

HARVARD MEDICAL SCHOOL JOINT PROGRAM IN NUCLEAR MEDICINE

COURSE OUTLINE 2008/2009

Course Title: Advanced Radiopharmaceutical Chemistry

**Course Instructor(s)
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Objective(s): To understand and report on the following:

the rationale underlying proposed use of the agent (disease, biochemistry, definition of the target, nature of the information to be gathered, target to non-target ratio);

the design of the molecule (choice of isotope, logic of the design);

synthesis of the agent (ease of synthesis, length, yield, practicality, cost);

any in vitro or in vivo experimental results – assess their value;

previous human data, if any – assess their value;

alternative agents (relative advantages or disadvantages);

conclude whether to go ahead with patient studies (cite the pertinent reasons clearly);

review the steps required to begin clinical use (participation in clinical trials; physician-sponsored IND, etc);

Examples of possible experimental agents:

^{11}C -PIB ^{11}C -stilbenes BMS Myocardial agent ^{18}F -FET ^{11}C -met or other amino acids ^{18}F -miso ^{18}F -DDNP

Criteria for Successful Completion of This Course

Submission of complete final report that reflects the objectives described above.

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Lecture Location(s): Gamble Reading Room, Children's Hospital Boston (CHB)

Laboratory for Experimental Nuclear Medicine conference room,
Armenise Building, Harvard Medical School: Room D2-136 (HMS)

Course Schedule

Time: 11:00 AM or 6:00 PM, as noted

Day	Date	Time	Location	Topic
Thu	12/18/2008	11:00 AM	CHB	Introduction to the course; make assignments
Fri	1/23/2009	6:00 PM	HMS	Discuss choices; how to proceed
Mon	3/2/2009	12:00 PM	HMS	Project outlines due
Mon	3/30/2009	12:00 PM	HMS	Monthly presentations of progress; discuss any issues or questions.
Mon	4/27/2009	12:00 PM	HMS	Monthly presentations of progress; discuss any issues or questions.
	May Date TBA			Monthly presentations of progress; discuss any issues or questions.

Additional Notes:

Individual meetings with Drs. Jones and Mahmood at other times as needed.