From June 15 to August 22, 2008, the University of Washington Engineered Biomaterials (UWEB) program will sponsor a summer research program for undergraduate students on the university’s Seattle campus. Students will participate in ongoing research projects with investigators and will have the opportunity to take part in training sessions (i.e., communication class, journal club) designed to provide the undergraduate scientist with solid critical thinking and communication skills that will serve as a foundation for graduate study.

UWEB, a National Science Foundation funded program, has a strong commitment to undergraduate education with a mission to increase diversity in the field of engineering. During the summer REU program, UWEB will take advantage of its unique interdisciplinary research environment at the biology and engineering interface to provide high quality research experiences for undergraduates from around the country. We strongly encourage women, under-represented minorities, and students with disabilities to submit applications.

Applications for the 2008 UWEB Summer Research Experience for Undergraduates Program (REU) must be received by Friday, May 9, 2008. Applications received after May 9, 2008 will not be reviewed.

For more information, visit our website at http://www.uweb.engr.washington.edu/education/ or contact:

Dr. Eric H. Chudler  
UWEB Director of Education and Outreach  
Box 355061  
Seattle, WA 98195-5061  
Voice: (206) 616-6899 Fax: (206) 616-9763  
E-mail: chudler@u.washington.edu

Janet Wilt  
Undergraduate Program Coordinator - UWEB  
Box 355061  
Seattle, WA 98195-5061  
Voice: (206) 221-5829 Fax: (206) 616-9763  
E-mail: wilt@uweb.engr.washington.edu
About UWEB...

Biomaterials and medical devices are widely used in humans in applications as diverse as heart valves, hip joints, pacemakers, tooth implants, drainage shunts, intraocular lenses, and heart assist devices. They save lives, improve the quality of life for millions, and form the basis for a strong, successful, humanitarian industry. However, these biomaterials and devices never work as well as the part they are intended to replace, leading to patient dissatisfaction, physician concern, and a financial burden on the health care system.

The University of Washington Engineered Biomaterials (UWEB) has a sharply focused objective: to develop a new generation of biomaterials that exploit specific biological recognition mechanisms. Such materials will be designed upon implantation to heal in the body in a facile, physiologically normal manner by interacting with specific cell receptors and initiating the desired biological responses. This is in contrast to existing biomaterials that are not recognized by the body and are walled off from the body.

UWEB and the Department of Bioengineering are located in the newly constructed Foege Building. Space totaling 123,000 ft$^2$ has been assigned to the Bioengineering Department. In addition to research laboratories, the Foege Building has a 1) bioengineering physiology teaching lab, 2) molecular bioengineering teaching lab, 3) instrumentation teaching lab, 4) centralized computer laboratories, 5) student workroom/lounge, 6) 60-seat seminar room, and 7) numerous smaller meeting rooms.

About the REU...

The University of Washington and the Department of Bioengineering in particular, have a well deserved reputation for promoting a richly collaborative research environment. UWEB will take advantage of these natural opportunities to expose undergraduate researchers to cutting-edge research at the biology and engineering interface in a team setting that stresses the value of interdisciplinary approaches to engineering problems such as biomaterial development.

The heart of the program is a carefully mentored research experience that teams the undergraduate with a graduate student and a professor. Teams will focus on a UWEB project that has been carefully selected as a good example of interdisciplinary research and one that has ties to industry research interests. For a list of participating labs see [http://www.uweb.engr.washington.edu/education/pdf/labs.pdf](http://www.uweb.engr.washington.edu/education/pdf/labs.pdf).
REU Program Requirements...

Please read the following program requirements carefully before you complete the application form:

1. You must be a student at the University of Washington.
2. You must be a U.S. citizen or a permanent resident of the U.S. (or its possessions).
3. You must devote 40 hours per week to the program.
4. You cannot enroll in classes or hold other jobs during the day. Participants will be paid a stipend and will not receive academic credit for the research experience.
5. You must attend the weekly communication classes, journal club meetings, and all other required lectures, seminars, focus groups, and workshops.
6. You must submit a research paper of journal article quality and participate in research symposiums at the end of the program.

What participants will receive...

1. Involvement in an interdisciplinary research project with a team where researchers are working together to solve a common science problem.
2. Lectures on ethics, communications skills, laboratory safety, and other selected topics.
3. An interactive poster session at the end of the summer, where undergraduate researchers present their results to the UWEB engineering community.
4. A final research symposium, where undergraduate researchers give a 15-minute oral presentation describing their work and results to the UWEB engineering community.
5. Publication of a journal article describing the REU student’s research project in the Journal of Undergraduate Research in Bioengineering (JURIBE).
6. A stipend of $4,000 for the ten week program.
Application information...

Application packets for the 2008 UWEB Summer REU Program must be received by Friday, May 9, 2008. Applications received after May 9, 2008 will not be reviewed.

A complete application consists of:

1. A completed and signed 2008 UWEB Summer Research Experience for Undergraduates Program application form (see pages 5-6).
   - All questions must be answered fully for your application to receive consideration.
   - The essay questions must be type-written.

2. Two references one of which must be an individual who can evaluate your potential in a laboratory setting. (Recommendation Forms are included in this packet, see pages 7-10.)

3. An official transcript of coursework from your current college or university. Please note: if you have completed coursework at another college or university that is not documented on your current transcript, and you would like to have this work considered by the review committee, you must submit additional transcripts.

Send the completed and signed application and transcript(s) to:

Janet Wilt
Undergraduate Program Coordinator
University of Washington – UWEB Education & Outreach
Box 355061, Foege Building, Room N361
1705 NE Pacific Street
Seattle, WA  98195-5061

Selection criteria will be based on the quality of the application written materials, letters of recommendation, and academic record. Appropriate science and mathematics courses are required for participants and it is expected that the majority of students will be academic sophomores and juniors who have completed basic chemistry, mathematics, and engineering coursework.
### 2008 UWEB SUMMER REU PROGRAM – APPLICATION FORM

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<thead>
<tr>
<th>LAST NAME</th>
<th>FIRST NAME</th>
<th>MIDDLE NAME</th>
<th>SOCIAL SECURITY NUMBER</th>
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#### PARENTS OR GUARDIAN

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<th>NAME</th>
<th>LIVING?</th>
<th>OCCUPATION</th>
<th>STATE OF RESIDENCE</th>
<th>EDUCATION/ COLLEGE (HIGHEST LEVEL)</th>
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DEPENDENT? Yes ___ No ___ If No, indicate income: __________

**AVERAGE ANNUAL FAMILY INCOME:**
- UNDER $15,000 ___
- $15,000-$25,000 ___
- $25,000-$35,000 ___
- $35,000-$45,000 ___
- $45,000-$55,000 ___
- $55,000-$65,000 ___
- ABOVE $65,000 ___

#### COLLEGES AND PROFESSIONAL SCHOOLS ATTENDED

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<th>NAME</th>
<th>LOCATION (CITY, STATE)</th>
<th>DATES OF ATTENDANCE</th>
<th>MAJOR</th>
<th>DEGREE GRANTED/ EXPECTED (with date)</th>
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#### HONORS RECEIVED WHILE IN HIGH SCHOOL OR COLLEGE

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<tr>
<th>CURRENT CLASS STANDING</th>
<th>CUM. GPA</th>
<th>MAJOR GPA:</th>
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<tr>
<td>SOPHOMORE ___ JUNIOR ___ SENIOR ___</td>
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#### RACE (Check only one. This information is requested by the National Science Foundation for funding purposes however it is voluntary and is strictly confidential.)

- NATIVE AMERICAN (NA) ___
- PACIFIC ISLANDER (PI) ___
- AFRICAN AMERICAN (AA) ___
- CAUCASIAN (C) ___
- ASIAN (A) ___
- MIXED - NA,PI,AA ___
- MIXED - CA ___
- Choose not to disclose ___

#### ETHNICITY

- NOT HISPANIC ___
- HISPANIC ___
- Choose not to disclose ___

#### DO YOU HAVE A PHYSICAL, SENSORY, OR MENTAL IMPAIRMENT WHICH SUBSTANTIALLY LIMITS ONE OR MORE LIFE ACTIVITIES (i.e., WALKING, SEEING, HEARING, BREATHING, OR LEARNING)?

- YES ___
- NO ___

#### AREAS OF INTEREST

- EXTRACURRICULAR, COMMUNITY, AND AVOCATIONAL ACTIVITIES

#### EMPLOYMENT DURING SCHOOL YEARS (LIST TYPE OF WORK AND APPROXIMATE HOURS PER WEEK) OR OTHER RESEARCH RELATED EXPERIENCES

#### HOW HAVE YOU SPENT YOUR SUMMERS DURING YOUR COLLEGE YEARS? (INCLUDE THE YEAR AND LOCATION OF PARTICIPATION IN SUMMER PROGRAMS)

#### HOW DID YOU FIND OUT ABOUT THE UWEB SUMMER REU PROGRAM?
ESSAY QUESTIONS: PLEASE ANSWER EACH OF THE QUESTIONS BELOW. TYPE YOUR ANSWERS ON A SEPARATE SHEET OF PAPER. FOR EACH QUESTION, KEEP YOUR ANSWERS FOR EACH QUESTION TO 1-2 SHORT, CONCISE PARAGRAPHS. (Maximum limit of 2 pages for all questions.)

1. What aspects of the UWEB Program sparked your interest? (For more information about the UWEB program, visit our website at http://www.uweb.engr.washington.edu/education/.)

2. Why do you think that the UWEB Summer REU Program is a good fit for you and your goals?

3. If accepted, what do you expect to gain from the program? What will you contribute?

4. Tell us something you believe to be unique about you (i.e., hardships you have overcome, a significant personal experience, etc.).

CERTIFICATION AND SIGNATURE

I certify that the information submitted in this application and associated materials are current, complete and accurate to the best of my knowledge.

<table>
<thead>
<tr>
<th>SIGNATURE (INK ONLY)</th>
<th>DATE</th>
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</table>

Send your completed application with a copy of your official academic transcript from the college which you are currently attending (unofficial transcripts will not be accepted) to:

Janet Wilt
Undergraduate Program Coordinator
University of Washington - UWEB Education & Outreach
Box 355061, Foege Building, Room N361
1705 NE Pacific Street
Seattle, WA 98195-5061

NOTE: Official academic transcripts may be mailed separately

Your complete application (application form, essay questions, official transcripts, all letters of recommendation) must be received by Friday, May 9, 2008. Applications received after May 9, 2008 will not be reviewed.

If you have any questions, contact Janet Wilt at (206) 221-5829 or by e-mail at: wilt@uweb.engr.washington.edu.
Section A

To the applicant: Two references are required one of which must be an individual who can evaluate your potential in a laboratory setting. Print two copies of the Recommendation Form (pages 7-10). Section A is to be completed by the applicant before it is presented to the individual providing the reference.

Applicant’s Name: ___________________________________________
Applicant’s Address: ___________________________________________
                                                                   ___________________________________________
Applicant’s Phone #: ___________________________________________
Applicant’s Email Address: _______________________________________

To the person providing the reference:
Please answer as many questions as your acquaintance with the student permits. UWEB requires that you submit the recommendation forms in order for the student’s application to be complete. A letter of recommendation is optional and may be attached to the forms provided here. Applications for the 2008 UWEB Summer REU Program must be received by Friday, May 9, 2008. Your completed form should be sent to:

Janet Wilt
Undergraduate Program Coordinator
University of Washington – UWEB Education & Outreach
Box 355061, Foege Building, Room N 361
1705 N E Pacific Street
Seattle, WA  98195-5061

If you have any questions, contact Janet Wilt at (206) 221-5829 or by e-mail at: wilt@uweb.engr.washington.edu.
Section B

1. How long have you known the applicant? _________________________

2. In what capacity have you known the applicant? _________________

3. Please rate the applicant by circling the appropriate number which most accurately represents your opinion of the applicant in comparison with a representative group of individuals you have known who have had the same amount of education and experience.

<table>
<thead>
<tr>
<th></th>
<th>Unable to judge</th>
<th>Poor (Lowest 25%)</th>
<th>Fair (26-75%)</th>
<th>Excellent (76-90%)</th>
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<td>2</td>
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<td>2</td>
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<tr>
<td>Work habits</td>
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<td>4</td>
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<tr>
<td>General motivation</td>
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<td>3</td>
<td>4</td>
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<tr>
<td>Leadership</td>
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<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<tr>
<td>Imagination/ Creativity</td>
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<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Initiative</td>
<td>0</td>
<td>1</td>
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<td>4</td>
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<tr>
<td>Ability to work with others</td>
<td>0</td>
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<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Maturity/ Ability to take responsibility for actions</td>
<td>0</td>
<td>1</td>
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<td>3</td>
<td>4</td>
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<tr>
<td>Ability to communicate (written)</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Ability to communicate (spoken)</td>
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<td>2</td>
<td>3</td>
<td>4</td>
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</table>

4. What do you consider to be the applicant’s strongest characteristics?

__________________________________________________________

__________________________________________________________

__________________________________________________________
5. What do you consider to be the applicant’s weakest characteristics?

_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

6. To your knowledge, are there any special circumstances relative to the applicant which would be of value as the student’s credentials are evaluated for this program?

_____________________________________________________________________
_____________________________________________________________________

7. Do you believe the academic record of the applicant is a true reflection of her/his intellectual ability?

____ Yes

____ No, please explain

_____________________________________________________________________

8. In what ways do you believe the UWEB Summer REU Program can be of value to the applicant?

_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

_____________________________________________________________________

_____________________________________________________________________

Page 9
9. Add any special comments that will help to give a more complete picture of the applicant’s abilities and potential as a candidate for continued work and study in research.

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Please Print

Name: Phone:

Title/Position: Department:

Name of College/University:

Address:

Signature: Date: