

# UNDERGRADUATE RESEARCH EXPERIENCES APPLICATION INSTRUCTIONS

WASHINGTON UNIVERSITY, DEPARTMENT OF CIVIL ENGINEERING

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## GENERAL INFORMATION

We are pleased to learn of your interest in the "Structural Engineering Research Experiences for Undergraduates" Program in the Department of Civil Engineering at Washington University. To acquaint you with the department we are providing some information about our research activities and programs. Further information can be found on the web site at: [www.cive.wustl.edu](http://www.cive.wustl.edu).

## ELIGIBILITY

To be eligible, applicants *must be citizens or permanent residents* of the United States or its possessions. Further, applicants must be enrolled full-time in a degree program leading to a bachelor's degree. Students who have received their bachelor's degree by the beginning of the program can not be considered.

## SUPPORTING MATERIALS:

An official transcript of your academic record from the institution you are currently attending must be included in your application package.

Program applicants should have one recommendation letter from a professor or supervisor sent directly to the department on the form enclosed.

## DEADLINES

All applications and letters of recommendation must be postmarked by February 28, 2000.

## POTENTIAL PROJECTS:

Undergraduate researcher projects may be associated with the following current research projects:

- Seismic Hazard Mitigation** – Research in the Washington University Structural Control and Earthquake Engineering Laboratory focuses on the development of intelligent structures to reduce the amount of damage during an earthquake (<http://www.seas.wustl.edu/research/quake/>).
- Composite Confined-Concrete Columns** – Ongoing research in the Structural Engineering Laboratory focuses on the investigation of innovative ways to

use composite materials in structures to increase their ductility. Experimental and analytical studies are conducted in parallel (<http://www.seas.wustl.edu/research/srl/>).

- Seismic Vulnerability Studies** – Assessment of the seismic vulnerability of airports, power plants, buildings is an important step in identifying the most appropriate directions to take in reducing the damage during an earthquake.
- Buckling of Composite Structures** – Composites are extensively used in buildings, bridges, airplanes, ships, satellites, and submarines. To develop appropriate design and analysis techniques one must understand the behavior of such structures.
- Torsional Effects in Structures** – The inelastic coupling of lateral and torsional deformations during large-intensity ground motions is not well understood. This inelastic behavior can be helpful or detrimental. A clear definition of these behaviors is needed to develop design criteria.
- Locks and Dams** – Due to the massive nature of these structures, the seismically driven inertial forces can be quite large. To economically design these structures for seismic activity, soil-structure interaction must be evaluated and understood.

## CONTACT INFORMATION:

Please do not hesitate to contact us if you have any questions concerning this program.

Director: Dr. Shirley J. Dyke  
Telephone: (314) 935-5695  
Fax: (314) 935-4338  
email: [sdylke@cive.wustl.edu](mailto:sdylke@cive.wustl.edu)

## PROCEDURE

Application package should include:

Application Form  
Statement of Interest  
Official Transcript

Please mail completed application materials to:

REU Committee  
Department of Civil Engineering  
Washington University  
Campus Box 1130  
One Brookings Drive  
St. Louis, MO 63130-4899

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For further information about the Department of Civil Engineering, visit our web site:  
[www.cive.wustl.edu](http://www.cive.wustl.edu)



**EMPLOYMENT HISTORY:** List jobs you have held on a full-time or part-time basis (*use additional sheets if necessary*).

Name	Location	Description of Duties	Dates
<hr/>			
<hr/>			
<hr/>			

**REFERENCES:**

List names of the individuals that you have asked to submit a letter of recommendation on your behalf.

Name	Affiliation
<hr/>	

**Please indicate your race (optional):**

- |                                  |                   |                            |
|----------------------------------|-------------------|----------------------------|
| Native American/Aleut, or Eskimo | Hispanic American | Multiracial (non-minority) |
| Asian American                   | African American  | Multiracial (minority)     |
| Caucasian                        |                   | Other _____                |

From the list of projects provided on the instruction sheet, identify and rank your top three preferences. On a separate sheet provide a brief "Statement of Interest" discussing why you prefer these projects ?

1. \_\_\_\_\_  
\_\_\_\_\_
2. \_\_\_\_\_  
\_\_\_\_\_
3. \_\_\_\_\_  
\_\_\_\_\_

**ADDITIONAL INFORMATION:**

Please provide any additional information that you feel may be relevant to the evaluation of your application.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
Signature of Applicant

\_\_\_\_\_  
Date of Application

# REFERENCE FORM

## RESEARCH EXPERIENCES FOR UNDERGRADUATES



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Applicant's Name: (last) \_\_\_\_\_ (first) \_\_\_\_\_ (middle) \_\_\_\_\_

Mail Completed Form to: REU Committee  
(by February 28) Washington University  
Dept. of Civil Engineering  
Campus Box 1130  
One Brookings Drive  
St. Louis, MO 63130

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### To be Completed by the Applicant:

I understand that Federal Law provides me, after enrollment, with a right of access to this reference form and that no school may require me to waive this right.

I hereby \_\_\_\_\_ waive \_\_\_\_\_ do not waive my right of access to this reference form.

Date: \_\_\_\_\_ Signature \_\_\_\_\_

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### To Referee:

Please complete this personal reference form and attach a brief letter of recommendation describing your views of the applicants capabilities, strengths, and weaknesses. Return these to the address at the top of this page postmarked on or before February 28, 2000.

**Summary Evaluation:** Overall scholarly ability. In comparison with people who have had approximately the same amount of experience and education, how do you rate the applicant in SCHOLARLY ABILITY ?

- |  |                  |
|--|------------------|
| <input type="checkbox"/> Outstanding   | Rank > top 5%    |
| <input type="checkbox"/> Very Good     | 5% > Rank > 15%  |
| <input type="checkbox"/> Good          | 15% > Rank > 25% |
| <input type="checkbox"/> Average       | 25% > Rank > 50% |
| <input type="checkbox"/> Below Average | 50% > Rank       |

Signature \_\_\_\_\_ Date \_\_\_\_\_

Name (printed or typed) \_\_\_\_\_ Title \_\_\_\_\_

Department \_\_\_\_\_ Institution \_\_\_\_\_

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