

Original: May 4, 2009  
 Updated: July 4, 2009



## 2009 Young Investigators' Summer Program in Nuclear Technology

This schedule is subject to modifications. Changes will be communicated accordingly.

**Lectures/seminars** will be held in 1202 Burlington Engineering Labs, any changes to will be announced. Meeting locations for events in other buildings or off-campus trips will be announced ahead of time.

**BREAKFAST** at University Towers Dining Hall (top floor)

**LUNCH** at Clark Dining Hall

**DINNER** at Fountain Dining Hall (in Sullivan Hall) unless otherwise noted. **Off-campus meals** are indicated.

**Summer Program Director:**

Ms. Marshall -- 919.515.5876 direct line; 919.332.9215 cell phone; [lisa.marshall@ncsu.edu](mailto:lisa.marshall@ncsu.edu)

**Student Counselors:** Evan Harms 910-638-8386, Lauren Hembree 919-616-5868, and Kyle O'Donnell 336-847-8968

Sunday, July 5	SUBJECT	INSTRUCTORS
2:00-5:00 pm	DORM CHECK-IN (All day airport pick-up by counselors, please advise ahead of time of arrival time)	Ms. Marshall and Counselors (airport pick-ups by Kyle & Lauren)
5:00-6:00 pm	PROGRAM ORIENTATION (students only)	Ms. Marshall
6:00 pm-	DINNER - University Towers <i>then</i> campus tour, etc.	Counselors
<b>Monday, July 6</b> 7:00-9:00 am	BREAKFAST – University Towers	
9:00-10:30 am	University & Nuclear Engineering Education	Ms. Lisa Marshall
10:35 am-12 noon	EOS computing tutorial (including FORTRAN programming) <b>Room 201 Daniels</b>	Counselors (Lauren leads, Evan & Kyle assist)
12:00-1:00 pm	LUNCH – Clark Dining Hall	
1:00-1:30 pm	Laboratory Orientation: Rules and Conduct, Laboratory Safety	Mr. Wicks, Reactor Health Physicist
1:35-3:55 pm	Lab: half life and attenuation coefficient	Counselors (Evan leads; Kyle & Lauren assist)
4:00-5:00 pm	SEMINAR: History of Nuclear Energy	Dr. Raymond Murray
5:00-7:00 pm	DINNER – Fountain Dining Hall	
7:00-11:00 pm	EXTRA CURRICULAR ACTIVITY (e.g. dorm pool, gym/sports, reading, movie rental)	Counselors

<b>Tuesday, July 7</b> 7:00-9:00 am	BREAKFAST – University Towers	
9:00-10:30 am	Nuclear Waste Management	Dr. Yim ( <b>tentative</b> )
10:35 am-12:00 noon	Plasma & Nano-manufacturing	Dr. Shannon
12:00-1:00 pm	LUNCH – Clark Dining	
1:00-2:30 pm	US Energy Plan	Ms. Marshall
2:40-4:45 pm	Library Orientation – nuclear engineering collection/databases (leaving from lecture hall, room 1202 Burlington at 2:30 pm)	Librarian(s)
5:00-7:00 pm	DINNER – Fountain Dining Hall	
7:00-11:00 pm	EXTRA CURRICULAR ACTIVITY (e.g. dorm pool, gym/sports, movie rental, library)	Counselors
<b>Wednesday, July 8</b> 7:00-9:30 am	BREAKFAST – University Towers	
<b>9:30-10:15 am</b> (45 minutes)	Nuclear Reactor Program including research (Group 1) Neutron Activation Analysis (Group 2)	Mr. Broussard Mr. Lassell
10:25 am-12:00 noon (45 minutes)	Nuclear Reactor Program including research (Group 2) Neutron Activation Analysis (Group 1)	Mr. Broussard Mr. Lassell
12:00-1:00 pm	LUNCH – Clark Dining Hall	
1:00-2:30 pm	Nuclear Power: Perhaps a Renaissance in the Making?	Dr. Turinsky
2:35-3:55 pm	Nuclear Materials	Mr. Elkazaz
4:00-5:00 pm	SEMINAR: Modeling and Simulation of Nuclear Systems	Dr. Abdel-Khalik
5:00-7:00 pm	DINNER – Fountain Dining Hall	
7:00-11:00 pm	EXTRA CURRICULA ACTIVITY (e.g. dorm pool, gym/sports, movie rental, library)	Counselors

<b>Thursday, July 9</b>		
7:00-9:00 am	BREAKFAST – University Towers	
9:00-9:30 am	Drive to New Hill, NC	Ms. Marshall and Counselors
9:30-11:30 am	Educational Tour: Shearon Harris Nuclear Power Plant	
11:30-12 noon	Drive back to campus	
12:30-1:30 pm	LUNCH – Clark Dining Hall	
1:30-3:00 pm	Radiation Measurements: common methods of radiation detection, and biological effects	Dr. Bourham
3:05-4:30 pm	Plasma, Fusion Power Plants, & Fusion in the 21 <sup>st</sup> century	Dr. Bourham
5:00-7:00 pm	DINNER – Fountain Dining Hall	
7:00-11:00 pm	EXTRA CURRICULAR ACTIVITY (e.g. dorm pool, gym/sports, movie rental, library, research work)	Counselors
<b>Friday, July 10</b>		
7:00-9:00 am	BREAKFAST – University Towers	
10:00- 12:00 noon	Drive to Wilmington, NC	Ms. Marshall and Counselors (all day)
12:00-12:30 pm	Check-in at GE-Global Nuclear Fuels	
12:30-1:30 pm	LUNCH w/ lecture re: the Business of GE-Global Nuclear Fuels	
1:30-4:00 pm	Tour of Fuel Fabrication Facility	
4:00-4:30 pm	Drive to Wrightsville Beach	
4:30–7:00 pm	Beach Time	
7:00-8:00 pm	DINNER (Moe’s Southwest Grill)	
8:00-10:00 pm	Drive back to Raleigh, NC	
10:00 pm -	FREE TIME	
<b>Saturday, July 11</b>		
7:00-9:00 am	BREAKFAST – University Towers	
9:00-12:00 noon	Spare time (e.g. research work, dorm pool, gym/sports, laundry, etc)	Counselors (all day)
12:00-1:00 pm	LUNCH (Clark Dining Hall)	
1:30-5:00 pm	Spare time (e.g. research work, dorm pool, gym/sports, laundry, etc)	
5:00-7:00 pm	DINNER – Clark Dining Hall	
7:00 pm-	EXTRA CURRICULAR ACTIVITY (e.g. dorm pool, gym/sports, reading, cinema)	

<b>Sunday, July 12</b> 7:00-9:00 am	BREAKFAST – University Towers	
9:00 am-12:00 noon	Spare time (Let us know ahead of time if you wish to attend religious services)	Counselors
12:00-1:00 pm	LUNCH – Clark Dining Hall	
1:00-5:00 pm	Spare time (e.g. research work, dorm pool, gym/sports, laundry, etc.)	
5:00-7:00 pm	DINNER – Clark Dining Hall	
7:00 pm -	EXTRA CURRICULA ACTIVITY (e.g. dorm pool, gym/sports, reading)	
<b>Monday, July 13</b> 7:00-9:00 am	BREAKFAST – University Towers	
9:00-10:30 am	Radiation Applications: Interesting Applications in Industry and Medicine	Dr. Gardner
10:35-11:00 am	Drive to RTP	Ms. Marshall and Counselors
11:00 am-12:30 pm	Educational Tour: PET NET, a radio-pharmaceutical company	
12:30-1:00 pm	Drive back to campus	
1:00-2:00 pm	LUNCH – <b>Fountain Dining Hall</b>	
2:00-3:40 pm	Project Presentations by professors & staff	Project Mentors
3:40-4:00 pm	Students choose project teams	
4:00-4:30 pm	Break as Ms. Marshall chooses teams	Ms. Marshall
4:30-4:45 pm	Announcement of teams	Ms. Marshall
5:00-7:00 pm	DINNER – Fountain Dining Hall	
7:00-11:00 pm	EXTRA CURRICULA ACTIVITY (e.g. dorm pool, gym/sports, reading, movie rental, research work)	Counselors
<b>Tuesday, July 14</b> 7:00-9:00 am	BREAKFAST – University Towers	
9:00-10:30 am	Fission & Reactors: fission, chain reaction & reactor concepts	Dr. Doster
10:30-10:45 am	Drive to Centennial Campus	Counselors & Ms. Marshall
10:45-12:15 pm	Industrial Plasma Applications: demo	Chris Hardiman
12:15-12:30 pm	Drive to main campus	Counselors & Ms. Marshall
12:30-1:30 pm	LUNCH – Clark Dining Hall	
<b>1:30-5:00 pm</b>	Project Work	Project Mentors
5:00-7:00 pm	DINNER – Fountain Dining Hall	
7:00 -11:00 pm	EXTRA CURRICULA ACTIVITY (e.g. dorm pool, gym/sports, reading, movie rental, research work)	Counselors

<b>Wednesday, July 15</b>		
7:00-9:00 am	BREAKFAST – University Towers	
9:00-10:30 am	Fission Power Systems: nuclear power reactors and systems	Dr. Doster
10:35-11:45 am	Student Research Panel	Current Undergraduates ( <b>in progress</b> )
11:45-1:00 pm	LUNCH – Clark Dining Hall	
1:00-5:00 pm	Project Work	Project Mentors
5:00-7:00 pm	DINNER – Fountain Dining Hall	
7:00-11:00 pm	EXTRA CURRICULA ACTIVITY (e.g. dorm pool, gym/sports, reading, movie rental, research work)	Counselors
<b>Thursday, July 16</b>		
7:00-9:00 am	BREAKFAST – University Towers	
9:00-9:15 am	Drive to Textiles Building, Centennial Campus	Ms. Marshall & Counselors
9:15-11:45 am	Plasma Generation Applications & Demo	Ms. Cornelius & Ms. Winfrey
11:45-12:00 noon	Drive back to main campus	Ms. Marshall & Counselors
12:00-1:00 pm	LUNCH – Clark Dining Hall	
1:00-4:00 pm	Project Work	Project Mentors
4:05-5:00 pm	SEMINAR: Nuclear Navy	Ms. Christine Fletcher
5:00-7:00 pm	DINNER – Fountain Dining Hall	
7:00-11:00 pm	EXTRA CURRICULA ACTIVITY (e.g. dorm pool, gym/sports, reading, movie rental, research work)	
<b>Friday, July 17</b>		
<b>7:00-9:00 am</b>	BREAKFAST – University Towers	
9:00 am-4:00 pm	Industrial visit ( <b>in progress</b> )	Ms. Marshall & Counselors
1:00-2:00 pm	Lunch (off campus)	↓
4:00-5:00 pm	Drive back to campus	
5:00-7:00 pm	DINNER – Fountain Dining Hall	
7:00-11:00 pm	EXTRA CURRICULA ACTIVITY (e.g. dorm pool, gym/sports, reading, movie rental, research work)	Counselors

<b>Saturday, July 18</b> 7:00-9:00 am	BREAKFAST – University Towers	
9:00 am-10:30 am	Spare time (e.g. research work, dorm pool, gym/sports, laundry, etc)	Counselors
10:30-11:00 am	Drive to Durham (** <b>pack completed volunteer forms; everyone in closed tip shoes</b> )	
11:00-11:45 am	Early LUNCH (Cook Out or Zaxby’s Restaurant)	
1:00-3:00 pm	Volunteer at Food Bank in Durham	
3:00-5:00 pm	Spare time	
5:00-7:00 pm	DINNER – Clark Dining Hall	
7:00-11:00 pm	EXTRA CURRICULA ACTIVITY (e.g. cinema)	
<b>Sunday, July 19</b> 7:00-9:00 am	BREAKFAST – University Towers	
9:00 am-12:00 noon	Spare time (Let us know ahead of time if you wish to attend religious services)	Counselors
12:00-1:00 pm	LUNCH at Clark Dining Hall	
1:00-5:00 pm	Spare time (e.g. research work, dorm pool, gym/sports, laundry, etc.)	
5:00-7:00pm	DINNER at Clark Dining Hall	
7:00-11:00pm	EXTRA CURRICULA ACTIVITY (e.g. bowling)	
<b>Monday, July 20</b> 7:00-9:00 am	BREAKFAST – University Towers	
9:00 am-12:00 noon	Project Work	Project Mentors
12:00-1:00 pm	LUNCH – Clark Dining Hall	
1:00-5:00 pm	Project Work	Project Mentors
5:00-7:00 pm	DINNER – Fountain Dining Hall	
7:00-11:00 pm	EXTRA CURRICULA ACTIVITY (e.g. dorm pool, gym/sports, reading, movie rental, research work)	
<b>Tuesday, July 21</b> 7:00-9:00 am	BREAKFAST – University Towers	
9:00 am-12:00 noon	Project Work	Project Mentors
12:00-1:00 pm	LUNCH – Clark Dining Hall	
1:00-5:00 pm	Project Work	Project Mentors
5:00-7:00 pm	DINNER – Fountain Dining Hall	
7:00-11:00 pm	EXTRA CURRICULA ACTIVITY (e.g. dorm pool, gym/sports, reading, movie rental, research work)	

<b>Wednesday, July 22</b> 7:00-9:00 am	BREAKFAST – University Towers	
9:00 am-12:00 noon	Project Work	Project Mentors
12:00-1:00 pm	LUNCH – Clark Dining Hall	
1:00-5:00 pm	Project Work	Project Mentors
5:00-7:00 pm	DINNER – Fountain Dining Hall	
7:00-11:00 pm	EXTRA CURRICULA ACTIVITY (e.g. dorm pool, gym/sports, reading, movie rental, research work)	
<b>Thursday, July 23</b> 7:00-9:00am	BREAKFAST – University Towers	
9:00-11:00 am	Practice project presentations #1	Project Mentors and Ms. Marshall
11:00-12:00 noon	Edits	Students on own
12:00-1:00 pm	LUNCH – Clark Dining Hall	
1:00-3:00 pm	Practice project presentations #2	Ms. Marshall
3:00-4:00 pm	Program discussion, evaluation, and feedback	Ms. Marshall
4:00-7:00pm	DINNER – Fountain Dining Hall	
6:00-11:00pm	EXTRA CURRICULA ACTIVITY (e.g. dorm pool, gym/sports, research work, presentation rehearsals, packing for home)	Counselors
<b>Friday, July 24</b> 7:00-9:00 am	BREAKFAST – University Towers	
9:00-9:30 am	Drive to and presentation set-up at McKimmon Center	Counselors
9:30-11:00 am	Project Final Presentations-- students give oral presentations of projects at McKimmon Center (corner of Gorman & Western Blvd – location being confirmed)	Project mentors, faculty/staff, counselors, <i>parents</i> & campers
11:00 am –11:30 am	<b>Guest Speaker</b>	↓
11:30 am-1:00 pm	Catered LUNCHEON at McKimmon Center (room will be on TV monitor)	
1:00 pm	Drive back to University Towers	Counselors
1:30 pm-	DORMITORY CHECKOUT at University Towers (Evan will drop-off out-of-state students to RDU Airport)	Counselors, Ms. Marshall, parents & campers