

**Syllabus: Radiobiology for Residents 2010-2011****Thursdays, 1:00 – 2:00 pm**

Rad. Onc. Conference Room E, Smilow Lower Level

| <u>Date</u>              | <u>Topic</u>                                | <u>Instructor</u>   | <u>Room</u>            |
|--------------------------|---|---|------------------------|
| September 16, 2010       | Basic Molecular Biology                     | Yilun Liu   | <b>Classroom LL412</b> |
| September 23, 2010       | Molecular Biology Techniques                | Yilun Liu   | <b>Classroom LL412</b> |
| September 30, 2010       | DNA Strand Breaks & Chromosomal Aberrations | Brooks Low  | <b>Classroom LL412</b> |
| October 07, 2010         | Molecular Mechanisms of Radiation Damage    | Dean Rupp   | <b>Classroom LL412</b> |
| October 14, 2010         | Molecular Mechanisms of DNA Repair          | Dean Rupp   | <b>Classroom LL412</b> |
| October 21, 2010         | Repair at the Cellular Level                | Dean Rupp   | <b>Classroom LL412</b> |
| <b>October 28, 2010</b>  | <b>Exam</b>                                 | <b>Yilun Liu<br/>Brooks Low<br/>Dean Rupp</b>                         | <b>Classroom LL412</b> |
| <b>November 04, 2010</b> | <b>ASTRO</b>                                | <b>ASTRO</b>  |                        |
| November 11, 2010        | Mechanisms of Cell Death                    | Doug Brash  | <b>Classroom LL412</b> |
| November 18, 2010        | Molecular Signaling – Cytoplasmic           | Doug Brash  | <b>Classroom LL412</b> |
| <b>November 25, 2010</b> | <b>HOLIDAY</b>                              | <b>HOLIDAY</b>  |                        |
| December 2, 2010         | <b>RESIDENT INTERVIEWS</b>                  |   |                        |
| December 09, 2010        | <b>RESIDENT INTERVIEWS</b>                  |   |                        |
| December 16, 2010        | <b>RESIDENT INTERVIEWS</b>                  |   |                        |
| <b>December 31, 2010</b> | <b>HOLIDAY</b>                              | <b>HOLIDAY</b>  |                        |
| January 6, 2011          | Molecular Signaling – Nuclear               | Doug Brash  | <b>Classroom LL412</b> |
| <b>January 13, 2011</b>  | <b>Exam</b>                                 | <b>Doug Brash</b>   | <b>Classroom LL412</b> |
| January 20, 2011         | Cell and Tissue Kinetics                    | Joann Sweasy  | <b>Classroom LL412</b> |
| January 27, 2011         | Cell & Tissue Survival Assays               | Sara Rockwell   | <b>Classroom LL412</b> |
| February 3, 2011         | Solid Tumor Systems                         | Sara Rockwell   | <b>Classroom LL412</b> |
| February 10, 2011        | Models of Cell Survival                     | David Carlson   | <b>Classroom LL412</b> |
| February 17, 2011        | Tumor Microenvironment                      | Zhong Yun   | <b>Classroom LL412</b> |
| February 25, 2011        | Oxygen Effect                               | Zhong Yun   | <b>Classroom LL412</b> |
| <b>March 3, 2011</b>     | <b>IN-SERVICE</b>                           | <b>IN-SERVICE</b>   |                        |
| <b>March 10, 2011</b>    | <b>Exam</b>                                 | <b>Joann Sweasy<br/>Sara Rockwell<br/>David Carlson<br/>Zhong Yun</b> |                        |

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|--|--|---|------------------------|
| March 17, 2011   | Therapeutic Ratio, Time–Dose, Fractionation                            | Joe Contessa  |                        |
| March 24, 2011<br><a href="#">Thursday at noon via web</a> | Clinically Relevant Normal Tissue Responses & Mechanisms               | Susan Higgins   | <b>Classroom LL412</b> |
| March 31, 2011   | Radiosensitizers, Bioreductive Drugs, Radioprotectors                  | Joanne Weidhaas   | <b>Classroom LL412</b> |
| April 7, 2011  | Biological Aspects of Alternative Dose Delivery Systems                | Abhi Patel  | <b>Classroom LL412</b> |
| April 14, 2011   | Interaction of RT with Chemotherapeutic Agents, PDT; MDR, Gene Therapy | Bruce McGibbon  | <b>Classroom LL412</b> |
| April 21, 2011   | Biology of Brachytherapy   | Suzanne Evans   | <b>Classroom LL412</b> |
| <b>April 28, 2011</b>                                      | <b>Exam</b>  | <b>Joanne Weidhaas<br/>Susan Higgins<br/>Joe Contessa<br/>Abhi Patel<br/>Bruce McGibbon<br/>Suzanne Evans</b> | <b>Classroom LL412</b> |
| May 5, 2011  | Hyperthermia   | Meena Moran   | <b>Classroom LL412</b> |
| May 12, 2011   | Total Body Irradiation – Therapeutic & Accidental                      | Abhi Patel  | <b>Classroom LL412</b> |
| May 19, 2011   | Cataracts; Radiation Effects in the Developing Embryo                  | Bryan Chang   | <b>Classroom LL412</b> |
| May 26, 2011   | Heritable Effects of Radiation   | Faye Rogers   | <b>Classroom LL412</b> |
| June 2, 2011   | Low Dose Hypersensitivity, Bystander Effects, Genomic Instability      | Joe Contessa  | <b>Classroom LL412</b> |
| <b>June 9, 2011</b>  | <b>Exam</b>  | <b>Meena Moran<br/>Abhi Patel<br/>Bryan Chang<br/>Joe Contessa<br/>Faye Rogers</b>                            | <b>Classroom LL412</b> |

1. Lectures last for one hour.
2. Handouts are to be given for each lecture. Handouts can be the slides. Please cite references in the handouts.
3. Provide a PowerPoint file of your lecture to Amrit Dhawan for uploading onto the Department Server.
4. Please give practice questions for each lecture. Practice questions can be taken from the in-service exam and other exam books.
5. Please e-mail exam questions to [Amrit Dhawan \(amrit.dhawan@yale.edu\)](mailto:amrit.dhawan@yale.edu) one week prior to the exam date. To better prepare the residents for the Board Exam, it is recommended that you use the format found in the in-service exam and other relevant exam books. Alternatively, you may want to include questions from the in-service exam and previous Boards. Include the answers on a separate sheet, along with the points to be given for each answer.
6. On the Exam day, the residents and instructors go over the answers to the questions. The exams are not graded.

### **Directions to Smilow Cancer Center and the Radiation Oncology Conference Room ("Room E") from the Hunter Building:**

Go through the Atrium in the main hospital into the Smilow lobby; take an elevator to the lower level, LL.

Enter the Radiation Oncology patient reception area (sign). Take an immediate right, go through the wooden door, go past the receptionists' desk, and go through the wooden double doors. Turn right and go halfway down the long hallway to the overhead sign that says "E" (near ceiling on left). The conference room is in Room E.

To use a laptop with the projector, it looks like you unplug the existing Dell computer connection at the projector and plug in the connector from your laptop.