



Award EEC-0552832

# Program Application Form

**National Science Foundation (NSF)  
Research Experiences for Undergraduates (REU)  
Program in Automotive Technologies at the  
Technische Universität Darmstadt and Virginia Tech**

**Application deadline: February 6, 2009 (postmarked)**

**Program Contact:** Prof. Jan Helge Bøhn, Ph.D., Mechanical Engineering, [bohn@vt.edu](mailto:bohn@vt.edu)  
**Program Locations:** Blacksburg, Virginia, USA; and Darmstadt, Hessen, Germany  
**Program Dates:** Blacksburg: June 1 – July 29, 2009 (does not include travel days)  
Darmstadt: May 28 – July 30, 2009 (includes travel days)

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## APPLICATION INSTRUCTIONS

1. Complete Sections 1-9 of this program application. Be sure to put your name on top of each page. Please print and write clearly. Type if necessary (e.g., using the “Typewriter Tool” within *Adobe Acrobat*). Sign and date your application.
2. Fill in and sign, as needed, the top of your *Letter of Reference* forms. Provide each your referees with one of these forms, and ask them to return it to you in a sealed envelope that they have signed across the envelope seal.
3. Be certain to include all the required information in the spaces provided, and to adhere to specific space limitations where noted. Place your complete application, including the proof of passport (required for the students traveling to Germany), an official copy of your undergraduate transcripts, and the letters of reference, in a single envelope.
4. Send this envelope to:  
NSF REU: Automotive Technologies  
Prof. Jan Helge Bøhn, Ph.D.  
Mechanical Engineering (0238)  
Virginia Tech  
Blacksburg, VA 24061  
USA
5. The postmark deadline for submission of all materials is February 6, 2009.

*Invent the Future*

## APPLICATION CHECKLIST

The following items must be submitted (postmarked) in a single envelope to the above address by February 6, 2009:

- Program Application Form
- Statement of Purpose
- Description of Research Experiences
- Two Letters of Reference, each signed across the seal of the closed envelope
- Official undergraduate academic transcripts
- Proof that you own, or have applied for, a passport allowing international travel (only required for students that want to be considered for a position in Germany)

If you are admitted into this program, you will be informed of your assigned project and work location (i.e., Blacksburg or Darmstadt). If you accept this offer, you will be required to also submit the following documents:

- **Signed and dated Program Liability Form**  
[http://www.oired.vt.edu/REU/Program\\_Liability\\_Agreement.pdf](http://www.oired.vt.edu/REU/Program_Liability_Agreement.pdf)
- **Health Insurance Certificate**  
[http://www.tud.vt.edu/REU/Health\\_Insurance\\_Certificate.pdf](http://www.tud.vt.edu/REU/Health_Insurance_Certificate.pdf)
- **Emergency Contact Information**  
[http://www.tud.vt.edu/REU/Emergency\\_Contact\\_Information.pdf](http://www.tud.vt.edu/REU/Emergency_Contact_Information.pdf)
- **Information Release Form**  
[http://www.tud.vt.edu/REU/Release\\_of\\_Information.pdf](http://www.tud.vt.edu/REU/Release_of_Information.pdf)
- **Direct Deposit Form**  
<http://www.tud.vt.edu/REU/DirectDepositForm.pdf>

You will furthermore be required to provide information necessary to facilitate the management and operation of this NSF REU program, such the purchase of airline tickets, the assignment of housing, the registration of optional courses, and the disbursement of funds.

## PROGRAM ELIGIBILITY

This NSF REU program is restricted to students that:

- Are U.S. citizens, U.S. permanent residents, or U.S. nationals;
- Are at least 18 years of age on January 1, 2009;
- Have completed their freshmen year (two semester of studies) of an engineering/science bachelor degree program by June 1, 2009; and
- Have at least one full semester left of their engineering/science bachelor degree program (i.e., will not be graduating prior to December 2009).

For further information, please contact:

Prof. Jan Helge Bøhn, Ph.D.  
Mechanical Engineering (0238)  
Virginia Tech  
Blacksburg, VA 24061  
USA

Telephone: +1-540-231-3276  
Fax: +1-540-231-9100  
E-mail: [bohn@vt.edu](mailto:bohn@vt.edu)  
<http://www.tud.vt.edu/REU>

**Section 1: GENERAL INFORMATION**

Name: \_\_\_\_\_ Student ID: \_\_\_\_\_

Academic Department: \_\_\_\_\_

Department Chair or Academic Advisor: \_\_\_\_\_

Institution: \_\_\_\_\_

Institution Address: \_\_\_\_\_

\_\_\_\_\_

Telephone: \_\_\_\_\_ Fax: \_\_\_\_\_

Which NSF REU program site would you prefer to be assigned to?

**Check one:**  Virginia Tech  Technische Universität Darmstadt  No preference

Which NSF REU program site are you accept to be assigned to?

**Check all that apply:**  Virginia Tech  Technische Universität Darmstadt

**Section 2: ACADEMIC INFORMATION**

Class Standing as of June 1, 2009:  Sophomore  Junior  Senior

Official Major(s) / Minor(s): \_\_\_\_\_

Degree Objective:  B.A.  B.S.  Other: \_\_\_\_\_

Expected Graduation Date:

Cumulative GPA: \_\_\_\_\_ out of \_\_\_\_\_ / 20 \_\_\_\_\_

Rank in class: \_\_\_\_\_ out of \_\_\_\_\_

**Academic Reference #1** – Name: \_\_\_\_\_

Department: \_\_\_\_\_ University: \_\_\_\_\_

Email: \_\_\_\_\_ Phone: \_\_\_\_\_

**Academic Reference #2** – Name: \_\_\_\_\_

Department: \_\_\_\_\_ University: \_\_\_\_\_

Email: \_\_\_\_\_ Phone: \_\_\_\_\_

Applicant's Name: \_\_\_\_\_

**Section 3: CONTACT INFORMATION**

**Local Address**

Street: \_\_\_\_\_

City, State, ZIP: \_\_\_\_\_

Telephone: \_\_\_\_\_ E-mail: \_\_\_\_\_

**Permanent Address**

Street: \_\_\_\_\_

City, State, ZIP: \_\_\_\_\_

Telephone: \_\_\_\_\_

**Section 4: ADDITIONAL INFORMATION**

Birthday: \_\_\_\_ / \_\_\_\_ / \_\_\_\_\_ (MM/DD/YYYY)

Citizenship Status:  U.S. Citizen / National  U.S. Permanent Resident  Other

If Permanent Resident / Other, Country of Citizenship: \_\_\_\_\_

The following information is being collected to facilitate housing assignments:

Gender:  Male  Female

How did you learn about this particular NSF REU program? Please be specific:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Applicant's Name: \_\_\_\_\_

**Travel Experience**

Country	Year(s)	Duration	Purpose

**Language Proficiency**

Proficiency (Excellent, Good, Fair)

Language	Years of Study	Reading	Writing	Speaking

Are you interested in taking a German language and/or culture course during your NSF REU experience? You would receive time off with pay to attend this course, but you would be responsible for any tuition and/or fees.  YES  NO  MAYBE

Are you interested in earning up to six (6) semester credit hours of the course *ME 4994 Undergraduate Research* from Virginia Tech for your NSF REU experience? You may earn these credits even if you complete your research at the Technische Universität Darmstadt. These credits count as mechanical engineering technical electives at Virginia Tech, and they may be transferable to other universities in the USA. You would be responsible for any tuition and/or fees.  YES  NO  MAYBE

Applicant's Name: \_\_\_\_\_

## Section 5: OPTIONAL STATISTICAL INFORMATION

The purpose of this section is to facilitate compliance with the REU program reporting requirements of the National Science Foundation (NSF). Answering the questions in this section is voluntary and optional, and the results will not be used in the program selection process. This page will be removed from the rest of the application prior to any admission considerations. The information on this page will be reported, as entered, to NSF, which will use it to identify and address any inequities based on gender, race, ethnicity, or disability within its REU program.

Please check this box if you do not wish to provide any or all of the information sought in this section:

### OPTIONAL QUESTIONS:

**Gender:**  Male  Female

**Ethnicity** (choose one response):  Hispanic or Latino  Not Hispanic or Latino

**Race** (select one or more):  American Indian or Alaskan Native;  Asian;  
 Black or African American;  Native Hawaiian or Other Pacific Islander;  White

**Disability Status** (select one or more):  Hearing Impairment;  Visual Impairment;  
 Mobility/Orthopedic Impairment;  Other;  None

### Ethnic Definition:

**Hispanic or Latino:** A person of Mexican, Puerto Rican, Cuban, South or Central American, or other Spanish culture or origin, regardless of race.

### Race Definitions:

**American Indian or Alaskan Native:** A person having origins in any of the original peoples of North and South America (including Central America), and who maintains tribal affiliation or community attachment.

**Asian:** A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam.

**Black or African American:** A person having origins in any of the black racial groups of Africa.

**Native Hawaiian or Other Pacific Islander:** A person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.

**White:** A person having origins in any of the original peoples of Europe, the Middle East, or North Africa.

Applicant's Name: \_\_\_\_\_

### **Section 6: PROOF OF PASSPORT**

This section is only required by those that want to be considered for one of the NSF REU positions in Germany: Provide proof that you own, or that you have applied for, a passport that will permit you to travel to Germany for the duration of the REU experience. This can be provided in one of two ways:

1. Photocopy of your passport, showing that it is valid through the end of January 2010.
2. Photocopy of a receipt, showing that you have a passport application pending.

### **Section 7: STATEMENT OF PURPOSE**

Provide a concise description of your research interests in the areas of automotive technologies. Describe how participation in this particular NSF REU program will benefit your academic training and how it will further your intended professional career. Describe the research that you would prefer to engage in. If possible, and as applicable, please relate your preferred interest to the project descriptions that are posted online at <http://www.tud.vt.edu/REU/> (in the absence of published Summer 2009 project descriptions, you are encouraged to reference Summer 2007 and 2008 project descriptions). Please type your response on a separate sheet of paper with your name at the top, and attach it to your program application. Please limit your narrative to one page.

### **Section 8: RESEARCH EXPERIENCE**

Describe your previous research work, and note its relevance to automotive technologies. State explicitly whether the work you describe was part of an undergraduate independent study or honors project, another REU experience, or a research experience acquired through employment. Do not list organized laboratory coursework at your university, but do be certain to identify these laboratory courses as they are listed in your transcript(s). Prior research experience is not a prerequisite for admission to this REU program. Please type your response on a separate sheet of paper with your name at the top, and attach it to your program application. Please limit your narrative to one page.

### **Section 9: APPLICANT CERTIFICATION AND SIGNATURE**

I certify that the information provided in this application to the NSF REU program in automotive technologies at the Technische Universität Darmstadt (TUD) and Virginia Tech (VT) is correct and true to the best of my knowledge.

Applicant's Signature \_\_\_\_\_

Date \_\_\_\_\_