus may be modified without notice.