Final Report for

NRC Fellowships in the Nuclear and Radiological Engineering Program at Georgia Tech

Contract #: NRC-38-07-700
Project #99868711K
Period of Performance: September 1, 2007 through August 30, 2010

Pi: Farzad Rahnema, Co-PI: Dwayne Blaylock

The NRC fellowships in the Nuclear and Radiological Engineering Program at Georgia Tech funded fellowships for two students, Mr. Kevin Connolly and Mr. Christopher Stewart, during the period of performance. A summary of the fellowship program follows:

Fellowship Recruiting:

The original NRC fellowship project was intended to fund between 4 and 7 yearlong fellowships to highly qualified students. As originally structured the fellowship would fund up to $10,000 to cover the cost of tuition, mandatory student fees and books and supplies. The NRE program advertised the fellowship opportunity to qualified students in fall 2007. However, due to the limiting amount of the fellowship, the lack of a student stipend, employment requirements, and the limited number of unfunded students in the NRE program at the time of the receipt of the project funding, there was no suitable recipient identified for the first fall.

Concurrently with the recruiting efforts in the fall 2007, Georgia Tech requested the ability to award fellowships with stipends that were consistent with the level of support for Graduate Research Assistants, namely $24,000/year ($2,000) per month. Approval to award up to $46,296 per fellowship was received by Georgia Tech on 2/22/08.

Immediately the NRE program began identifying and recruiting qualified candidates who were to begin their graduate studies in either the Fall 2008 or Spring 2009 semester. Of the students recruited, three of them expressed interested in being considered for a fellowship. On July 29th, 2008, as proposed in the fellowship application, a committee of three NRE faculty members, Drs. Nolan Hertel, Farzad Rahnema and Chris Wang, convened and reviewed the qualifications of the three students who expressed interest in the program. The committee review of candidates was passed on to the Associate Chair for Graduate Studies who offered the fellowship award to the first student on the committees list. This student ultimately turned down the fellowship after reviewing the award and agreement. The fellowship award was then offered to the second student on the list, Mr. Kevin Connolly, by the Associate Chair for Graduate Studies. Mr. Connolly accepted the award beginning in the spring 2009 semester, his first semester enrolled as a graduate student.

For the graduate students entering fall 2009 only one qualified candidate identified for the remaining fellowship funds expressed interested in the award. Given the amount of funding remaining, Mr. Christopher Stewart was given a one semester NRC fellowship for the spring 2010 semester.

Fellowship Recipient, Kevin Connolly:

Kevin Connolly, was enrolled directly into the Ph.D program in the spring 2009 semester after graduating with a 3.93/4.00 GPA in his undergraduate studies in Nuclear and Radiological Engineering. He was enrolled full time in the spring, summer and fall 2009 semesters and maintains a 4.0/4.0 GPA in his graduate studies. He has taken the following courses: Plasma Physics, Reactor Physics, Radiation Physics, Transport Fundamentals, Linear Algebra, Numerical Linear Algebra, Computational Transport and Thesis Hours. The tentative title of his thesis is: Coarse Mesh Radiation Transport Method for Hexagonal Prismatic Block Reactors in Two Dimensions." His expected graduation date for his Master of Science in Nuclear Engineering is spring 2011. Post fellowship he has continued his studies and has passed his Ph.D qualifying examination and other requirements for his Ph.D degree. Additionally Mr. Connolly was a recipient of a three year Nuclear Energy University Program fellowship from the Department of Energy starting the spring 2010 semester.

Below is a financial summary of paid expenses of the fellowship for Kevin Connolly for the fellowship ending December 31, 2009:

Item	Cost
Tuition (Spring, Summer, Fall 2009)	$10,891
Stipend ($2000/mo for January-December 2009)	$24,000
Books, Materials and Supplies	$1,000
Total:	**$35,891**

Fellowship Recipient, Christopher Stewart:

Christopher Stewart was enrolled directly into the PH.D. program in the fall 2010 semester after completing his undergraduate studies at Vanderbilt University. He was enrolled full time in the spring, 2010 semester and maintains a 3.91/4.0 GPA in his graduate studies. He has taken the following courses: Radiation Dosimetry, Radiation Sources and Applications, Radiation Physics, Transport Fundamentals, Statistical Mechanics II, Plasma Physics, Reactor Physics, Radiation Detection and Thesis Hours. The tentative title of his thesis is: Use of a Subcritical Advanced Breeder Reactor in the Uranium-Plutonium Fuel Cycle. His expected graduation date for his Master of Science in Nuclear Engineering is Fall 2011. Mr. Stewart intends to take the PhD qualifying exams during the spring 2011 semester. Mr. Stewart is also a recipient of a three year Nuclear Energy University Program fellowship from the Department of Energy starting the fall 2010 semester.

Below is a financial summary of paid expenses of the fellowship for Kevin Connolly for the fellowship ending December 31, 2009:

Item	Cost
Tuition (Spring, 2010)	$4,260
Stipend ($1,536/mo for January-April 2010)	$6,144
Total:	**$10,404**

Summary

The NRC fellowships in the Nuclear and Radiological Engineering Program at Georgia Tech has provided fellowship awards for two PhD students in the Nuclear and Radiological Engineering Program, Mr. Kevin Connolly and Mr. Christopher Stewart. As detailed above, the receipt of a NRC fellowship has enhanced the ability of these students to compete and receive additional fellowship funding through the Department of Energy, Nuclear Energy University Programs. Ultimately at the completion of their respective studies the NRC will benefit from their investment with two highly qualified individuals.