U.S. DEPARTMENT OF ENERGY NATIONAL NUCLEAR SECURITY ADMINISTRATION

OFFICE OF NONPROLIFERATION AND INTERNATIONAL SECURITY'S NEXT GENERATION SAFEGUARDS INITIATIVE

Nuclear Nonproliferation International Safeguards Graduate Fellowship Program





Student Deadline for Applications for 2014-2015 March 3, 2014

Awards Announced April 2014

Administered by:

The Medical University of South Carolina (MUSC), Office of Special Programs through a Cooperative Agreement with the South Carolina Universities Research and Education Foundation (SCUREF)

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Introduction To The Nuclear Nonproliferation International Safeguards Graduate Fellowship Program

This program is designed to meet the needs of the Department of Energy's (DOE) National Nuclear Security Administration (NNSA) for appropriately trained personnel in research and development in areas pertinent to Nuclear Nonproliferation and International Safeguards (NNIS). Increasing costs for graduate education and a high demand for nuclear-related scientists and engineers with a bachelor's degree have had a negative impact on the number of well-qualified students seeking advanced degrees in nuclear technologies and sciences. This problem has been particularly acute in programs in nuclear materials, engineering, nuclear science and engineering, radiochemistry and health physics, which has resulted in the closure of several programs and declining graduate school enrollments over the past two decades. This fellowship seeks to build collaboration between the leading nuclear technology programs and the schools studying the policy aspects of nuclear nonproliferation. The primary emphasis of this fellowship is to produce doctoral graduates who are familiar with both the technical and policy aspects of nonproliferation and international safeguards.

Two additional elements are having a negative impact on the United States' Nuclear Nonproliferation International Safeguards workforce pipeline. First, the demand for nuclear scientists and engineers (NSE) has increased dramatically over the past five years. The employment demands from the radiopharmaceutical, nuclear power, nuclear defense, and waste management industries have caused a dramatic increase in the demand for nuclear scientists and engineers, who would previously have worked in the Nonproliferation International Safeguards arena. Secondly, recent surveys have shown that the majority of NSE currently in the workforce are rapidly approaching retirement age. As a result, the demand for workers in this field will continue to increase in the near future.

The NNSA's Next Generation Safeguards Initiative (NGSI) is a comprehensive, multi-million dollar per year program dedicated to developing the policies, concepts, technologies, expertise, and infrastructure necessary to sustain the international safeguards system over the next 25 years. One of the key elements of the NGSI is the revitalization and expansion of the nuclear nonproliferation and international safeguards human capital base to meet the challenges outlined above through targeted investments in a new generation of international nuclear safeguards professionals.

The NNSA is the principal federal sponsor of long-term Nuclear Nonproliferation International Safeguards-related research and development. The investments made by NNSA focus on cutting edge, high-risk/high-payoff, basic and applied research, including testing and evaluation. This work has led to improvements in international safeguards systems and technologies. These efforts can only be enhanced through the appropriate development of a technical workforce to meet the challenges posed by making the world safe from nuclear threat.

This fellowship program is designed to provide incentives for universities to invest in and develop their NSE programs. Specifically, this program's goal is to encourage talented students to continue their education and seek a graduate education in research related to international safeguards and nuclear nonproliferation.

TECHNICAL AREAS

The objective of the Nuclear Nonproliferation International Safeguards Graduate Fellowship (NNIS) program is to meet NNSA's need for highly trained scientists and engineers in the technical areas in which NNSA has ongoing research and development programs. At present, these areas include the following:

- Advancements in analytical techniques and instrumentation used in determining inventory and characterization of nuclear materials.
- Identifying ways to improve laboratory or in-field instrumentation and techniques for the physical, chemical, and radiological analysis of nuclear materials.
- Development of improved approaches to integrating international safeguards into the early design of nuclear facilities.
- Development of advanced safeguard approaches and techniques that can be applied to existing and future nuclear facilities, including, *inter alia*, uranium enrichment, reprocessing, and reactor facilities.

- Development of additional technologies that can be used to detect, verify, and monitor nuclear materials as it relates to production and proliferation.
- Innovative ways to strengthen safeguards and security infrastructures, through training and other
 capacity building measures, in countries with credible plans to develop the peaceful uses of nuclear
 energy.
- Application or adaptation of technology advances in the information and communication technology sphere to make safeguards implementation more efficient and/or effective.
- Aiding the improvement and maintenance of U.S. infrastructure used to support safeguards equipment and methods development.

APPLICATION PROCEDURES

ELIGIBILITY

This fellowship is open to all individuals who will be starting graduate studies or graduate students who are currently enrolled in a qualified course of study (see technical areas) and have at least one full year of graduate work remaining at the beginning of September 2014. The award is limited to 24 months for master's candidates and 48 months for doctoral candidates. A fellowship appointment may not exceed 48 months and all appointments will be prorated for previous graduate work. The length of the fellowship appointment is based on the amount of graduate work completed before the initial fellowship appointment date. Awards may be limited to less time than the maximum in some situations.

Applicants must be U.S. citizens. It is the policy of the Medical University of South Carolina (MUSC) to uphold Title VII of the Civil Rights Act of 1964, as amended, prohibits discrimination in hiring, promotion, discharge pay, fringe benefits, job training, classification, referral, and other aspects of employment, on the basis of race, color, religion, sex or national origin.

APPLICATION DEADLINE

The current competition cycle for this program is from November 2013 - March 3, 2014. **The MUSC Office of Special Programs must receive all parts of the application by March 3, 2014.** GRE scores are *required* for a complete application. Scores earned before November 2004 will not be accepted. MUSC will not process late and/or incomplete applications. Please include the fellowship program name on all correspondence.

A complete application includes the following components:

Application Form

Three (3) References

Official Transcripts (undergraduate and graduate transcripts must be sent directly from the university registrar)

GRE scores (GRE code 5949 – scores must be sent directly from ETS)

Forms are located at www.scuref.org/forms under the NNIS tab. Applicants should submit all materials electronically through the SCUREF website. If you are unable to submit the application electronically, you may mail completed application materials to the following address:

Medical University of South Carolina Office of Special Programs, NNIS 19 Hagood Avenue, HOT 304-H4 MSC 851 Charleston, SC 29425-8510

For additional information or assistance, please contact the MUSC Office of Special Programs at (843) 792-0832 or nhuchet@scuref.org.

FELLOWSHIP OBLIGATIONS

ENROLLMENT

The initial fellowship appointment is for a 12-month period and renewable for up to a total of 48 months. Each appointment is prorated based on the amount of graduate work completed prior to the fellowship appointment date. Throughout the fellowship period, graduate students must be enrolled full time at an approved university and perform study and research within the objectives of the fellowship program. During the summer months, fellows are to continue working toward achieving a doctoral degree. Students may choose to conduct research relevant to their specialization, enroll in summer classes, complete a practicum assignment, or do a combination of the three. Please note a fellowship appointment is contingent upon certification of acceptance into the education program at the respective university.

TERMS OF APPOINTMENT

Each fellow must agree to the conditions contained in the letter of appointment and terms of appointment. This includes agreement to perform a course of study and research in NNIS technically related areas and participate in at least one summer practicum at an NNIS-sponsored laboratory. Fellows agree to entertain employment offers by either DOE or one of its contractors.

ANNUAL RENEWAL OF FELLOWSHIP

Each fellowship appointment is renewed annually through a renewal application process. The renewal is based upon the fellow's academic performance and course of study. An official Renewal Form along with official transcripts must be submitted to MUSC by March 1st of each year. Fellows must inform MUSC of their current addresses and must complete any evaluation/assessment questionnaires sent by MUSC for program information and/or evaluation during the fellowship and for 5 years after the fellowship ends.

PRACTICUM

Fellows are required to participate in one practicum for at least three months at a designated DOE/NNSA facility to gain hands-on experience. Fellows typically complete their practicums during the summer and any practicum may be used to support the Fellow's thesis research. To initiate a practicum appointment, the fellow must first contact a laboratory coordinator to express an interest in participating at a sponsored facility and then fill out a Practicum Request Form on www.scuref.org/forms. Designated practicum locations and coordinators can be found on page eight (8) of this booklet. *In certain cases Practicum assignments may be approved at European Union designated laboratories. Please contact the program administrators for additional information.*

Upon acceptance of a practicum appointment at a DOE/NNSA facility or an affiliated federal agency, fellows may be required to apply for a security clearance. The appropriate personnel security office of the host facility will process the clearance.

PROGRAMS AT PARTICIPATING UNIVERSITIES

Fellowship awardees are required to attend a university designated as a DOE-approved institution of higher learning in the NNIS Fellowship program. To become a participating university, interested faculty members must submit an application, which can be found on www.scuref.org/forms. Universities selected to participate in the program will have demonstrated a commitment to advancing nuclear nonproliferation international safeguards education and creating a sustainable academic program. The list of participating universities and university fellowship coordinators is provided on page seven (7) of this booklet. Interested applicants may contact any fellowship coordinator directly for detailed information related to the university's nuclear nonproliferation international safeguards program.

EVALUATION OF APPLICATIONS

When an application is received, MUSC will review all the materials to ensure that the applicant has completed all the necessary forms. If time permits, the staff will attempt to contact applicants who have submitted an incomplete application. However, it is the applicant's responsibility to check with MUSC to ensure that an application is complete.

After an application is reviewed and designated complete, it is submitted with all other complete applications, to a review panel. The review panel is composed of university, NNSA, and national laboratory personnel who are directly responsible for instruction and/or research in the international safeguards and nuclear nonproliferation fields. The panel reviews each application and recommends award recipients. Applications are reviewed on the basis of grades, previous coursework, GRE scores, career and goals statement, and references. Other factors, including geographical criteria and professional personnel needs of the DOE/NNSA international safeguards nuclear non-proliferation research program, are also considered. The NNSA program sponsor reviews the applications and the panel's recommendations and approves the final selection.

The number of awards given each year is dependent on the number of graduating fellows currently in the program and on the funding availability.

After the NNSA approves the award recipients, MUSC notifies applicants of their award status. Notification usually occurs in April. Once fellowships are awarded, MUSC handles the administration of the fellowship for the NNSA. Questions about stipends, payment of tuition and fee, practicum assignments, travel, etc., should be directed to MUSC.

PROGRAM BENEFITS

In most cases, the maximum value of any individual award, including stipend, tuition and fees, and summer practicum, is \$50,000/yr.

STIPEND

Fellows receive a monthly stipend in the amount of \$2,200. The fellow's basic stipend is augmented by \$500 (prorated) each month during the practicum. MUSC will either deposit stipends directly into the fellow's bank account or mail monthly stipends directly to the fellow.

The NNSA attempts to provide adequate funding to its fellowship participants for meeting the cost of graduate school but other awards, prizes, and similar payments (including veteran's benefits) that do not require a product or service may be accepted by the fellowship participant. If a fellow accepts another award such as a research assistantship or other responsibilities in which funds are provided and the fellow is required to spend time on the project, MUSC must be informed in advance and any resulting payments may be deducted from the fellow's stipend. In addition, MUSC reserves the right to withdraw the fellowship if the fellow receives compensation without notifying MUSC as to the nature and extent of any payment.

TUITION AND FEES

The fellows required tuition and fees are paid by MUSC directly to the participating university upon receipt of invoice. Optional, refundable, and penalty fees (such as late registration and duplication fees) are not payable by MUSC. Health insurance fees will be paid by MUSC only if they are certified to be required for all graduate students. All tuition and fee charges must be certified consistent with those made to regular graduate students and necessary for enrollment into the graduate program. The tuition is limited to \$23,600/year. Any charge above that will not be assumed by the fellowship. In August of each year, MUSC notifies the bursar's office at each university regarding procedures for invoicing for fellowship students.

TRAVEL

Provided the distance from the fellow's university is more than 50 miles each way to/from the practicum site, travel expenses are reimbursable. MUSC uses the current U.S. General Services Administration (GSA) to

calculate reimbursement of incurred expenses. No expenses are paid for food or lodging at the practicum site. Travel expenses are allowable on occasions requiring the fellow to consult with the university graduate committee and/or deliver a presentation of thesis research. Funds permitting, fellowship recipients may have the opportunity to present a paper or poster at a national and/or international conference. Conference travel requires approval by MUSC at least one month before the anticipated travel dates. It is the fellow's responsibility to find the least expensive reasonable mode of travel before submitting this information on a travel request form.

THESIS RESEARCH AT PARTICIPATING DOE/NNSA DESIGNATED CENTERS

A fellow may request to spend all or part of the time working on thesis/dissertation research at one of the participating DOE/NNSA-approved facilities (page eight (8) of this booklet). To request off-campus research, a fellow should complete a Thesis/Dissertation Laboratory Assignment Request Form (available on www.scuref.org/forms). Throughout the research assignment, the faculty advisor must agree to supervise the fellow's progress, coordinate activities with facility personnel, and may make a trip to the facility to review the fellow's research. In addition, a research advisor assigned by the facility will mentor the fellow and may serve on the fellow's graduate thesis research committee, if approved by the university. Travel expenses are reimbursable in accordance with MUSC's Travel Policy based on GSA regulations.

PUBLICATION ACKNOWLEDGMENT

DOE and MUSC encourage fellows to publish reports and articles in scientific and engineering journals and present posters or papers at conferences. The fellow must submit any articles, reports, posters, papers, theses, etc. to MUSC at least three weeks before submission for publication, presentation, etc. These works should show the joint affiliation of the fellow with the university and, if appropriate, with the laboratory in which the research was conducted, and should acknowledge fellowship support.

Fellowship support should be acknowledged in the following manner:

"This research was performed under appointment to the Nuclear Nonproliferation International Safeguards Graduate Fellowship Program sponsored by the National Nuclear Security Administration's Next Generation Safeguards Initiative (NGSI)."

Nuclear Nonproliferation International Safeguards Fellowship Program Participating Universities

| | T |
|---|--|
| CLEMSON UNIVERSITY | UNIVERSITY OF CALIFORNIA, BERKELEY |
| Timothy DeVol, Ph.D. | Eric Norman, Ph.D. |
| Environmental Engineering and Earth Sciences | Nuclear Engineering Department |
| 342 Computer Court | 4109 Etcheverry Hall, MC 1730 |
| Anderson, SC 29625-6510 | Berkeley, CA 94720-1730 |
| 864-656-1014 | 510-643-9984 |
| Devol@clemson.edu | ebnorman@lbl.gov |
| | <u> </u> |
| GEORGIA INSTITUTE OF TECHNOLOGY | University of Illinois, Champaign |
| Farzad Rahnema, Ph.D. | James F. Stubbins, Ph.D. |
| Boggs Building | Department of Nuclear, Plasma and Radiological |
| 770 State Street, Rom 3-39S | Engineering |
| Atlanta, GA 30332 | 216 Talbot Laboratory, MC-234 |
| 404-894-3731 | 104 S. Wright St. |
| Farzad@gatech.edu | Urbana, IL 61801 |
| 1 drzadwydicon.edu | 217-333-6474 |
| | jstubbin@illinois.edu |
| MASSACHUSETTS INSTITUTE OF TECHNOLOGY | University of Michigan |
| Richard Lanza, Ph.D. | Sara Pozzi, Ph.D. |
| , | , |
| Department of Nuclear Science and Engineering | Department of Nuclear Engineering and Radiological |
| Kennedy School | Sciences |
| 77 Massachusetts Avenue, Room NW14-2222 | 2355 Bonisteel Boulevard |
| Cambridge, MA 02319 | 1902 Cooley Building |
| 617-253-2399 | Ann Arbor, MI 48109-2104 |
| lanza@mit.edu | 734-615-4970 |
| | pozzisa@umich.edu |
| MISSOURI UNIVERSITY OF SCIENCE AND TECHNOLOGY | UNIVERSITY OF MISSOURI, COLUMBIA |
| Carlos H. Castano, Ph.D. | J. David Robertson, Ph.D. |
| Nuclear Engineering Program | Department of Chemistry |
| 1870 Miner Circle | 125 Chemistry Building |
| Rolla, MO 65409 | Columbia, MO 65211 |
| 573-341-6766 | 573-882-2240 |
| castanoc@mst.edu | RobertsonJo@missouri.edu |
| NORTH CAROLINA STATE UNIVERSITY | OREGON STATE UNIVERSITY |
| John Mattingly, Ph.D. | Kathryn A. Higley, Ph.D. |
| Department of Nuclear Engineering | Department of Nuclear Engineering & Radiation Health |
| 2148 Burlington Nuclear Laboratory | Physics |
| 2500 Stinson Drive | 100 Radiation Center |
| | |
| Raleigh, North Carolina 27695-7909 | Corvallis, OR 97331-5902 |
| 919-515-0224 | 541-737-0675 |
| john_mattingly@ncsu.edu | kathryn.higley@oregonstate.edu |
| PENNSYLVANIA STATE UNIVERSITY | TEXAS A&M UNIVERSITY |
| Kenan Unlu, Ph.D. | William S. Charlton, Ph.D. |
| Radiation Science and Engineering Center | Nuclear Engineering Department |
| 101 Breazeale Nuclear Reactor | 3473 TAMU |
| University Park, PA 16802 | College Station, TX 77843-3473 |
| 814-865-6351 | 979-845-7092 |
| k-unlu@psu.edu | Email: wcharlton@tamu.edu |
| University of Tennessee | University of Texas |
| Howard Hall, Ph.D. | Sheldon Landsberger, Ph.D. |
| Department of Nuclear Engineering | Nuclear and Radiation Engineering Program |
| 215 Pasqua Engineering Building | Nuclear Engineering Teaching Lab |
| Knoxville, TN 37996-2366 | Pickle Research Campus, R-9000 |
| 865-974-2525 | Austin, Texas 78712 |
| | 512-232-2467 |
| Howard.hall@utk.edu | |
| | s.landsberger@mail.utexas.edu |

Nuclear Nonproliferation International Safeguards Fellowship Program Participating Practicum Centers and Coordinators

| A | D |
|--|--------------------------------|
| ARGONNE NATIONAL LABORATORY | BROOKHAVEN NATIONAL LABORATORY |
| J'Tia Taylor | Susan Pepper |
| Argonne National Laboratory | Brookhaven National Laboratory |
| 9700 S. Cass Avenue, Building | MS 197c |
| Argonne, IL 60439 | Upton, NY 11973-5000 |
| 630-252-1446 | 631-344-5979 |
| jptaylor@anl.gov | pepper@bnl.gov |
| www.anl.gov | <u>www.bnl.gov</u> |
| IDAHO NATIONAL LABORATORY | LOS ALAMOS NATIONAL LABORATORY |
| Sean Morrell | Brian Boyer |
| Idaho National Laboratory | Los Alamos National Laboratory |
| PO Box 1625 | PO Box 1663, Mail Stop C921 |
| Idaho Falls, ID 83415-3740 | TA-16, Building 200, Room 217 |
| 208-526-2431 | Los Alamos, NM 87545 |
| sean.morrell@inl.gov | 505-606-2368 |
| www.inl.gov | bboyer@lanl.gov |
| | www.lanl.gov |
| LAWRENCE LIVERMORE NATIONAL LABORATORY | OAK RIDGE NATIONAL LABORATORY |
| Bill Moore | Michael Whitaker |
| Lawrence Livermore National Laboratory | Oak Ridge National Laboratory |
| Mail Stop L-090 | PO Box 2008 |
| 7000 East Avenue, PO Box 808 | MS 6315 |
| Livermore, CA 94551 | Oak Ridge, TN 37831-6315 |
| 925-424-2112 | 865-576-1682 |
| moore125@llnl.gov | whitakerjm@ornl.gov |
| www.llnl.gov | www.ornl.gov |
| PACIFIC NORTHWEST NATIONAL LABORATORY | SANDIA NATIONAL LABORATORIES |
| Roberta Burbank | Dianna Blair |
| Pacific Northwest National Laboratory | Sandia National Laboratories |
| 902 Battelle Boulevard | PO Box 5800 |
| PO Box 999, MSIN K8-50 | Albuquerque, NM 87185-1371 |
| Richland, WA 99352 | 505-845-8800 |
| 509-372-4002 | DSBlair@sandia.gov |
| Roberta.Burbank@pnnl.gov | www.sandia.gov |
| www.pnnl.gov | |
| SAVANNAH RIVER NATIONAL LABORATORY | |
| Rick Poland | |
| Savannah River National Laboratory | |
| Building 773-A | |
| Aiken, SC 29808 | |
| 803-725-1998 | |
| richard.poland@srnl.doe.gov | |
| www.srnl.doe.gov | |
| | 1 |

NUCLEAR NONPROLIFERATION INTERNATIONAL SAFEGUARDS FELLOWSHIP PROGRAM PARTICIPATING PRACTICUM CENTERS AND COORDINATORS

JOINT RESEARCH CENTER, GERMANY

Klaus Luetzenkirchen, Head of Nuclear Safeguards and Forensics Unit European Commission, Joint Research Centre

Institute for Transuranium Elements

PO Box 2340

76125 Karlsruhe, Germany Phone: +49-7247-95-1424

Email: klaus-richard.luetzenkirchen@ec.europa.eu

http://itu.jrc.ec.europa.eu

JOINT RESEARCH CENTER, ITALY

Willem Janssens , Head of Unit Nuclear Security European Commission Joint Research Centre

Institute for Transuranium Elements

Via E. Fermi, 2749

TP 210 I - 21027, Ispra (VA), Italy

Phone: +39-0332-78-9939, Mobile: +39-349-761-7411

Email: willem.janssens@ec.europa.eu

http://npns.jrc.ec.europa.eu

JÜLICH LABORATORY

Dr. Irmgard Niemeyer, Head of Nuclear Safeguards

Institute of Energy and Climate Research

IEK-6: Nuclear Waste Management and Reactor Safety

Forschungszentrum Jülich GmbH

in der Helmholtz-Gemeinschaft ,52425 Jülich, Germany

Tel.: +49-2461-61-1762 Fax: +49-2461-61-2450

Email: i.niemeyer@fz-juelich.de www.fz-juelich.de/iek/iek-6/ www.treatymonitoring.de

A complete application includes:

- 1. Application Form (Hand written applications will **not** be accepted)
- 2. Current Official Transcript of Grades (all undergraduate and graduate transcripts are required and should be sent directly to the Office of Special Programs from the Registrar)
- 3. Three (3) Reference Forms (enclosed)
- 4. GRE Scores (Must be sent directly from ETS. Our GRE reporting code is 5949)

Please ensure you have completed all parts of the application and obtained the proper signatures for each section. Please include the fellowship program name on all correspondence. Keep a copy of this application and supporting materials for your files.

All applicants must submit the required information to the MUSC Office by March 3, 2014. It is the applicant's responsibility to ensure the application is complete. MUSC will not process late and/or incomplete applications.

Forms are located at www.scuref.org/forms under the NNIS tab. Applicants should submit all materials electronically through the SCUREF website. If you are unable to submit the application electronically, you may mail completed application materials to the following address:

Medical University of South Carolina Office of Special Programs, NNIS 19 Hagood Avenue, HOT 304-H4 MSC 851 Charleston, SC 29425-8510

For additional information or assistance, please contact the MUSC Office of Special Programs at (843) 792-0832 or nhuchet@scuref.org.

U.S. DEPARTMENT OF ENERGY

NATIONAL NUCLEAR SECURITY ADMINISTRATION
OFFICE OF NONPROLIFERATION AND INTERNATIONAL SECURITY'S
NEXT GENERATION SAFEGUARDS INITIATIVE

NUCLEAR NONPROLIFERATION INTERNATIONAL SAFEGUARDS GRADUATE FELLOWSHIP PROGRAM 2014-2015 APPLICATION FORM

| DATA | | | | | |
|---------|--------------------------------------|---|---|--|---|
| 1. | Name: | (Final) | /A //: al al l | . 1 | // 4\ |
| | | (First) | (Middle | ?) | (Last) |
| 2. | () Er () Fii () Re Exped | ntering Gradurst Year Gradeturning Gradeted Graduat | uate Student duate Student (E duate Student (E ion Dates (mm/y | Enrolled prior to the fall Enrolled more than 2 se y):(Mail(Pi | emesters prior to the fall term 2014) |
| 3. | If entering as | s a graduate | student, please | indicate your pre | eference in universities: |
| | 1. | | | | |
| | | (Name of U | Iniversity) | (M | ajor Area of Study) |
| | 2. | | | | |
| | | (Name of U | Iniversity) | (M | ajor Area of Study) |
| | 3. | | | | |
| | 0. | (Name of U | Iniversity) | (M | ajor Area of Study) |
| List al | | versities or c | | d (graduate and egistrar to comple | undergraduate). ete the application. |
| 4. | University | | <u>Degree</u> | <u>Major</u> | Award Date |
| | | | | | |
| | | | | | |
| | | | | | |
| 5. | Undergradua | ate: GPA | (based on 4 | pt. scale) | |
| 6. | Graduate: G | PA | (based on 4 p | ot. scale) | |
| 7 | GRE Scores | · \/erhal | Quanti | tative | Writing |

| A PPLIC | CANT NAME: | | | NNIS FELLOV | /SHIP |
|----------------|--|---------------------|-------------------------|-------------------------|-------|
| Васко | GROUND INFORMATION | | | | |
| 8. | Address: () Home () School (chec | k one) | | | |
| | Street or Box Number: | | | | |
| | City: | State: | | Zip: | |
| | Phone Number: | E-Mail: | | | |
| 9. | Are you a U.S. Citizen? | s () | No () | | |
| 10 | . Are you a dual citizen? | s () | No () | | |
| | If you are a dual citizen, in which oth | ner country do | you hold citize | nship? | |
| 11 | . How did you hear about this fellowsh | hip? | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| Quali | FICATIONS | | | | |
| 13 | . Extracurricular Activities List all technical societies and service organization | ons. Include office | es held. Attach additio | onal page if necessary. | |
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| PPLIC | CANT NAME: | NNIS FELLOWSHII | | | | |
|-------|---|--|--|--|--|--|
| 14. | Practical Experience List significant work experience gained from time in | a laboratory setting or federal agency. | | | | |
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| | | | | | | |
| | 5. Academic Awards and Honors | | | | | |
| | List significant pre-college, undergraduate, and/or | graduate honors and awards and give a brief description of each. | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| 16. | 6. Employment Records List current and/or most recent employment. Give | organization name and job title. You may attach a resume. | | | | |
| | | | | | | |
| | | | | | | |
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17. References

You must include references from three persons familiar with your academic preparation and technical capabilities. At least two references should be from faculty members who are familiar with your current academic work. Please have these individuals send official reference forms directly to MUSC. These forms are located at www.scuref.org/forms under the NNIS tab.

| APPLICANT NAME:_ | |
|------------------|--|
|------------------|--|

NNIS FELLOWSHIP

Coursework

18. Previous Courses

List all science, engineering, and mathematics courses that you have completed at all undergraduate and graduate institutions listed in this application. Provide course title and number, hours attempted, and letter grade.

| Course Title and Number | Hours | Grade |
|---|-------|-------|
| Example: Nuc 400: Advanced Nuclear and Radiochemistry | 4 | Α |

19. Current Courses

Course Title and Number Hours
Example: Engineering 101 4

20. Planned Courses

List all courses you plan to take prior to September 2014.

Course Title and Number Hours
Example: Engineering 101 4

| APPLICANT NAME: | NNIS | FELLOWSHIP |
|--|--|--|
| 21. Statement on Career Goals and Objective In no more than 500 words, provide information your statement to one or more of the Technic statement is critical to the overall evaluation of your statement is critical to the overall evaluation. | on your education plans and career asp al Areas listed on pages two and three | irations. Please relate of this booklet. This |
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| | | |
| Signature: | Date: | |

(In providing this signature, the applicant certifies that the information provided in this application is complete and accurate. The applicant acknowledges that he or she has read the application instructions and agrees to abide by the terms outlined within them. The South Carolina Universities Research and Education Foundation (SCUREF), the Medical University of South Carolina, (MUSC), Office of Special Programs, and the program sponsors have the right to verify all information contained in this application and make reasonable inquiries should any doubts about this application arise. The applicant understands that failure to provide complete, accurate, and truthful information on this application will be grounds to deny or withdraw this application or disarm him or her from the fellowship at any time.)

REFERENCE FORM

| Applicant's First Name | Middle Name | | | Last Name | | | |
|--|--------------|-----------------------------|--------------|--------------|----------------|--------------------------------|--|
| How long and in what association have | you know | n the app | licant? | | | | |
| PERSONAL CHARACTERISTICS | Highest 10 % | Highest 20% | Mid Level | Lowest 20% | Lowest 10% | Inadequate Observation | |
| Imagination and Originality of Thought | | | | | | | |
| Ability to Work with Others | | | | | | | |
| Leadership Potential | | | | | | | |
| Independence and Self-reliance | | | | | | | |
| Growth During Total Period Observed | | | | | | | |
| Motivation Toward a Productive Career | | | | | | | |
| Technical Expertise | | | | | | | |
| Ability to Communicate (Written/Oral) | | | | | | | |
| Add any descriptive comments that will assist | in providing | g a comple or university | te picture | e of the app | plicant's char | racter, attitude, abilities, a | |
| potential for success to perform on a high level a Comments: | | | | | | | |
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Charleston, SC 29425-8510

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REFERENCE FORM

| | Middle Name | | | Last Name | | | |
|--|-------------------------------|-----------------------------|------------------------|----------------------------------|----------------------------------|---|--|
| How long and in what association have | you know | n the app | licant? | | | | |
| PERSONAL CHARACTERISTICS | Highest 10 % | Highest 20% | Mid Level | Lowest 20% | Lowest 10% | Inadequate Observation | |
| Imagination and Originality of Thought | | | | | | | |
| Ability to Work with Others | | | | | | | |
| Leadership Potential | | | | | | | |
| Independence and Self-reliance | | | | | | | |
| Growth During Total Period Observed | | | | | | | |
| Motivation Toward a Productive Career | | | | | | | |
| Technical Expertise | | | | | | | |
| Ability to Communicate (Written/Oral) | | | | | | | |
| Add any descriptive comments that will assist potential for success to perform on a high level a Comments: | in providing t a college o | g a comple or university | te picture . Please | of the appoint of the comment of | plicant's char on the applica | acter, attitude, abilities, a nt's weak and strong point | |
| | | | | | | | |
| | | | | | | | |
| Signature: | | | Da | te: | | | |

Charleston, SC 29425-8510

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REFERENCE FORM

| Applicant's First Name | Midd | le Name | | | Las | t Name |
|--|--------------|-------------|--------------|------------|---------------|---------------------------|
| How long and in what association have | you know | n the app | licant? | | | |
| PERSONAL CHARACTERISTICS | Highest 10 % | Highest 20% | Mid Level | Lowest 20% | Lowest 10% | Inadequate Observation |
| Imagination and Originality of Thought | | | | | | |
| Ability to Work with Others | | | | | | |
| Leadership Potential | | | | | | |
| Independence and Self-reliance | | | | | | |
| Growth During Total Period Observed | | | | | | |
| Motivation Toward a Productive Career | | | | | | |
| Technical Expertise | | | | | | |
| Ability to Communicate (Written/Oral) | | | | | | |
| Add any descriptive comments that will assist potential for success to perform on a high level a | | | | | | |
| Comments: | | | | | | |
| Signature: | | | Da | te: | | |
| Typed/Printed Name: | | | Titl | e: | | |
| Address: | | | | | | |

Reference forms, which should be submitted electronically, are located at www.scuref.org/forms under the NNIS tab. If you are unable to submit this form electronically, you may mail this form to the following address:

Medical University of South Carolina

Office of Special Programs, NNIS 19 Hagood Avenue, HOT 304-H4 MSC 851

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