NASA Space Radiation Summer School

2009 PROGRAM SCHEDULE
May 27 – June 19, 2009

PRE-WEEK		SUN	MON	TUES	Wednesday	Thursday	Friday	SAT
Time/Date	MAY	24	25	26	27	28	29	30 MAY
8:30 am			Memorial Day Holiday		Student arrival at BNL all day Security / Housing	NASA Summer School Opening – Medical Bldg. Small Conf Rm	Radiobiology Users Training & Exam – Snyder Seminar Rm, Bldg. 911 (John Maraviglia x7343), (8:30-10:30am)	FREE or Backup Day for Training
8:45 am						Welcome & Opening Remarks – Medical Bldg. Small Conf Rm – Derek Lowenstein		
9:15 am						BNL Photo ID, Training Audit, Computer Acct. Forms, TFCU Check Cashing - GUV CENTER, Research Support Bldg. 400		
10:30 am							Issue Film Badge/TLD's & Iris Scan Registration, Access Card Keys (Ann Marie Luhrs x7007, 1st Floor Bldg. 911)	
12:00 pm						LUNCH	LUNCH	
1:00 pm						Orientation & Lab Tour - Elaine Lowenstein (1:00-2:15pm) x2400	Medical Department Orientation – Bernadette Whelan (1:00-2:00pm)	
2:00 pm							BLAF - Animal Facility Tour – MaryAnn Petry (2:00-3:00pm)	
2:30 pm						RAD WORKER Part II Classroom training - Medical Dept. Small Conf. Room (2:30-4:30 pm) Jim Nemeth (x4766)		
4:30 pm							**Informal Reception BROOKHAVEN CENTER Patio Area**	

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WEEK 1	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Time/Date	**31 May**	**1**	**2**	**3**	**4**	**5**	**6**
8:30 am	FREE	Medical Dept. BM/PG Welcome & Program Goals	Medical Dept. Daily Briefing	Medical Dept. Daily Briefing	Medical Dept. Daily Briefing	Medical Dept. Daily Briefing	FREE
9:00 am		NASA's Mission and Roadmap F. Sulzman	Relativity – 2 J. Norbury	Energy Deposition T. Borak & L. Heilbronn	Neutron Physics L. Heilbronn	LAB DAY • P. Guida - Discuss 6/9 Experiment Plan • J. Baulch & W. Goetz – Survival Curve Experiment Plan • Adam Rusek	
10:00 am		Calculus J. Norbury	Particle Interaction and Track Structure T. Borak	Dose Fluences and Dose Rate T. Borak & L. Heilbronn	Neutron Physics L. Heilbronn		
10:50 am		BREAK	BREAK	BREAK	BREAK	BREAK	
11:00 am		Relativity – 1 J. Norbury	Basic Particle physics T. Borak	Chalk board practices T. Borak & L. Heilbronn	Tour of AGS with Kevin Brown, Bldg. 911-B	LAB • Adam Rusek	
12:00 pm		LUNCH	LUNCH	LUNCH	LUNCH	LUNCH	
1:00 pm		Radiobiology – 1 E. Hall	Radiation Cemistry, Clustered Damage K. Held	DNA repair C. Anderson (tentatively confirmed with admin)	Physics Homework L. Heilbronn	LAB	
2:30 pm		BREAK	BREAK	BREAK	BREAK	BREAK	
2:50 pm		Radiobiology – 2 E. Hall	LET and RBE K. Held	Systems Biology of Risk L. Hlatky	Chromosome Rearrangements B. Morgan	LAB	
4:00 pm	**Informal Student Gathering – Greg Nelson Apt.**	ToolKit Homework Low LET Lab G. Nelson	Energy Deposition and Foci Formation A. Ponomarev	Tufts NSCOR Overview L. Hlatky	Experimental Plan for Tomorrow A. Rusek	Microscope Lab - Chromosome Aberrations B. Morgan	
5:00 pm		Faculty Panel	Faculty Panel	Faculty Panel	END	END	
5:30 pm		**Welcome Reception BERKNER LOBBY**	END	END	**RECEPTION**		

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WEEK 2	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Time/Date	**7**	**8**	**9**	**10**	**11**	**12**	**13**
8:30 am	FREE	Medical Dept. Daily Briefing	Medical Dept. Daily Briefing	Medical Dept. Daily Briefing	Medical Dept. Daily Briefing	Medical Dept. Daily Briefing	FREE
9:00 am		Quantum Physics - 1 J. Norbury	LAB	Particle Physics - 1 J. Norbury	Accelerator-Based Space Physics C. Zeitlin	Space Radiation Environment Patrick O'Neill	
10:00 am		Quantum Physics - 2 J. Norbury	LAB	Particle Physics - 2 J. Norbury			
10:50 am		BREAK	BREAK	BREAK	BREAK	BREAK	
11:00 am		Accelerators D. Lowenstein	Nuclear Physics – 1 J. Norbury	Physics Review J. Norbury	Model Systems J. Williams	Physics Review Patrick O'Neill	
12:00 pm		LUNCH	LUNCH	LUNCH	LUNCH	LUNCH	
1:00 pm		1:00 – 2:00 pm CNS Effects – 1 K. O'Banion	Nuclear Physics – 2 J. Norbury	Acute Effects A. Kennedy	Late Effects, Leukemia, Cancer J. Williams	LAB Data Analysis - P. Guida & gamma H2AX – A. Kim	
		2 – 2:20 pm BREAK		**2:10 – 2:50** BREAK & FACS – P. Guida & Metaphases – B. Morgan	**2:10 – 2:50** BREAK FACS – P. Guida & gamma H2AX – A. Kim		
		2:20 - 3:50 pm Oxidative Stress C. Limoli	**2:30 – 2:50** BREAK			**2:30 – 2:50** BREAK	
2:50 pm			Radiation Induced Cell Signaling M.H. Barcellos-Hoff	Radioprotectors A. Kennedy	Space Radiation Protection J. Shay	LAB	
4:00 pm		3:50 – 5:00 pm Radiation Effects on Neurons and Stem Cells C. Limoli	Lawrence Berkeley NSCOR Overview M.H. Barcellos-Hoff	Non-Targeted Effects B. Morgan	UTSW NSCOR Overview J. Shay	END	
5:00 pm		Faculty Panel	Faculty Panel	Faculty Panel	Faculty Panel	**BBQ Dinner (Apt. Picnic Area)**	
5:30 pm		**M. Durante – Dinner Lecture – date may change**	END	END	END		

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Time/Date	**14**	**15**	**16**	**17**	**18**	**19**	**20**
8:30 am	FREE	Medical Dept. Daily Briefing	Medical Dept. Daily Briefing	Medical Dept. Daily Briefing	Medical Dept. Daily Briefing	Medical Dept. Daily Briefing	**Travel Home**
9:00 am		Physics ToolKit Practical G. Nelson	Microgravity Effects G. Nelson	Hematopoietic & Immune Responses G. Nelson	Radiation Quality and Models F. Cucinotta	Student Team Physics PPT Presentations	
10:00 am		CR-39 / TLD detectors E. Benton	Beam Time Proposals E.Benton & G.Nelson	Microbeams and Bystander Effects M. Sowa	Radiation Risk Models F. Cucinotta	Student Team Cell PPT Presentations	
10:50 am		BREAK	BREAK	BREAK	BREAK	BREAK	
11:00 am		Space Flight Measurements G. Nelson	Epigenetics J. Baulch	Review Time G. Nelson & B. Morgan	Animal Studies B. Ullrich	Student Team Animal PPT Presentations	
12:00 pm		LUNCH	LUNCH	LUNCH	LUNCH	LUNCH	
1:00 pm		Beam Time Proposals E. Benton & G. Nelson	Transgenerational Effects J. Baulch	Review Time G. Nelson & B. Morgan	Colorado State Univ. NSCOR Overview B. Ullrich	Review of Beam Time Proposals	
2:30 pm		BREAK	BREAK	BREAK	BREAK	BREAK	
2:50 pm		Radiosensivity and the Cell Cycle M. Joiner	Mutagenesis A. Kronenberg	LAB TIME	Prepare Final Powerpoint Presentations	Review of Beam Time Proposals	
4:00 pm		Dose Rate Effects M. Joiner	Apoptosis A. Kronenberg	Work on presentations	Prepare Final Powerpoint Presentations & Submit Beam Time Proposals	Review of Beam Time Proposals	
5:00 pm		Faculty Panel	Faculty Panel	END	Faculty Panel	**Closing Ceremony LRG. CONF RM**	
5:30 pm		END	END	**BANQUET – Sea Basin - J. Clark (tentative), Medicine in the Space Environment**	END		