

2015 SCHEDULE: June 3 – June 27, 2015, BROOKHAVEN NATIONAL LABORATORY

	SUN	MON	TUES	WED	THURS	FRI	SAT
WEEK 1		June 1	June 2	June 3	June 4	June 5	June 6
8:30 am				<p>Students' arrival at BNL all day</p> <p>Security/Housing</p> <p>(Check into Housing & Begin GUV Center processing if possible)</p> <p>Commence: Training Audit, Obtain BNL Photo IDs & Computer Access Cash Checks at Credit Union (if needed)</p>	NASA Summer School Opening		FREE TIME
9:00 am			Continue: Training Audit, Obtain BNL Photo IDs & Computer Access Cash Checks at Credit Union (if needed)		NSRL Facility Radiobiology Users Training: 9-10:30am Iris scans and TLDs from 10:30-12 noon (Building 911 Snyder Seminar Room)		
10:00 am							
11:00 am							
12:00 pm					Lunch	Lunch	
12:30 pm						1:00-2:00 pm BNL Tour +Group Photo (Tara Shiels) Start at Medical Bldg 490	
2:00 pm			John Norbury, Greg Nelson Arrival at BNL		<p><u>Radiological Worker Classroom Training and Exam: 2-4:30 pm</u></p> <p><u>Medical Building</u></p>	Complete iris scans and issuing of TLDs (if needed)	
3:00 pm						Elementary Radiation Physics (Norbury)	
4:00 pm						Elementary Radiation Biology (Nelson)	
5:00 pm					6:00 pm Student Welcome at Brookhaven Center Patio - Catered		

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Week 2	June 7	June 8	June 9	June 10	June 11	June 12	June 13	
8:30 am	FREE TIME	Medical Dept. Welcome & Program Goals (Norbury, Guida, Ward)	Medical Dept. Daily Briefing	Medical Dept. Daily Briefing	Medical Dept. Daily Briefing	8:30-11:30 <u>8:30 All start at NSRL</u> <u>First ½ Stay at NSRL</u> for LAB Day - NSRL (Rusek) with Beam Time <u>Second ½ at Medical</u> Work on Beam Time Proposals, etc.	FREE TIME	
9:00 am		NASA's Mission & Roadmap (Simonsen)	Principles of Radiation Protection (Borak)	Heavy Ions and Shielding Physics, including Neutrons (Heilbronn)	Chromosome Rearrangements (Morgan)			
10:00 am		What is Radiation? (Borak)	Intro to Space Radiation (Norbury)		Mutagenesis (Kronenberg)			
11:00 am		Break	Break	Break	Break			
11:30 am		Radiation Interactions with Matter (Borak)	Accelerators (Gardner)	Physics Homework/problems (Heilbronn)	Animal Studies (Weil)			11:30-11:45 Return to Medical Dept.
12:30 pm		Lunch	Lunch	Lunch	Lunch			11:45-1:00 Cancer Risk Model (Blattnig)
1:30 pm		Radiobiology 1 (Hall)	PhysicsTool Kit (Nelson)	1:30-3:00 DNA Repair (Wallace)	Genetics of Animal Studies (Weil)			Lunch
2:30 pm		Radiobiology 2 (Hall)	Physics Chalk Talk/problems	3:00 Break	Leukemia (Weil)			2:30-5:00 Second ½ at NSRL For LAB Day - NSRL (Rusek) with Beam Time
3:30 pm		Break	Break	3:30-5:00 Programmed Cell Death (Kronenberg)	Break			
4:00 pm		Introduction to Radiation Dosimetry (Borak)	Radiation detection methods (Borak/Heilbronn)		Systems Biology of Radiation (Morgan)			
5:00 pm	6:00 pm Evening Activity with G. Nelson	5:00 – 6:30 pm Faculty & Student Reception –Large Conference Room– Catered	Faculty Panel	Faculty Panel	Experimental Plan for Tomorrow (Rusek/Guida)			
5:30 pm			End	End	End	End		

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WEEK 3	June 14	June 15	June 16	June 17	June 18	June 19	June 20
8:30 am		Medical Dept. Daily Briefing	LAB DAY - NSRL (Kronenberg & Guida)	Medical Dept. Daily Briefing	Medical Dept. Daily Briefing	Medical Dept. Daily Briefing	FREE TIME
9:00 am		Biology Experiment Overview for Tomorrow (Kronenberg/Guida) & Biology Review (Kronenberg)	Beam Time 9:00–2:00	Radiosensitivity and Cell Cycle (Joiner)	Neurogenesis (Fike)	Nuclear Physics (Norbury)	
10:00 am				Effects on Embryo, Fetus, Transgenerational (Joiner)	Radiation Effects on Neurons & Stem Cells (Fike)	Space Radiation Transport & GCR simulation (Slaba)	
11:00 am		Break	Break	Break	Break	Break	
11:30 am		Radiation Chemistry & DNA Damage (Held)	LAB	Dose Rate Effects (Joiner)	11:30-12:30 Visit to Tandem Van de Graaff & EBIS (Carlson, Rusek)	HZETRN, OLTARIS & Monte Carlo codes (Slaba)	
12:30 pm		Lunch	Lunch	Lunch	Lunch	Lunch	
1:30 pm		Dose responses, LET & RBE (Held)	LAB	Operations, Risk, Monitoring Crew Exposure, ISS dosimetry (Semones)	1:30 – 4:30 pm: LAB In 2 Groups: 1. Flow Cytometry (Guida) 2. DNA Damage, etc. (Angela Kim)	Track Structure 1 (D.Goodhead)	
2:30 pm		Acute Effects (Jacky Williams)	LAB			Track Structure 2 (D.Goodhead)	
3:30 pm		Break	Break	Break		Break	
4:00 pm		Epigenetics (Turker)	GERM, RITRACKS (Kim, Plante)	Beam Time Proposals Homework, Questions	End	Non-targeted Effects (Azzam)	
5:00 pm		Faculty Panel		6:00 – 9:00 pm Key Note Lecture (Lawrence Townsend) Catered			
5:30 pm		End	End			End	

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	SUN	MON	TUES	WED	THURS	FRI	SAT
WEEK 4	June 21	June 22	June 23	June 24	June 25	June 26	June 27
8:30 am	FREE TIME	Medical Dept. Daily Briefing	Medical Dept. Daily Briefing	Medical Dept. Daily Briefing	Medical Dept. Daily Briefing	Medical Dept. Daily Briefing	DEPARTURE
9:00 am		Tool Kit Practical (Nelson)	3D Cell Culture Models (Shay)	Space Radiation Environment (Zeitlin)	Radiation-Induced DNA Damage & Repair Triggers Cell Signaling (Boothman)	Review of Beam Time Proposals (5 min presentation +feedback)	
10:00 am		Low-LET Reference Radiation (Sivertz)	Biol Countermeasures For Radiation Protection (Shay)	Accelerator Physics and Space Simulation (Zeitlin)	CNS Effects (O'Banion)	Review Of Beam Time Proposals (continued)	
11:00 am		<i>Break</i>	<i>Break</i>	<i>Break</i>	<i>Break</i>	<i>Break</i>	
11:30 am		Beam Time Proposals (Nelson)	Haematopoietic & Immune Response (Nelson)	Radiation-induced Instability (Kronenberg)	Cardiovascular Effects (O'Banion)	Review Of Beam Time Proposals (continued)	
12:30 pm		<i>Lunch</i>	<i>Lunch</i>	<i>Lunch</i>	<i>Lunch</i>	<i>Lunch</i>	
1:30 pm		Transgenic Models and New Imaging approaches (Kirsch)	Microbeams (Randers-Pehrson)	Omics Technologies (Story)	Cataracts (Ellie Blakely)	Student Team Presentations (~20 min each)	
2:30 pm		Cancer Stem Cells (Kirsch)	Microgravity Effects (Nelson)	Review Time (Nelson)	Heavy Particle Therapy (Ellie Blakely)		
3:30 pm		<i>Break</i>	<i>Break</i>	<i>Break</i>	<i>Break</i>	<i>Break</i>	
4:00 pm		Beam Time Proposals (Nelson)	Space Flight Measurements (Nelson)	End	Prepare Final Presentations <u>Beam Time Proposals Due</u>	Closing Ceremony Large Conf Room Catered	
5:00 pm		Faculty Panel	Faculty Panel		End		
5:30 pm		End	End		End	End	