A PETITION FOR
A CHI EPSILON CHAPTER AT
PORTLAND STATE UNIVERSITY

Prepared by
Society Chair
Deanna Hutchinson

Society Vice Chair
Brian Leatham

Society Secretary
Paul Worrlein

Faculty Advisor
Dr. Christopher M. Monsere

Department Executive Assistant
K.C. Hall

Submitted
December 7, 2007
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1.0 INTRODUCTION

The formation of a Civil Engineering Honor Society at Portland State University State was proposed by the faculty to eligible students in the spring quarter of 2006. It was approved by a unanimous vote of the eligible students. As stated by the founding students, the purpose of this honor society was twofold:

1. to recognize sound traits of character and technical ability among civil engineers demonstrated by the society members' academic achievements; and

2. to meet the requirements necessary to form a chapter of Chi Epsilon, the National Civil Engineering Honor Society, at Portland State University.

The first purpose has been accomplished as the new society moved quickly to adopt bylaws, elect leadership, and induct its first members by June 2006. A second class of inductees was initiated in May 2007. The purpose of this petition is to accomplish the second objective - which the founding and current students recognize will have long-lasting impacts on the civil engineering program at Portland State University and students.

We have been actively working towards becoming the 130th chapter of Chi Epsilon. The subject of civil engineering has been taught at Portland State University since 1960 is accredited by the Accreditation Board for Engineering and Technology (ABET). We would be delighted to join many of other institutions on the west coast such as the University of California at Berkeley, San Diego State University, the University of Utah, and the University of Washington that have a Chi Epsilon chapter.

This petition contains all of the material described in Article XXVI that is necessary to support the installation of Chi Epsilon chapter at Portland State University. The activities and qualifications of the Department of Civil and Environmental Engineering are documented in the petition (including the number of graduates, the number of enrolled students, and other details). A chapter of this petition describes our current honor society including our vision for the society, activity summaries, bylaws, and current roster of members. This petition contains letters of support from Dr. Robert Dryden, the Dean of the Maseeh College of Engineering and Computer Science, Dr. Bill Fish, the chair of the Department of Civil and Environmental Engineering, and a number of the faculty of the Department.

If granted this chapter, we will contribute to the Convention Fund a biennial sum to be determined by the audit committee and strive to be an active chapter.
2.0 DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING

Portland State University (PSU) is located on 49 acres in the vibrant downtown of Portland, Oregon’s largest city. PSU is a member of the Oregon University System and is the largest in terms of number of students, with nearly 24,284 registered. The Department of Civil and Environmental Engineering is one of five departments in the Maseeh College of Engineering and Computer Science (MCECS) which was founded in 1960. MCECS is one of eight colleges or schools in the university. The College and the Department moved to the new Engineering Building in January 2006 which significantly increased the laboratory and teaching space for the Department. The Civil Engineering undergraduate program at PSU is accredited by the Engineering Accreditation Commission/Accreditation Board for Engineering and Technology (EAC/ABET). The Department has 10 full-time faculty, 6 full-time research faculty, and a full-time technician. Students are admitted to the department in their junior year and the current class size is approximately 51 juniors and 43 senior students. A wide variety of core and elective courses are taught at both the undergraduate and graduate levels. The faculty specializes in teaching and research in the transportation, structural, environmental and water resources, and geotechnical areas.

The following subsections demonstrate the qualifications of the civil engineering program at Portland State University.

2.1 VISION STATEMENT

Our vision is that we will become the premier Civil and Environmental Engineering Department in the Northwest for students seeking excellence in education and research. This vision will be achieved by:

1. Creating a nexus of civil and environmental engineering research expertise and activities that are relevant to the Portland metropolitan area, the region and the international community.

2. Providing educational offerings that reflect an awareness of change in the global Civil and Environmental Engineering community.
3. Becoming a role model in sustainability and community engagement in our profession through our research, our undergraduate and graduate coursework, our capstone design experiences for our undergraduates and our administration of the Department.

4. Serving as a resource for the professional community in education, continuing education and research dissemination.

### 2.2 PROGRAM EDUCATIONAL OBJECTIVES

The educational objectives of the Portland State University Civil Engineering Program are as follows:

1. Prepare graduates for all essential aspects of responsible professional practice in civil engineering. The program will:
   a. Provide graduates with the scientific and technical skills needed to engineer projects and to practice their profession ethically and responsibly.
   b. Prepare graduates to work effectively in the professional engineering community through an understanding of concepts, techniques and approaches that cross traditional disciplines.
   c. Prepare graduates to communicate effectively with other engineers, decision-makers and the public at large.
   d. Provide graduates with an understanding of contemporary issues relevant to civil engineering in a context that includes the long-term sustainability and well-being of the community.
   e. Prepare graduates to advance in the profession through professional registration and an appreciation of the need for lifelong learning.
2. Prepare graduates to enter and succeed in graduate programs of advanced professional education or research.

### 2.3 ACADEMIC DEGREES

The Department offers both undergraduate and graduate degrees, including M.S. and Ph.D. The B.S. in Environmental Engineering was recently approved by the Oregon University System and will be accredited during the next ABET visit.

- B.S. - Civil Engineering (BSCE)
  - Minor in Environmental Engineering
- B.S. - Environmental Engineering (BSEVE)
- M.S. - Civil and Environmental Engineering (MSCEE)
- M.Eng. - Civil and Environmental Engineering (MEngCEE)
- M.Eng. - Civil and Environmental Engineering Management (MEngCEEM)
- Graduate Certificate in Transportation
- Ph.D. - Civil and Environmental Engineering
- Ph.D. - Participating department in Systems Science Doctoral Program
Ph.D. - Participating department in Environmental Sciences and Resources Doctoral Program

2.4 ACCREDITATION

The degree programs were reviewed and accredited by ABET in 2005 for the maximum 6 year period until 2012. Recently approved by the Oregon University System, the new Environmental Engineering undergraduate program will go through the accreditation cycle at that same time at which point, upon successful review, the program will be accredited to its beginning period. A listing of the courses taught in the Department is included in section 5.0.

2.5 ENROLLMENT

Our students enter the Department at the beginning of their junior year. Our enrollment has seen consistent growth in recent years. The average enrollment for 2 required senior and junior courses was averaged and is presented in Table 1.

<table>
<thead>
<tr>
<th>Year</th>
<th>Junior</th>
<th>Senior</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>44</td>
<td>35</td>
</tr>
<tr>
<td>2003</td>
<td>45</td>
<td>37</td>
</tr>
<tr>
<td>2004</td>
<td>51</td>
<td>30</td>
</tr>
<tr>
<td>2005</td>
<td>50</td>
<td>33</td>
</tr>
<tr>
<td>2006</td>
<td>51</td>
<td>43</td>
</tr>
<tr>
<td>Average</td>
<td>48</td>
<td>35</td>
</tr>
</tbody>
</table>

Table 1 Average Enrollment per Class by Year

2.6 GRADUATES

The six year history of graduates with academic degrees from the Department of Civil and Environmental Engineering is shown in Table 2. This exceeds the minimum of 20 graduates per year as required by Article XXVII of Chi Epsilon. The Department encourages students to begin the journey of becoming a Professional Engineer by completing the Fundamental of Engineering Examination (FE) in their senior year. The high success rate of our students in passing the FE examination (national average: 80%; PSU: typically greater than 90%) is a compliment to our faculty and students.

<table>
<thead>
<tr>
<th>Year</th>
<th>BS</th>
<th>MENG</th>
<th>MS</th>
<th>PHD</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>27</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2003</td>
<td>36</td>
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<td>2004</td>
<td>23</td>
<td>18</td>
<td></td>
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<tr>
<td>2005</td>
<td>44</td>
<td>21</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2006</td>
<td>30</td>
<td>11</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>30</td>
<td>2</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>192</td>
<td>3</td>
<td>86</td>
<td>2</td>
</tr>
</tbody>
</table>

Table 2 Number of Graduates by Degree per Year

2.7 FACULTY

A well-qualified, active, and engaging faculty is a core of our successful activities as a civil engineering department. Abbreviated resumes are provided in Appendix D of this petition but a quick summary of the teaching faculty is provided below. Letters of support from many of the faculty are also included in section 4.0 of this petition. Research faculty who do not teach are not included in this summary.

Dr. William Fish is the acting department chair for the 2007-08 academic year.
<table>
<thead>
<tr>
<th>Academic Faculty</th>
<th>Title</th>
<th>Specialty</th>
<th>XE Member</th>
<th>PE</th>
<th>ASCE Membership</th>
<th>Other Membership</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Robert Bertini</td>
<td>Associate Professor</td>
<td>Transportation</td>
<td>Yes</td>
<td>CA, OR</td>
<td>Member</td>
<td>TRB, TBP, ITE</td>
</tr>
<tr>
<td>Dr. Robert Doneker</td>
<td>Research Asst Professor</td>
<td>Environmental / Water Resources</td>
<td>-</td>
<td>OR</td>
<td>Member</td>
<td></td>
</tr>
<tr>
<td>Dr. Peter Dusicka</td>
<td>Assistant Professor</td>
<td>Structural</td>
<td>-</td>
<td>CA</td>
<td>Member</td>
<td>AISC, RCSC</td>
</tr>
<tr>
<td>Dr. Chik Erzurumlu</td>
<td>Dean Emeritus</td>
<td>Structural</td>
<td>Yes</td>
<td>OR</td>
<td>Member</td>
<td>ASEE, ACI, SEAO, NSPE, PEO</td>
</tr>
<tr>
<td>Dr. Miguel Figliozzi</td>
<td>Assistant Professor</td>
<td>Transportation</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>TRB, INFORMS</td>
</tr>
<tr>
<td>Dr. William Fish</td>
<td>Acting Chair and Associate Professor</td>
<td>Environmental / Water Resources</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>TBP, AGU, ACS, ASEE, ASLO</td>
</tr>
<tr>
<td>Dr. Mike Gorji</td>
<td>Associate Professor</td>
<td>Structural</td>
<td>-</td>
<td>OR</td>
<td>Fellow</td>
<td>ASME, AIAA</td>
</tr>
<tr>
<td>Dr. David Jay</td>
<td>Professor</td>
<td>Environmental / Water Resources</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>AGU, ERF</td>
</tr>
<tr>
<td>Dr. Gwynn Johnson</td>
<td>Assistant Professor</td>
<td>Environmental / Water Resources</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>EWRI, AGU, ACS, TBP</td>
</tr>
<tr>
<td>Dr. Kent Lall</td>
<td>Assistant Chair and Professor</td>
<td>Transportation</td>
<td>-</td>
<td>OR</td>
<td>Fellow</td>
<td>ITE, TRB, ASEE</td>
</tr>
<tr>
<td>Dr. Chris Monsere</td>
<td>Assistant Professor</td>
<td>Transportation</td>
<td>Yes</td>
<td>OR</td>
<td>-</td>
<td>ITE, TRB, TBP</td>
</tr>
<tr>
<td>Dr. Hamid Moradkhani</td>
<td>Assistant Professor</td>
<td>Environmental / Water Resources</td>
<td>-</td>
<td>AZ</td>
<td>Member</td>
<td>AGU, AMS, IAHS, IAHR, ASEE SEAO</td>
</tr>
<tr>
<td>Dr. Wendelin Mueller</td>
<td>Professor Emeritus</td>
<td>Structural</td>
<td>-</td>
<td>OR, MO</td>
<td>Member</td>
<td></td>
</tr>
<tr>
<td>Dr. Jiayi Pan</td>
<td>Research Asst Professor</td>
<td>Environmental / Water Resources</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Dr. Franz Rad</td>
<td>Professor</td>
<td>Structural</td>
<td>Yes</td>
<td>OR</td>
<td>Fellow</td>
<td>ACI, SEAO</td>
</tr>
<tr>
<td>Dr. Trevor Smith</td>
<td>Professor</td>
<td>Geotechnical</td>
<td>-</td>
<td>TX</td>
<td>Member</td>
<td></td>
</tr>
<tr>
<td>Dr. Scott Wells</td>
<td>Professor</td>
<td>Environmental / Water Resources</td>
<td>Yes</td>
<td>OR</td>
<td>Member</td>
<td>WEFAFSS, PKP, TBP, KME, SX</td>
</tr>
</tbody>
</table>
Faculty in the Department are actively engaged in local, national, and international research issues that affect the infrastructure of society and the environment. This creates an exciting and interesting environment for students. In 2007, the Department received about fifty percent of its resources from external research activity and had close to $1.5 million in research expenditures. As shown in the figure, the trend has been for externally funded research expenditures to increase. With additional faculty that have joined the Department in recent years, this exciting trend is likely to continue.

Modern, up-to-date laboratories and computing facilities are available for students admitted to the Department of Civil and Environmental Engineering (CEE). CEE Laboratories and computer facilities include almost 30,000 square feet of space in 3 buildings that support research in the faculty research areas. These laboratories include the infrastructure Seismic Testing and Applied Research (iSTAR), the Intelligent Transportation Systems (ITS) lab, signal processing, applied GIS and surveying, transportation engineering, water quality modeling, hydrology, fluid mechanics, hydraulics, in-situ geotechnical, infrastructure materials, concrete, soil-mechanics, and four separate environmental engineering laboratories.

2.9 CURRENT DEPARTMENT-LEVEL STUDENT GROUPS

Other strong components of our program include active student organizations. The Department supports these groups by appointing a faculty advisor and with other actions. These chapters have a long history of activity at Portland State. The proposed Chi Epsilon chapter will also be strongly supported by the Department.

American Society of Civil Engineers (ASCE)

The Department of Civil and Environmental Engineering has an active American Society of Civil Engineers (ASCE) Student Chapter. Students get continuous exposure to industry professionals through guest lectures about the latest projects and ethical concerns, field trips to local construction sites and treatment facilities, and events involving the Oregon Section of ASCE. In addition to being the students’ voice within the regional and national organization, the student chapter represents PSU civil engineering students in their interactions with the regional and national chapters. The ASCE group hangs out on their award-winning steel bridge.
Students in Transportation Engineering and Planning (STEP)
The STEP chapter is a very active student chapter at Portland State University. PSU has had a student chapter of the Institute of Transportation Engineers (ITE) since 1981. The chapter actively arranges for speakers to visit campus and combines visits to “the field” with class activities. The STEP student group has a tradition of attending pre-opening tours of Portland’s newest light rail and streetcar facilities. Recent previews have included Portland's newest light rail extension, the Interstate MAX Yellow Line. The chapter has also toured the MAX Airport Red Line and the new Portland streetcar extension to Riverplace. The ITE student chapter recently proposed and won two data collection contracts from ITE District 6. The chapter has earned nearly $3,000 to support student activities. A number of events are organized and held on campus each year. One highlight is the annual, region-wide transportation “Jeopardy-style” contest, which is organized to enhance awareness of the transportation field amongst Civil Engineering students. The PSU team consistently finishes near the top. The transportation engineering community in Portland, represented by the Oregon Section of ITE, is also strongly behind the PSU chapter, recognizing that it is the most active chapter in the state. STEP welcomes students from other disciplines on campus such as urban and regional planning, computer science and statistics. The chapter receives financial support through the university transportation center, the Oregon Transportation Research and Education Consortium (OTREC). Dr. Christopher Monsere is the faculty advisor.

Engineers Without Borders (EWB)
The Engineers Without Borders Student Chapter has an active membership and exciting projects. Started in 2005, the chapter is relatively new at PSU. Members have traveled twice to Nicaragua to work on projects for impoverished eldercare homes. Collaborating with local civil engineering students from the Universidad Paulo Freire in Dirriamba, Nicaragua, EWB completed three infrastructure improvement projects at the Hogar in Jinotepe. The water storage problem at the Hogar was resolved by installing two new water
tank towers and plumbing together three tanks (totaling 10,000 L) to the gravity-fed system used when the city shuts off the water supply. The roof of the facility was reinforced by installing CS16 galvanized steel tension strapping graciously donated by Simpson Strong-Tie (www.strongtie.com). Finally, new electric conduit, switches and energy efficient bulbs were installed to improve lighting and overall system efficiency. The Chapter hosts speakers, participates in volunteer activities and holds regular meetings. The faculty advisor is Dr. Robert Bertini.

**Student Water Resources Group (SWRG)**
The Student Water Resources Group (SWRG) is the student chapter of both the American Water Resources Association (AWRA) and the American Institute of Hydrology (AIH). It is a diverse group comprised primarily of engineering and science students interested in water resources. SWRG actively arranges for speakers to visit campus and provides free interactive field trips to broaden students’ academic experience and expose students to real world examples of interdisciplinary projects. Recent field trips have included a visit to the Kelly Creek stream restoration, where students were given a tour of the project by both the design engineer and the city’s project manager and then walked through the monitoring protocol by the scientists who actually monitor the project. Last term SWRG also hosted a guided tour of the Bull Run Watershed, which is the source of Portland’s water supply and includes two dams. Annually, the group makes a trip to the NRCS’s SNOTEL site in the Mount Hood area where students learn to measure snowpack and how water supply predictions are made. The faculty advisor is Dr. Alan Yeakley.

**Civil Engineering Honor Society**
The society honors students with high scholastic ability, and who promote the principles of scholarship, character, practicality, and sociability. It has been operating since 2005. Eligible juniors and seniors are invited to join. The faculty advisor is Dr. Christopher Monsere.

## 2.10 CURRENT COLLEGE-LEVEL STUDENT GROUPS

**American Society of Mechanical Engineers (ASME)**
The student section of the ASME provides a means for engineering students to interact with other students and engineering professionals in the community. It holds regular meetings and events, and student members get the opportunity to compete against other university students in design and other academic competitions. Other membership benefits include scholarships, subscription to ME Magazine, discounts, and more.

**Association for Computing Machinery (ACM)**
The Portland State University branch of the Association for Computing Machinery encourages Computer Science (CS) students to work together to form professional and personal bonds that will serve them now and after graduation. ACM provides volunteer tutors who can help students with questions. The tutors are available in the CS lounge outside the CS Unix lab in the Fourth Avenue Building. For a detailed schedule, please visit their website.

**Eta Kappa Nu (International Electrical Engineering Honor Society)**
While one of its purposes is the stimulation and reward of scholarship, Eta Kappa Nu has a far broader purpose than merely to award a badge of distinction to scholars. It aims to assist
members through their lives in becoming better professionals as well as better citizens. Its members work towards improving the standards of the profession and the courses of instruction. For more information about Eta Kappa Nu, please visit their Web site.

**Institute of Electrical and Electronics Engineers (IEEE)**
The IEEE (pronounced "eye-triple-E") helps advance global prosperity by promoting the engineering process of creating, developing, integrating, sharing, and applying knowledge about electrical and information technologies and sciences for the benefit of humanity and the profession.

**Portland State Aerospace Society (PSAS)**
PSAS is a non-profit aerospace project at Portland State University comprised of undergraduate and graduate students, faculty and staff of PSU, and local community members - ranging from high school students to engineers in industry - who are interested in aerospace engineering. The PSAS is based at the Maseeh College of Engineering and Computer Science and has members and advisors in the Electrical and Computer Engineering, Computer Science and Mechanical Engineering departments. Visit their website to find out what they are working on now, how you can help, and the date of their next launch.

**Society of Automotive Engineers (SAE)**
The main purpose of the PSU chapter of SAE is to promote interaction between engineering students and the professional sector. This keeps students informed of the latest technical developments and career opportunities. The student chapter holds regular meetings, often with guest speakers, and organizes field trips to local industry. Several of the PSU SAE members are involved in the SAE Mini-Baja Competition and the SAE Formula One Competition. They are always looking for students from a wide range of disciplines who are interested in working on these vehicles. If you are interested, please visit their Web sites for more information.

**Society of Women Engineers (SWE)**
The Society of Women Engineers is a non-profit, educational service organization of graduate engineers, women and men, dedicated to the advancement of women in the engineering professions. The local chapter helps students make contacts, cultivate friendships, and network with local engineering professionals.

**Tau Beta Pi (Engineering Honor Society)**
Tau Beta Pi is the national Engineering Honor Society. Students are eligible for membership only after demonstrating outstanding academic achievement and exemplary character. The Oregon Beta Chapter at PSU consists of Civil, Electrical, and Mechanical Engineering students and faculty. It is active in the university and the community, carrying out projects such as volunteering at the food bank and acting as judges for engineering week competitions.
3.0 CIVIL ENGINEERING HONOR SOCIETY

We have been actively working towards becoming the 130th chapter of Chi Epsilon. We would be delighted to join many of other institutions in the west such as the University of California at Berkeley, San Diego State University, the University of Utah, and the University of Washington that have a Chi Epsilon chapter. The section documents our commitment that our chapter will be active and engaging.

3.1 VISION

As an engineering honor society, we strive to augment academic learning with a working understanding of how engineering principles are applied in industry as well furthering engineering interest in our society while providing academic recognition to our members. We see our purpose to recognize the academic achievements of our members and to provide a mechanism to give back to the profession which we are eager to join.

Funding through Student Activities and Leadership Programs (SALP) at Portland State University (about $1,200 per year) currently allows us to sponsor field trips to civil engineering projects in the greater Portland area where students can meet with engineers and see projects in both construction and completed phases. We believe that meeting with professional engineers and learning about seeing projects implemented enhances classroom learning and provides important contact opportunities. In addition to arranging our own field trips, we inform our members about civil engineering related speaking events, conferences, and field trips arranged by other groups.

This year, as a service type project we will contribute to engineering interest in our society by participating in the annual Engineering Design Competition held at Portland State University (PSU) for grade school through high school students. The event attracts students from Oregon and Southwestern Washington and offers various engineering events that students can compete in while learning engineering principles.

As part of recognizing academic achievement, we hold an annual reception and induction ceremony. A portion of the SALP funds we receive are used for this purpose. Our ceremony provides an opportunity to hear insight from civil engineering leaders, network, and receive recognition for the academic work our members have done.

3.2 CHAPTER ACTIVITIES

April 4, 2006 – First Meeting of Eligible Students – A vote approved to create a Portland State University Civil Engineering Honor Society. Draft bylaws were reviewed, amended, and approved. Officer duties were discussed, and the first initiation date set for June 16, 2006.
May 8, 2006 – General Meeting – The governing structure of the Civil Engineering Honor Society was debated and a final agreement was made to employ a chair, vice-chair, and secretary. Nominations and voting for the governing positions occurred. All in attendance were encouraged to consider any ideas and goals for the future of the fledgling honor society. A chapter website was established at http://web.cecs.pdx.edu/~ceehonor/index.php

June 16, 2006 – Induction Ceremony – The first induction ceremony was held on the Friday before graduation in conjunction with the senior barbeque. Thirty-one students were inducted into the new CEE Honor Society. Wayne Kittelson from Kittelson & Associates spoke at the ceremony, and many of the students’ families attended.

November 8, 2006 – Officer Meeting – A draft letter of invitation to join the Civil Engineering Honor Society was presented. The letter included space for confirmation of joining, notification of intent to serve the community in the form of two options including participating in Habitat for Humanity and stream restoration projects, as well as attending the first meeting. The option to attend a high school career fair to inform students of opportunities in the field of civil and environmental engineering was discussed. The officers also discussed the steps required to get inducted into the national civil engineering honor society. Several field trip opportunities were presented as well.

December 1, 2006 – Field Trip: Tour of Downtown Water Mains Project – The CEE Honor Society members arranged for a tour of a significant construction project in downtown Portland that was reconstructing and relocating many old water mains. After a short stop in the field construction trailer, members were treated to a detailed tour of the project. Of course, Portland rain was a requirement.

March 3, 2007 – Welcome Meeting for New Members – The new members were congratulated on their achievements. The petition process for induction into Chi Epsilon, the national civil engineering honor society was reviewed. Officer nomination opportunities were presented and all were encouraged to consider participation in the process. The process of obtaining funding was discussed.

April 19, 2007 – General Meeting – Attendees elected new officers for the 2007-2008 academic year. An update on the process of induction into Chi Epsilon, the national civil engineering honor society was presented.
The current year’s induction ceremony for PSU students was planned, and a field trip to the Columbia River well fields was discussed.

May 22, 2007 – Induction Ceremony – Our second induction was held May 22, 2007 and 21 students were inducted. The society organized a social event prior to the event that was attended by faculty and family members.

3.3 REQUIREMENTS FOR MEMBERSHIP

The eligibility requirements for students are specified in our bylaws which are posted on our website. At the conclusion of the fall quarter, the academic advisor reviews the GPA by class. The top 1/3 of each class are invited to join the society. The students must respond to the letter to be a member. All currently inducted members would be eligible to be Chi Epsilon inductees since the academic requirements are identical. The following are the requirements.

- Undergraduate Students. To be eligible for membership, an undergraduate must have completed at least one-half of the work required for their bachelor's degree and rank scholastically in the upper one-third of his or her class in a curriculum leading to a baccalaureate degree in civil engineering. Junior and seniors are considered separately. This requirement is the only scholastic criterion for membership. The candidate must also satisfy the additional requirements of possessing broad principles of scholarship, character, practicality, and sociability.

- Graduate Students. To be eligible for membership, a graduate student must have shown outstanding ability and have completed the equivalency of one-half of one academic year in the graduate program. The student must be nominated by a faculty member of Portland State University and approved by elected officers of the Portland State University Civil Engineering Honor Society. A graduate student who was initiated as an undergraduate may continue as an active member of the chapter if continuing their education at Portland State.

3.4 OFFICERS

As specified in our bylaws, there are three elected positions for our honor society. These positions will change to reflect those required by the Chi Epsilon charter.

2007-2008 Officers
- Society Chair - Deanna Hutchinson
- Society Vice Chair - Brian Leatham
- Society Secretary - Paul Worrlein

2006-2007 Officers
- Society Chair - Jennifer Segal
• Society Vice Chair - Michael Reynolds
• Society Secretary - Jay T. Johnson

Faculty Advisor - Dr. Christopher Monsere

3.5 CURRENT MEMBERS

The following are the official members of the PSU Civil Engineering Honor Society. Academic record policies require that GPAs are confidential but these students were in the top 1/3 of the class at the time of induction.

<table>
<thead>
<tr>
<th>Inducted May 22, 2007</th>
<th>Inducted June 16, 2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joshua Ayers</td>
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<td>Benjamin Wiley</td>
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<td>Catherine Wilson</td>
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4.0 FACULTY LETTERS OF SUPPORT
November 13, 2007

Dr. Thomas M. Petry  
National Secretary-Treasurer  
Chi Epsilon  
Univ. of Texas at Arlington  
Box 19316  
Arlington, TX 76019-0316

Dear Dr. Petry:

I am delighted to add my enthusiastic support for our Civil and Environmental Engineering Department to establish its own chapter of Chi Epsilon. The Civil and Environmental Engineering Department has experienced substantial growth in both faculty and students. It is my opinion that it is essential to have the Chi Epsilon Honor Society available to recognize excellence and outstanding academic accomplishments of our students. Due to the level of activity and student support given to our existing Civil Engineering Honor Society, I have no doubt that a student chapter of Chi Epsilon will be a very active chapter and a credit to your honor society.

The College of Engineering pledges its active support of the Chi Epsilon chapter in both the petitioning process as well as continued support when a chapter is established. Please let me know if I can provide any additional information that will be helpful in your consideration of Portland State University’s petition for a Chi Epsilon chapter.

Thank you for consideration of this petition.

Sincerely,

[Signature]

Robert D. Dryden  
H. Chik Erzurumlu Dean
Dear Chi Epsilon Committee:

I am writing to express my strong support as Department Chair in Civil & Environmental Engineering for a Chi Epsilon Chapter at Portland State University. Chi Epsilon is a wonderful way to acknowledge the accomplishments of our best students. Our robust program has attracted 57 new students this year, building on the steady growth we have enjoyed for years. But beyond just numbers is the quality of our graduates. One index of our students’ abilities is that graduates of our program have consistently passed the FE exam at 85-90% for over ten years running, well above the national average. In recent years our students have won regional ASCE competitions in steel bridge construction, competed in national competitions, and one of our students was the national winner of the 2005 ASCE Daniel Mead writing competition.

We are proud of our students and the many opportunities our Department can offer them. In addition to a rigorous engineering curriculum, our program includes a number of very active student organizations including an American Society of Civil Engineers (ASCE) Student Chapter, Students in Transportation and Planning (STEP), a student chapter of the Institute of Transportation Engineers (ITE), and an Engineers Without Borders Student Chapter that has worked on community projects in Nicaragua for several years. In addition, our Student Water Resources Group is a student chapter of both the American Water Resources Association (AWRA) and the American Institute of Hydrology (AIH). Importantly, our CEE Honor Society is the platform on which a Chi Epsilon Chapter will be built, as discussed in the application narrative.

We offer our students a high quality faculty that takes education very seriously, but also is highly engaged in engineering research. The 17 faculty in the Department are actively performing a wide range of research that affect the infrastructure of society and the environment, creating a terrific intellectual environment for students. In 2007, the Department received close to $1.5 million in external research funding and our funding has increased every year in recent years. Students also have the opportunity for cooperative education and internships with local consulting firms and agencies, further enhancing their engineering training and exposure to real engineering practice.

I hope you will look closely at the materials we have provided in the application and see for yourself how a Chi Epsilon Chapter would be an important addition to our program and its students.

Best regards,

[Signature]

William Fish
Acting Chair and Professor
Civil & Environmental Engineering
November 27, 2007

Dr. Thomas M. Petry  
National Secretary-Treasurer  
Chi Epsilon  
Univ. of Texas at Arlington  
Box 19316  
Arlington, TX 76019-0316

Dear Dr. Petry:

I have been impressed with the dedication of our students and our faculty advisor, Dr. Chris Monsere, in setting up the Portland State University Civil Engineering Honor Society. Students have been active in serving the Department and in organizing field trips for our Civil Engineering students. We have also had good outside support from local professionals and faculty who have spoken at our initiations over the last 2 years. The students and the faculty are in unified support of this proposal and are excited to become a chapter of Chi Epsilon.

As Chair of the Department (although currently on sabbatical), the Department will support the local PSU chapter of Chi Epsilon. That support consists of faculty interaction and integration with the student organization and in providing logistical and administrative support for Chi Epsilon. The establishment of a Chi Epsilon chapter on our campus is an important aspect of our striving for excellence and encouraging that ideal among our students.

Thank you for your consideration of our petition to establish a Chi Epsilon chapter at Portland State University.

Sincerely,

Scott A. Wells  
Professor and Chair
October 5, 2007

Dr. Thomas M. Petry  
National Secretary-Treasurer  
Chi Epsilon  
University of Texas at Arlington  
Box 19316  
Arlington, TX 76019-0316

Subject: Letter of Support for Portland State University Chapter of Chi Epsilon

Dear Dr. Petry:

I am pleased to write this letter of support for the creation of a Chi Epsilon chapter at Portland State University. On February 8, 1986, while I was an undergraduate at California Polytechnic State University, San Luis Obispo, I was initiated as a member of the California Mu chapter. I was inspired by the words of Prof. Arthur Chiu at our initiation ceremony, and later served as chapter President and chapter Editor. I also led the establishment of a series of Fundamental of Engineering (Engineer-in-Training at that time) review sessions as a fundraiser for our chapter. I understand that these sessions are still in operation more than 20 years later! My experience as a member and officer with the California Mu chapter was a very important component of my undergraduate education. Now, years later, as an educator myself, I try to encourage and inspire our students to become engaged with our department, profession, their classmates and the notion of “giving something back” through service to the civil engineering profession. These are all things that Chi Epsilon stands for.

I believe you can tell that I am very happy to pledge my active support for a Portland State University chapter of Chi Epsilon. As a colleague and mentor to Professor Christopher Monsere, I will continue to try to do my best to encourage the excellent progress he is making in his career and in serving as a mentor to our students. The establishment of a chapter at Portland State would also serve to recognize the deep commitment and efforts that Dr. Monsere has displayed in the development of the Civil Engineering Honor Society that we have in place already.

As an alumnus of the California Mu chapter, I am also pleased to express my personal commitment to assisting that chapter in any way possible. Thank you for your consideration of this petition submitted by the Portland State University Department of Civil and Environmental Engineering to establish a chapter of Chi Epsilon on our campus.

Sincerely,

Robert Bertini  
Robert L. Bertini, Ph.D., P.E.  
Associate Professor of Civil and Environmental Engineering
November 29, 2007

Dr. Thomas M. Petry
National Secretary-Treasurer
Chi Epsilon
Univ. of Texas at Arlington
Box 19316
Arlington, TX 76019-0316

Dear Dr. Petry:

I am writing in support of Portland State University’s application for the establishment of a Chi Epsilon Chapter. I have observed the enthusiasm and the dedication of both students and faculty toward the realization of this worthy goal.

As a Chi Epsilon member, I have contributed to the planning and preparation of the chapter application, and pledge to continue my active support for the PSU Chi Epsilon Chapter.

Your consideration of the petition to establish a Chi Epsilon Chapter at Portland State University will be greatly appreciated.

Sincerely,

H. Chik M. Erzurumlu, Ph.D., P.E.
Emeritus Dean and Professor
November 26, 2007

Dr. Thomas M. Petry  
National Secretary-Treasurer  
Chi Epsilon  
Univ. of Texas at Arlington  
Box 19316  
Arlington, TX 76019-0316

Dear Dr. Petry:

As a relatively new faculty member, I raised the question of why our department did not have a chapter of Chi Epsilon. It had apparently had been considered but never to the point of submitting a petition. As a Chi Epsilon member (inducted July 13, 1993 at the University of Detroit) I know what membership in the society can mean to a student so I volunteered to lead the effort to form a chapter. With the support of faculty, I with Scott Wells helped the students create a Civil Engineering Honor Society that has operated successfully for the past two years. The students have been very excited by the chance to leave their mark on the university knowing that their objective was to form a chapter of Chi Epsilon.

As their faculty advisor, I have enjoyed working with these excellent students and seeing the results of their efforts. For me personally, I am looking forward to a successful vote on our petition and of continuing the momentum developed in the formation of our honor society. I view it as another step in the transformation of our department. I envision and will encourage an active chapter that gives back to the department, profession and society.

Thank you for your consideration of our petition to establish a Chi Epsilon chapter at Portland State University.

Sincerely,

Christopher M. Monsere  
Assistant Professor
October 22, 2007

Dr. Thomas M. Petry
National Secretary-Treasurer
Chi Epsilon
Univ. of Texas at Arlington
Box 19316
Arlington, TX 76019-0316

Dear Dr. Petry:

Please consider this letter as a request for approval for Portland State University to have its own chapter of Chi Epsilon. I have been a proud member of Chi Epsilon (University of Texas at Austin) for the past four decades and pledge to actively support the chapter at PSU.

Thank you for your consideration of this petition for the Portland State University Department of Civil and Environmental Engineering to establish its own chapter of Chi Epsilon.

Sincerely,

[Signature]

Franz Rad, PhD, PE, SE, FACI, FASCE, LM-SEAO
Arthur M. James Professor of Structural Engineering
October 19, 2007

Dr. Thomas M. Petry
National Secretary-Treasurer
Chi Epsilon
Univ. of Texas at Arlington
Box 19316
Arlington, TX 76019-0316

Dear Dr. Petry:

SUPPORT FOR THE CHAPTER OF Chi Epsilon AT PORTLAND STATE

This letter is to fully endorse the proposed Chi Epsilon chapter in my department to foster and enrich professional growth among both undergraduates and graduates.

Having spent 25 years of my professorial career dedicated to the geotechnical program at Portland State I can give clear testimony to the ability and maturity of many of the departments graduates. It is clearly a distinction which is long overdue for the department as it has grown to be one of the preeminent departments at this Institution truly dedicated to its mission of service to the metropolitan area.

Thank you for your consideration of this petition for the Portland State University Department of Civil and Environmental Engineering to establish it’s own chapter of Chi Epsilon.

Sincerely,

[Trevor D. Smith, Ph.D, P.E.]
Professor of Geotechnical and Civil Engineering
Portland State University
October 11, 2007

Dr. Thomas M. Petry
National Secretary-Treasurer
Chi Epsilon
Univ. of Texas at Arlington
Box 19316
Arlington, TX 76019-0316

Dear Dr. Petry:

As a member of the Civil Engineering faculty at Portland State University I would like to state my complete support for a chapter of Chi Epsilon.

I am aware of the significance of Chi Epsilon to improve and develop the skills of our civil engineering students. I am committed to support and assist the local chapter of Chi Epsilon.

Thank you for your consideration of this petition for the Portland State University Department of Civil and Environmental Engineering to establish its own chapter of Chi Epsilon.

Sincerely,

Miguel Andres Figliozzi
Assistant Professor
Portland State University
Maseeh College of Engineering and Computer Science
Post Office Box 751
Portland, Oregon 97207-0751
October 10, 2007

Dr. Thomas M. Petry
National Secretary-Treasurer
Chi Epsilon
Univ. of Texas at Arlington
Box 19316
Arlington, TX 76019-0316

Dear Dr. Petry:

Our department has bright and active students and I am encouraged to see the hard work of the students and their advisor Dr. C. Monsere materialize in this petition. I would welcome a chapter of The National Civil Engineering Honor Society. Being educated primarily outside the United States, I have not had the opportunity to participate in Chi Epsilon. However, I will support the students and their chapter activities as I see the tremendous benefits to our bright students.

Thank you for your consideration of this petition for the Portland State University Department of Civil and Environmental Engineering to establish its own chapter of Chi Epsilon.

Sincerely,

[Signature]

Peter Dusicka
Assistant Professor
5.0 BSCE DEGREE REQUIREMENTS

The undergraduate degree program in Civil Engineering includes required courses in the analysis and design of structures, environmental and water resources engineering, applied hydraulics, soil mechanics and foundations, transportation engineering, surveying and engineering project management. Majors in civil engineering must complete the University and departmental degree requirements as outlined above. Junior and senior engineering courses must be completed with a minimum grade of C-, and a student’s cumulative PSU GPA must be 2.25 or higher to graduate from the BSCE program. Any deviation from the required courses, including engineering and mathematics course substitutions, must be approved in writing by the Chair of the Department.

The degree program requirements and possible four-year course plan in table follows.

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APPENDIX A BYLAWS

Bylaws of the Portland State University Civil Engineering Honor Society

Adopted April 20, 2006

PURPOSE AND OBJECTIVES

Section 1.1 - We hereby name this organization the Portland State University Civil Engineering Honor Society.

Section 1.2 - We, students and faculty of the Department of Civil and Environmental Engineering at Portland State University, in the belief that distinction should be bestowed upon the undergraduate who has upheld the honor, integrity and scholastic achievement as determined by the department, and believing that a society with the broad principles of scholarship, character, practicality, and sociability would be an incentive to greater achievements in the civil engineering profession, do adopt these bylaws as a guiding instrument for this organization.

Section 1.3 - The objectives of the Portland State University Civil Engineering Honor Society shall be:

(a) to contribute to the improvement of the civil engineering profession as an instrument for the betterment of society and to assure future generations of continued service and quality from the profession of civil engineering.

(b) to identify those characteristics desirable in the civil engineer and to encourage all civil engineers to develop these characteristics.

(c) to support at any and all times any movement to advance the quality of engineering education; actively support; and to endeavor to aid the civil engineering department in bettering its services to the students, public, and industry.

MEMBERSHIP

Section 1.1 - To become a member of the Portland State University Civil Engineering Honor Society a student must be invited and accept membership.

Section 1.2 – Membership eligibility as described in Article II, Section 1.3 will be reviewed by the faculty advisor the Winter Quarter of each academic year and provided to chapter officers to invite new members.

Section 1.3 – Eligibility requirements for students are:

(a) Undergraduate Students. To be eligible for membership, an undergraduate must have completed at least one-half of the work required for their bachelor's degree and rank scholastically in the upper one-third of his or her class in a curriculum leading to a baccalaureate degree in civil engineering. Junior and seniors are considered separately. This requirement is the only scholastic criterion for membership. The candidate must also satisfy the additional requirements of possessing broad principles of scholarship, character, practicality, and sociability.

(b) Graduate Students. To be eligible for membership, a graduate student must have shown outstanding ability and have completed the equivalency of one-half of one academic year in the graduate program. The student must be nominated by a faculty member of Portland State University and approved by elected officers of the Portland State University Civil Engineering Honor Society. A graduate student who was initiated as an undergraduate may continue as an active member of the chapter if continuing their education at Portland State.

GOVERNANCE

Section 1.1 - The chapter officers shall be a Chair, Vice-Chair, Secretary and a Faculty Advisor.
Section 1.2 - The chapter officers shall be elected (after nomination and acceptance) by a majority vote at a general meeting called for that purpose in the Spring Quarter. Officers serve one year appointments.

AMENDMENTS TO BYLAWS

Section 1.1 - These Bylaws may be amended at any time by a favorable vote of the majority of the members present at a general meeting.
APPENDIX B MEETING MINUTES

CIVIL & ENVIRONMENTAL ENGINEERING HONOR SOCIETY
PORTLAND STATE UNIVERSITY

CEE Honor Society Meeting Minutes
Date: 4/20/2006 5:15 PM
Attendees: See sign-in sheet.

I. Overview by PSU faculty of Chi Epsilon and student involvement.
   A motion was made by Charles to form a PSU Civil Engineering Honor Society with the intention of
   becoming a chapter of the national honor society, Chi Epsilon.
   Mike seconded the motion.
   Vote: All in favor, no nays.

II. Draft Bylaws were passed around for everyone to review.

   Modifications to the Bylaws were discussed:
   Gita suggested changing article IV section 1.1 to ensure a majority must be present in order for a
   vote to carry. This was left open for further discussion at a later time.
   River suggested changing article III section 1.2 to those who are nominated for a position must not
   only elected, but also accept the responsibilities of the position to take office.
   Dr. Rad pointed out typos to be corrected such as article II contains two sections labeled 1.2.
   Jennifer motioned to accept the Bylaws.
   Gita seconded the motion.
   Vote: All in favor, no nays.

III. General Discussion
   Duty list for officers needed.
   Initiation to the PSU chapter tentatively scheduled for June 16, 2006.

IV. Conclusions

CIVIL & ENVIRONMENTAL ENGINEERING HONOR SOCIETY
PORTLAND STATE UNIVERSITY

FROM: Michael Reynolds
TO: All CEE Honor Society Members
CC: Dr. Christopher Monsere, Research Assistant Professor; Dr. Scott Wells, Dept. Chair
DATE: Monday, May 8, 2006 (EB 310)
SUBJECT: CEE HONOR SOCIETY GENERAL MEETING MINUTES 5/4/06, 5:15-5:45 PM
TOPIC: OFFICER ELECTIONS
MINUTES
1. The meeting was called to order by River Hwang. This author volunteered to record the minutes of the meeting.

2. Dr. Scott Wells, who was in attendance for the first part of the meeting, discussed options for the structure of officer positions, ultimately recommending a lean, two-post model of Chair and Secretary. Subsequent discussions led to the addition of Vice-Chair as a supporting position. A motion for creating the positions of Chair, Vice-Chair and Secretary was made by Melani Smith, seconded by Helen Lovelady and passed without opposition.

3. Three positions were then up for election, with officer positions to be occupied for one calendar year. Additionally, it was unanimously decided that, since this meeting was called with the intention of electing officers, nominations made during this meeting would be voted upon by members present.

4. Elections: Jennifer Segal was nominated by River Hwang for the position of Chair, Helen Lovelady seconded, and the motion passed without opposition. Michael Reynolds was nominated by Helen Lovelady for the position of Vice-Chair, Jay Johnson seconded, and the motion passed without opposition. Jay Johnson was nominated by Jennifer Segal, River Hwang seconded, and the motion passed without opposition. Congratulations to all!

5. Elected officers will seek a meeting with Dr. Christopher Monsere and Dr. Scott Wells to determine next steps for the fledgling Honor Society.

6. The next meeting time is TBD. Jay Johnson requested that all members come armed with ideas and goals for the Honor Society to pursue.

CIVIL & ENVIRONMENTAL ENGINEERING HONOR SOCIETY
PORTLAND STATE UNIVERSITY

FROM: Jay Johnson
TO: All CEE Honor Society Members
CC: Dr. Christopher Monsere, Research Assistant Professor; Dr. Scott Wells, Dept. Chair
DATE: Monday, November 12, 2006 (EB 310)
SUBJECT: CEE HONOR SOCIETY GENERAL MEETING MINUTES 11/8/06, 4:00-4:30 PM
TOPIC: ACTIVITIES

ATTENDANCE: Jennifer Segal, Melanie Smith, Michael Reynolds, Jay Johnson
1) The meeting was called to order by the President, Jennifer Segal.
2) The website for the honor society has been completed and is up and running. Adam Larsen volunteered to produce and engineer the website. A very big thank you to Mr. Larsen for all his hard work, it is very much appreciated.
3) The end of the fall term is almost complete and the review of the possible new members was discussed. The idea of some form of service activity for future members was an idea. The service would be minimal as to not conflict with the already tight time constraints of the junior year academic load. Habitat for Humanity and peer tutoring were discussed as potential services.
4) The idea of potential activities for the Honor Society, as a group, to participate was also discussed. A step out of the academic world and into the real world to see what the future holds. Michael
Reynolds came armed with several ideas for possible tours of facilities:

a) Downtown Mains Project
b) Water Control Center
c) Pump house, well field of the Columbia River
d) Groundwater pumping and treatment facility
e) Bull Run
f) Asphalt/Concrete Plant

5) The graduation of engineering students and placement in the job field with lack of skills or knowledge of what is required from an employer is a concern. The possibility of guest speakers or tutors to help make the transition from school to the work place was suggested. The variety of potential speakers ranged from drafting help to the development of communication between engineers and contractors.

6) With safety being a very large part of today’s work environment and the effort of companies to keep a safe job site, the knowledge gained before being placed in the work place needs to be enhanced. Having a representative from OSHA to give a talk on how to keep workers and jobs safe and the potential hazards that can come about from everyday work is a possibility.

7) The ASCE held tutoring sessions for freshman and sophomore classes. The honor society was also involved in providing tutors to help. It is a continuing idea to provide tutoring for midterms and finals with a possible weekly session coming about depending on the turnout.

---

**CIVIL & ENVIRONMENTAL ENGINEERING HONOR SOCIETY**  
**PORTLAND STATE UNIVERSITY**

FROM: Jay Johnson  
TO: All CEE Honor Society Members  
CC: Dr. Christopher Monsere, Research Assistant Professor; Dr. Scott Wells, Dept. Chair  
DATE: February 2, 2006 (EB 310)  
SUBJECT: CEE HONOR SOCIETY OFFICERS MEETING MINUTES 02/07/07  
TOPIC: INDUCTEES

MINUTES

ATTENDANCE: Jen Segal, Mike Reynolds, Jay Johnson

1) The list of the new possible members of Civil and Environmental Engineering Honor Society (CEEHS) will be provided by Dr. Monsere in the week of Feb. 5, 2007.

2) The letters for the new CEEHS will be written by Mike Reynolds. It was determined that in the letters the possibility to service the community will be presented.

3) The possible services that the CEEHS will be able to provide will be:

a) Habitat for humanity
b) Stream restoration

Mike will contact the stream restoration people for more information.

4) The letters will provide space for confirmation on joining the CEEHS, volunteering for the community service, and attending the first meeting. All of the options are independent of the other meaning that there is no mandatory commitment.

5) There is a career booth at a high school fair that will provide information about the field of engineering. The CEEHS plans on helping staff the booth with people to offer information in the field of Civil and Environmental Engineering.

6) The officers will be discussing with Dr. Monsere the next steps in the process of getting inducted into the national civil engineering honor society.

7) The next meeting is tentatively set for Feb. 28, 2007 to discuss the new inductees and distributing the letters.

Respectfully Submitted  
Jay Johnson  
*Secretary for PSU CEE Honor Society*
CIVIL & ENVIRONMENTAL ENGINEERING HONOR SOCIETY
PORTLAND STATE UNIVERSITY

FROM: Jay Johnson
TO: All CEE Honor Society Members
CC: Dr. Christopher Monsere, Research Assistant Professor; Dr. Scott Wells, Dept. Chair
DATE: Tuesday, March 3, 2007 (EB 310)
SUBJECT: WELCOME NEW MEMBERS

MINUTES

ATTENDANCE:
Dr. Chris Monsere, Jay Johnson, Jennifer Segal, Mike Reynolds, Melani Smith, Jason Havelka, Jamen Griffin, Helen Oppenhiemer, Joshua Ayers, Alexander Bigazzi, Joshua Crain, Michael Glickman, Deanna Hutchinson, Matthew Jordan, Joseph Leatham, Gregory Lewis, Paul Pongracz Bartha, Daniel Skovron, Cole Smith, Robert Annear, Julie Gogoi.

1) Dr. Monsere congratulated the new members of the honor society. He discussed what the honor society is about, it is a reflection of the hard work and the work well done by the students.

2) Dr. Monsere explained the process for the honor society to petition the national charter over the summer, to determine if Portland State University will be the first university in the State of Oregon to be recognized by the national charter. There is a year of probation and then a review by the national charter to determine if the petitioners have met the criteria for national membership. The petition process will be discussed in future meetings.

3) Jennifer Segal welcomed the new members and discussed the need to elect new officers. The office positions include: Chair, Vice Chair, and Secretary. She also discussed the idea of having a web manager position to care for and update the honor society web site. The elections will be held in the near future and everyone needed to decide if they would like to hold a position.

4) Jennifer also discussed some of the duties that the officers are required to do. The biggest duty is to get funding for the honor society through the university. There is a process to go through and this year there is $500 available for the honor society. After the elections are held it will be up to the out going officers to inform the new electees of the process to get funding.

5) Jennifer brought up the idea that a group service project be a part of the honor society every year. It is a way for the honor society to become involved in the community and be a positive influence. There was a vote and it was determined that there will be a service project. The project is completely voluntary. Mike Reynolds had done some research on possible projects and there are many options through a group called SOLV. A date will be set for Spring of 2007.
6) Mike Reynolds has more ideas for possible field trips. The next field trip is planned to be through the Portland Water Bureau and will be touring a pump house. Mike will email the members with a date and a time for those who are interested.

7) Congratulations to the new members of the Civil and Environmental Honor Society. Keep up the good work!!

**CIVIL & ENVIRONMENTAL ENGINEERING HONOR SOCIETY**

**PORTLAND STATE UNIVERSITY**

**FROM:** Jay Johnson

**TO:** All CEE Honor Society Members

**CC:** Dr. Christopher Monsere, Research Assistant Professor; Dr. Scott Wells, Dept. Chair

**DATE:** Thursday, April 19, 2007 (EB 202L)

**SUBJECT:** CEE HONOR SOCIETY GENERAL MEETING MINUTES 04/18/07, 1:00-1:30 PM

**TOPIC:** ELECTIONS

**MINUTES**

**ATTENDANCE:** Jennifer Segal, Melani Smith, Jay Johnson, Deanna Hutchinson, Helen Oppenheimer, Joseph Brian Leatham, Paul Worrlein, Rob Annear, Ben Wiley, Michael Wolfe, Dr. Christopher Monsere

1) The meeting was called to order by Jennifer Segal.

2) It is spring term and time to say goodbye to the old officers and hello to the new. This meeting is to replace the 3 officer positions with new members. The duties of the Chair, Vice Chair, and Secretary are briefly discussed. People are nominated to the positions and voted on to replace the existing officers. The new officers for 2007 are:

   Chair: Deanna Hutchinson
   Vice Chair: Brian Leatham
   Secretary: Paul Worrlein

3) The application for the national membership was discussed by Dr. Monsere. During the summer the department staff of existing national honor society members will get together and draw up a letter detailing the activity over the past year of the Civil and Environmental Engineering Honor Society at Portland State University. If all goes well, the spring of 2008 will be the acceptance of the honor society on a national level and a ceremony will follow.

4) An induction ceremony for the newest members of the honor society will be held on May 22, 2007. The location of the ceremony is still undetermined but the possibility of holding it off campus has the most support. It will be decided in the next few weeks where the ceremony will be held. There will be a guest speaker at the ceremony, food, and drinks.

5) The position of web manager is still a viable position but was unable to be filled. The recent electees will be brainstorming to find a suitable candidate to help keep the website looking good and also adding the personal touches of a new class.
6) The field trip to the well fields for the Columbia River is still in the works but the people involved would like the pump houses to be operational for a more informative tour. More information will be provided as it is gathered.

7) Congratulations to the new officers!!!!!!!

Respectfully Submitted  Jay Johnson  
Secretary for PSU CEE Honor Society

CIVIL & ENVIRONMENTAL ENGINEERING HONOR SOCIETY
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CIVIL & ENVIRONMENTAL ENGINEERING HONOR SOCIETY
PORTLAND STATE UNIVERSITY

FROM: Paul Worrlein
TO: All CEE Honor Society Members
CC: Dr. Christopher Monsere, Research Assistant Professor; Dr. Bill Fish, Dept. Chair
DATE: Thursday, October 11th (118 Smith Memorial Student Union)
SUBJECT: CEE HONOR SOCIETY GENERAL MEETING MINUTES 10/11/07, 4:00 – 5:00 PM
TOPIC: CLUB RENEWAL

MINUTES
ATTENDANCE: Deanna Hutchinson, Joseph Brian Leatham, Paul Worrlein, Rachel Borgman

1) The meeting’s goal was to finish registering the Civil &Environmental Engineering Honor Society with SALP so that the club can operate for the year 2007-2008. Contact information for the officers was recorded on the SALP database.

2) Drivers for the club must renew training. It was agreed that all three officers (chair, vice-chair, and secretary) should complete the driver’s training course to allow for maximum flexibility when travel for the club is required.

3) Deanna expressed concern that emails reminding clubs to re-register should be distributed several weeks before the deadline to allow for proper planning and scheduling. Rachel stated that SALP is attempting to improve all processes and that all constructive suggestions are welcome. It was also suggested that restrictions on the percentage of budget allowed for travel expenses be relaxed.

4) Rachel updated club information and noted desired revisions to the website including the name of the club.

5) Despite the change to the name of the club, the Civil Engineering Honor Society will retain a two year seniority and retain the accompanying budget of $1200 for the 2007-2008 academic year. The club will also receive a code for use with copy machines available in the SALP office.

Respectfully Submitted
Paul Worrlein

Secretary for PSU CEE Honor
APPENDIX C CIVIL AND ENVIRONMENTAL ENGINEERING CURRICULUM

**EAS 101 Engineering Problem Solving (4)** Introduction to basic ideas and tools used in the engineering profession. Basic preparation in rudiments and working methods of engineering design, analysis, and problem solving, with emphasis on developing skills in computer-aided problem solving methods utilizing tools such as MATLAB, Mathcad, and EXCEL. Introduction to structured computer programming methods via MATLAB scripting language. Lecture and recitation. Prerequisite: MTH 112.


**EAS 211 Statics (4)** Principles and applications of static equilibrium of structures and machines. Prerequisites: MTH 252 or 261, PH 221 taken concurrently.

**EAS 212 Strength of Materials (4)** Study of the relationship between strain and stress in deformable bodies; principles of stress analysis for axial force, flexure, torsion, and shear; studies in combined stresses and column stability. Prerequisites: EAS 211 and MTH 261.

**EAS 215 Dynamics (4)** Fundamental principles and methods of Newtonian mechanics including kinematics and kinetics of motion and the conservation laws of mechanics. Basic particle and rigid body applications. Prerequisites: EAS 211, MTH 261.

**EAS 361 Fluid Mechanics (4)** Properties of fluid; fluid statics; differential analysis; conservation of mass, energy, and momentum; dimensional analysis; and fluid metering. Prerequisites: EAS 215, MTH 256 taken concurrently. Lecture and laboratory.

**ME 321 Engineering Thermodynamics I (4)** Study of energy sources and utilization; First and Second Laws of thermodynamics; closed and control volume systems; thermodynamic processes and cycles; thermodynamic properties; heat power systems. Prerequisites: PH 223, MTH 253.

**CE 199 Special Studies (Credit to be arranged.)** Consent of instructor.

**CE 211 Plane Surveying and Mapping (3)** An introductory analytical treatment of the principles of engineering measurements applied to plane surveys. Origin of datums, random error, observation systems, computations, nonrigorous adjustments, and topographic mapping. Computer applications. Prerequisite: MTH 251.

**CE 212, 213, 214 Field Problems in Plane Surveying (1, 1, 1)** CE 212: Care and operation of plane survey instruments. Field projects in testing instrumental adjustment and executing basic survey circuits. CE 213: Development and completion of a topographic map by field method. CE 214: Layout of a route design; adjustment of optical instruments. Elementary field astronomy. Prerequisite: CE 211 concurrently.

**CE 311 Engineering Surveys (4)** The principles of geometric design of route engineering. The reconnaissance, design, control, and layout of highway and railroad systems including curves and earthwork. Municipal surveys and introduction to spherical astronomy. Computer applications. Prerequisite: CE 211.

**CE 315 The Civil and Environmental Engineering Profession (1)** Introduction to Civil and Environmental Engineering (CEE) practice in structural, environmental, geotechnical, and transportation engineering. Overview of education, training, research, and employment opportunities for each area of CEE. Engineering registration and ethics. Prerequisite: junior standing.
CE 321 CEE Materials (4) Introduction to structure and properties of civil engineering materials such as steel, asphalt, cement, concrete, soil, wood and polymers. Laboratory tests include evaluation of behavior of these materials under a wide range of conditions. Prerequisite: EAS 212. Lectures and laboratory.

CE 324 Elementary Structural Analysis (4) Loads on structures as dictated in various codes and specifications; load flow through a structural system and tributary areas; methods of analysis of statistically determinate planar trusses, beams and frames; concepts of stability and indeterminacy; axial, shear and bending moment; calculations of displacements and rotations by virtual work, Castigliano’s theorem for trusses, beams and frames; computer analysis of structures using an existing commercial program. Prerequisites: EAS 212 and MTH 254.

CE 325 Indeterminate Structures (4) Analysis of indeterminate structures by force and displacement methods; consistent deformations and the theorem of least work; slope deflection; moment distribution including sway; approximate methods. Prerequisite: CE 324.

CE 333 Design of Steel Structures (4) Design of tension members, columns, beam, beam-columns and connections based on allowable stress design. Prerequisite: CE 321 and CE 325.

CE 341 Soil Classification and Properties (4) Determination and interpretation of significant engineering properties and behavior of soils; selected application in mechanics of foundations and earth structures. Three lectures; one 3-hour laboratory period. Prerequisite: CE 321.

CE 351 Transportation Systems: Planning and Design (4) A study of engineering problems associated with the planning and design of urban and intercity transportation with emphasis on systems approach to problems definition and solution. Vehicle operation characteristics and traffic control devices for land, air, and water, data collection methods and development of transportation models for the establishment of design criteria for transportation structures. Prerequisite: junior standing in engineering.

CE 362 Hydraulics (4) Laminar and turbulent flow and introduction to boundary layer theory; flow in pressurized closed conduits including simple and multiple pipe systems, uniform and non-uniform flow in open channels, behavior of centrifugal pumps, and analysis of pump-pipeline systems. Three lectures; one 3-hour laboratory period. Prerequisite: EAS 361.


CE 401 Research (Credit to be arranged.) Consent of instructor.

CE 404 Cooperative Education/Internship (Credit to be arranged.) Consent of instructor.

CE 405 Reading and Conference (Credit to be arranged.) Consent of instructor.

CE 406 Special Projects (Credit to be arranged.) Consent of instructor.

CE 407 Seminar (Credit to be arranged.) Consent of instructor.

CE 410 Selected Topics (Credit to be arranged.) See the Civil Engineering Office for each term’s 410 course descriptions.

CE 420/520 Advanced Mechanics of Materials (4) Advanced studies in mechanics of materials including fundamentals of elasticity, phenomenological material behavior, and theories of failure. Timoshenko beam theory, stress functions, shear stresses, unsymmetrical sections, and beams on elastic foundations. Thick-walled cylinders; approximate methods. Prerequisites: EAS 212, Mth 256 or equivalent.
CE 421/521 Analysis of Framed Structures (4) Generalized analysis of multi-story and irregular structural framework with classical methods; analysis of arches, curved beams and frames with nonprismatic members. Energy methods with introduction to matrix methods. Prerequisite: CE 325.


CE 431/531 Stability of Structures (4) Study of elastic and inelastic flexural buckling of bars and frames; use of energy methods and successive approximations; bracing of columns and frames; torsional, lateral-torsional, and local buckling. Prerequisites: CE 333, Mth 261 or equivalent.

CE 432/532 Structural Steel Design—LRFD Method (4) Design of components of steel structures based on load and resistance factor design method. Prerequisite: CE 333.

CE 433/533 Cold-Formed Steel Design (4)
Design of cold-formed steel beams, columns, beam-columns, cylindrical tubular members and connections based on the Allowable Stress Design (ASD) and the Load and Resistance Factor Design (LRFD) methods of the AISI specification. Prerequisite: CE 333.

CE 434 Principles of Reinforced Concrete (4) Loads, load factors and structural safety, ultimate strength analysis; short column behavior, design of simple and continuous beams; one-way slabs; serviceability and detailing requirements with reference to current codes. Prerequisite: CE 321, CE 325.

CE 435 Design of Reinforced Concrete Structures (4) Development and splicing of reinforcement; design of long columns, retaining walls, footings, and slabs with reference to current codes; lateral loads; laboratory demonstration of beam and column behavior. Prerequisite: CE 434.

CE 436/536 Masonry Design (4) Materials of construction; design of masonry elements, lateral load resisting systems, and connections with reference to current codes. Prerequisite: CE 434.

CE 437 Timber Design (4) Design of solid and glued-laminated structural members including arches, connections, plywood components, and diaphragms; design provisions for lateral forces. Prerequisite: CE 325.

CE 438/538 Design of Composite Structures (4) Design of composite steel-concrete members based on allowable stress design and load and resistance factor design methods. Prerequisites: CE 333.

CE 440/540 Geosynthetics in Infrastructure Engineering (2) Testing and design with polymer-based geosynthetic products in and on soil for the civil infrastructure. Strength-based design applications are introduced with design-by-function principles, and product approval for transportation, structural and geotechnical disciplines. Use of geotextiles, geogrids and geocomposites in slopes, mechanically stabilized earth retaining walls, pavement subgrades and overlays. Prerequisite: CE 444.

CE 445/545 Geo-Environmental Engineering with Geosynthetics (2) Application of polymer-based geosynthetic products for geo-environmental and municipal engineering including landfills, soil erosion control, filters and drains. Testing, design and product selection for hydraulic, degradation and chemical stability properties. Introduction to reliability, endurance and design life with reference to RCRA, ESA and EPA laws. Prerequisite: CE 341.

CE 442/542 In Situ Behavior and Testing of Soils (4) Introduction to field behavior of soils related to engineering properties; site investigation procedures and in situ testing. Development of fundamental analytical solution techniques for engineering with soil, the use and limitations of elasticity assumptions. Three lectures, one 3-hour laboratory period. Prerequisite: CE 341.

CE 443/543 Introduction To Seismology And Site Evaluation (4) Earthquakes and exploration seismology, the origin and occurrence of earthquakes, nature and propagation of seismic waves in the earth, earthquakes as a hazard to life and property. Uses of reflection and refraction
exploration seismology, borehole velocity measurements, seismic remote sensing, and direct measurement techniques. Earthquake hazard assessment including liquefaction, ground failure, and site amplification. Techniques for evaluating the susceptibility, potential, and severity of the hazards and other science and engineering applications. Prerequisite: senior/graduate standing. This course is the same as G 475/575; course may be taken only once for credit.

CE 444 Geotechnical Design (4) Effect of soil conditions upon the behavior and choice of type of foundation; study of earth pressure theories; design of foundations and earth-retaining structures. Prerequisite: CE 341.

CE 448/548 Earthquake Accommodation and Design (4) Effects of earthquake shaking in the design of buildings, pipelines, bridges, and dams. Incorporating the earthquake hazard assessment for a project in the design process. The goal of this course is to allow geologists, geotechnical engineers, structural engineers, and architects to see how their particular tasks are impacted by the earthquake effects. Types of analysis used to evaluate earthquake design requirements in several disciplines, including: geology, geotechnical engineering, structural engineering, and architecture. Prerequisite: CE 443/543 or G 475/575. This course is the same as G 477/577; course may be taken only once for credit.

CE 450/550 Transportation Safety Analysis (4) Incorporating safety in highway engineering and transportation planning that includes highway design, operation, and maintenance, as well as human factors, statistical analysis, traffic control and public policy. Design concepts of intersections, interchanges, signals, signs and pavement markings; analyzing data sets for recommendations and prioritization; principles of driver and vehicle characteristics in relation to the roadway. Prerequisite: CE 351.

CE 451/551 Traffic Control and Analysis (4) Traffic control principles; maintenance and responsibility for traffic control devices; choice of traffic control; signs, markings and signals; low-volume roads, temporary control and school areas; traffic control for highway-rail grade crossing, bicycles and transit; warrants for control; control techniques and analysis, advanced technologies. Prerequisite: CE 351.

CE 453/553 Freight Transportation and Logistics (4) Components and performance characteristics of the U.S. freight transportation system, with emphasis on data needs, planning, design and operation of the entire supply chain. Discussion of impact of freight on passenger transportation system and economy. Modal emphasis includes freight rail, motor freight, ocean freight and air freight. Terminal operations. Roles of public and private actors in freight system. Prerequisite: CE 351.

CE 454 Urban Transportation Systems (4) Urban street patterns and transportation demand, highway capacity analysis, process of urban transport planning, travel-demand forecasting and its application to traffic studies. Development of transport models, multiple regression analysis, models of land use and trip generations, stochastic trip distribution models, applications and case studies. Route assignment analysis and traffic flow theory. Prerequisite: CE 351.

CE 455/555 Intelligent Transportation Systems (4) Introduction to intelligent transportation systems, including enabling surveillance, navigation, communications and computer technologies. Application of technologies for monitoring, analysis, evaluation and prediction of transportation system performance. Intervention strategies, costs and benefits, safety, human factors, institutional issues and case studies. Prerequisite: CE 351; CE 454 recommended.

CE 456/556 Traffic Engineering (4) Traffic system components, traffic stream characteristics, traffic studies and data collection, volume studies, speed, travel-time, delay and pedestrian studies, capacity analysis, freeway systems, weaving sections, ramp junctions, rural highways, signalized and unsignalized intersections, signal coordination, arterial operations, and access management. Prerequisite: CE 454.

CE 457/557 Pavement Design (4) Pavement structure classification and components, wheel loads and design factors, stresses in flexible pavements, subgrade strength and evaluation, design methods, material characteristics, stresses in rigid pavements, design of concrete pavements, joints and reinforcement, condition surveys. Prerequisite: CE 351.
CE 458/558 Public Transportation Systems (4) Performance characteristics of public transportation systems, with emphasis on urban systems. Planning, design and operational issues related to public transportation systems. Emerging technologies. Prerequisite: CE 351; CE 454 recommended.

CE 459/559 Transportation Operations (4) Operation, modeling and control of unscheduled and scheduled transportation modes; elementary traffic flow concepts; flow, density and speed; scheduling; route and bottleneck capacities; networks; data interpretation; analysis techniques; diagrams; simulation queuing; optimization. Prerequisite: CE 351; CE 454 recommended.

CE 460/560 Access Management Transportation Systems (4) Access management issues; geometric design, roadway operation and access; safety and other benefits; access design concepts; functional integrity of highway; driveway and intersection spacing; functional area of intersection, turn lanes; median openings; access management techniques; regulations and policy; case studies; research issues. Prerequisite: CE 351.


CE 467/567 Hydrologic and Hydraulic Design (4) Application of hydrologic and hydraulic principles to selected topics in hydrologic and hydraulic design. Topics include risk-based design of hydraulic structures, design of culverts, flood profile computation and flood plain management, design of reservoirs. Design of spillways including development of design flood hydrograph and hydraulic design, design of energy dissipation works. Prerequisite: CE 464/564 or knowledge of HEC 1 and HEC 2.

CE 474/574 Unit Operations of Environmental Engineering (4) Unit operations of water and wastewater treatment; pretreatment; sedimentation, filtration, aeration, disinfection, sludge treatment and disposal, advanced waste-water treatment processes. Prerequisite: CE 371.

CE 477/577 Solid and Hazardous Waste Management (4) Systematic approach to the complex technical, political, and socio-economic aspects of managing, handling, and disposal of spent solid materials and hazardous wastes. Prerequisite: senior/graduate standing in Civil Engineering or consent of instructor.

CE 479/579 Fate and Transport of Toxics in the Environment (4) Chemical, physical, and biological principles that govern the behavior of toxic materials such as heavy metals and synthetic organic compounds in the environment. Course emphasizes practical ways to represent chemical processes in models of pollutant behavior. Topics include: adsorption of pollutants on soils and sediments; transport across sediment-water and air-water interfaces; bioamplification of pollutants; multiphase fugacity models of organics; case studies of contaminated surface water, sediment and groundwater. Prerequisite: senior or graduate standing. This course is the same as ESR 479/579; course may be taken only once for credit.

CE 484 Civil Engineering Project Management and Design I (3) Engineering process including owner-design, professional-constructor relationships, procurement procedures, project evolution; contracts, dispute resolution, bonds, warranties; construction documents, including specifications; cost estimating, planning, and scheduling; construction administration; group process, diversity, and leadership. Two lectures, one 3-hour design project laboratory period. Prerequisite: CE 444, CE 454, CE 364, CE 325 and CE 434 or CE 333.

CE 494 Civil Engineering Project Management and Design II (3) Synthesis of civil engineering specialties in a diverse multi-disciplinary project. Teamwork approach in design of components and systems to meet stated objectives. Consideration of alternative solutions, methods, and products including constraints such as economic factors, safety, reliability, and ethics. Preparation of design documents, including: memoranda, computations, drawings, cost
estimates, specifications, bidding materials; written and oral presentations. Two lectures, one 3-hour design project laboratory period. Prerequisite: senior standing in Civil Engineering. Prerequisite: CE 484.

CE 501 Research (Credit to be arranged.) Consent of instructor.

CE 503 Thesis (Credit to be arranged.) Consent of instructor.

CE 504 Cooperative Education/Internship (Credit to be arranged.) Consent of instructor.

CE 505 Reading and Conference (Credit to be arranged.) Consent of instructor.

CE 506 Special Projects (Credit to be arranged.) Consent of instructor.

CE 507 Seminar (Credit to be arranged.) Consent of instructor.

CE 510 Selected Topics (Credit to be arranged.) See the Civil Engineering Office for each term’s 510 course descriptions.

CE 522/622 Plastic Analysis of Structures (4) Techniques in the analysis of structures beyond the elastic limit. Methods of limit analysis and design. Prerequisite: CE 333.

CE 524/624, 525/625 Matrix and Computer Methods in Structural Analysis (4, 4) Fundamental concepts of analysis for statically determinate and indeterminate structures utilizing matrices and computers; displacement and force methods applied to trusses and rigid frames; techniques for the analysis of large complex structures for static and dynamic loads. Prerequisite: CE 325.

CE 526/626 Theory of Plates (4) Small and large deformation theories of thin plates; numerical and energy methods; free vibrations. Prerequisite: Mth 256.

CE 527/627, 528/628 Finite Elements in Structural Mechanics (4, 4) Principles of stiffness analysis of structures, essentials of the finite element formulation of elastic problems with applications to structural mechanics, plates and shells, and other related problems utilizing digital computers. Prerequisite: CE 524/624.


CE 530/630 Energy Principles in Structural Mechanics (4) Review of stress and deformation; material behavior; theorem of virtual work, stationary value of potential and complementary potential; reciprocal theorems, Engesser’s theorem, and Rayleigh-Ritz method; thermoelastic behavior. Prerequisite: CE 420/520.

CE 535/635 Prestressed Concrete Design (4) Analysis and design of components of prestressed concrete structures with reference to current codes. Prerequisite: CE 434.

CE 537/637 Earthquake Engineering (4) Response of structures to ground motions; determination and use of response spectra; seismic design criteria and provisions for buildings and other structures; and review of current practices for earthquake resistant design. Prerequisite: CE 529/629.

CE 539/639 Advanced Steel Design (4) Analysis and design of metal structures including connections, plate girders, design loads, structural systems, and bracing. Prerequisite: CE 333.

CE 541/641 Advanced Soil Mechanics (4) Study of the advanced principles of soil behavior related to stress-strain, shear strength, permeability, and consolidation. Prerequisite: CE 444.

CE 544/644 Advanced Shallow Foundation Design (4) Advanced topics in settlement and bearing capacity analysis of shallow foundation; application of numerical schemes to foundation design. Prerequisite: CE 444.

CE 546/646 Numerical Methods in Geotechnical Engineering (4) Application of finite difference and finite element methods to the solution of soil-structure problems, stability of soil masses and foundation installation. Use of commercial computer programs in working applied problems. Prerequisite: CE 444.
CE 547/647 Earth Dams (4) Design, construction, and operation of earth and earth-rock dams; seepage analysis, slope stability, and construction procedures. Emphasis includes both the design of new structures and the evaluation of safety of existing facilities. Prerequisite: CE 442.

CE 549/649 Deep Foundation Design and Analysis (4) Comprehensive study of both driven and augered pile foundations, including concrete, steel, and timber. In-depth review of design methods for axial and lateral capacity. Special emphasis on the differences between driven piles and drilled shafts, including the role of full-scale load testing in the semi-empirical methods. Introduction to group theory in elasticity and plasticity. Prerequisite: CE 444.

CE 552/652 Highway Design for Capacity (4) Principles of highway capacity, traffic characteristics, operational analysis, design and planning of freeways, multi-lane and two-lane rural highways, intersections and arterials, transit facilities. Prerequisite: CE 454.

CE 561/661 Water Resource Systems Analysis (4) A development of quantitative techniques used in the analysis of water resource systems for planning, design and operation. Emphasis is placed on the physical, legal and economic aspects and their incorporation into simulation models. Applications include reservoir systems for water supply and hydropower, irrigation planning and operation, and water quality management. Prerequisite: CE 464/564 or equivalent.

CE 565 Watershed Hydrology (4) Study of the movement and storage of water in watersheds, emphasizing physical processes. Includes systems analysis of watersheds, precipitation, snowmelt, infiltration, evapotranspiration, ground-water flow, stream flow generation, open channel flow, hydrograph analysis, and an introduction to watershed hydrological modeling. Prerequisites: Mth 252, Ph 201, Stat 244; recommended: ESR 320 and/or an undergraduate course, such as CE 464. This course is the same as ESR 525; course may be taken only once for credit.

CE 566/666 Environmental Data Analysis (4) Application of probabilistic and statistical models to the description of environmental data with a focus on hydrology and water quality. Graphical and quantitative techniques of exploratory data analysis, selection and fitting of appropriate probability distributions, simple and multiple and multivariate regression and their applications to analysis and modeling, and detection of changes and trends in environmental time series. Prerequisites: graduate standing and Stat 243 and 244 or Stat 460.

CE 569/669 Groundwater Hydrology (4) Principles of flow and contaminant transport in porous media and application to problems of water supply and contaminant transport. Topics include: properties of porous media; Darcy’s law and aquifer equations; solution for steady and unsteady flow problems; flow net analysis; regional vertical circulation; unsaturated flow; well dynamics and pump test analysis; surface-groundwater interactions; water quality and contaminant transport; transport models; transport in heterogeneous porous media and tracer test. Prerequisite: senior/graduate standing in Civil Engineering.

CE 570/670 Groundwater Modeling (4) The objective is to give students a good introduction to practical groundwater flow and contaminant transport modeling. Designed as hands-on and application oriented. Covers the fundamental equations, numerical methods, and modeling techniques with emphasis on conceptual modeling and teaching students how to solve real-world problems using an interactive groundwater modeling and visualization system. Specific topics include conceptual representations and grid design, selecting model boundaries, sources and sinks, profile models, special needs for transient simulations, calibration, verification, sensitivity analysis, and several hands-on projects on modeling groundwater contamination, well-field management, and remediation system. Prerequisite: CE 569/669.

CE 571/671 Stochastic Subsurface Hydrology (4) A probabilistic approach to analyzing the effects of complex heterogeneity of subsurface environment on field-scale ground-water flow and contaminant transport. Classical transport
processes; heterogeneity/uncertainty and probabilistic representations; temporally variable subsurface flow and lumped parameter water quality models; spatial variability in subsurface flow; contaminant transport processes in heterogeneous media; geostatistical methods, measurement conditioning and parameter estimation; field applications of stochastic methods. Emphasis is placed on analysis of field-scale heterogeneous groundwater systems. Prerequisite: CE 569.

CE 572/672 Environmental Fluid Mechanics I (4) Introduction to the basic physical processes which transport pollutants in natural waters; mathematical formulations. Use of predictive mathematical models as a basis for water and air quality management. Prerequisites: EAS 361, CE 371.

CE 573/673 Numerical Methods in Environmental and Water Resources Engineering (4) Introduction to the mathematical solution of partial differential equations by finite difference and finite element techniques. Development of solution approaches to water quality and hydraulic problems in surface and groundwater systems. Analysis of model sensitivities, calibration and verification. Prerequisite: senior or graduate standing in Civil Engineering.

CE 575/675 Advanced Physical/Chemical Environmental Engineering Processes (4) Theoretical and laboratory analysis of major physical and chemical processes used to treat water, wastewater, industrial and hazardous wastes. Analysis of reactor hydraulics, reactor kinetics, coagulation, flocculation, solid-liquid separation processes, adsorption, and gas transfer. Prerequisite: CE 474/574.

CE 576/676 Environmental Fluid Mechanics II (4) Introduction to the fundamentals of the fluid dynamics of natural surface waters by analysis of the governing equations of mass, momentum, and heat conservation. Applications include turbulence modeling, finite depth water motions, stratified flow phenomena, and seiche phenomena. Prerequisites: CE 572/672 or EAS 361, CE 362, 371.

CE 578/678 Water Quality Modeling (4) Introduction to descriptive modeling approaches for analyzing water quality changes in lakes, reservoirs, rivers, and estuaries. Applications include modeling dissolved oxygen, temperature, nutrients, and algal dynamics. Prerequisites: EAS 361, CE 371.

CE 591/691 Engineering Optimization (4) Development of optimization methods applicable to the solution of engineering problems. Conditions for optimality, univariate, and multivariate search methods, constrained optimization. Particular techniques include gradient-based methods, linear programming, and dynamic programming. Prerequisite: graduate standing in engineering.

CE 601 Research (Credit to be arranged.) Consent of instructor.
CE 603 Thesis (Credit to be arranged.) Consent of instructor.
CE 604 Cooperative Education/Internship (Credit to be arranged.) Consent of instructor.
CE 605 Reading and Conference (Credit to be arranged.) Consent of instructor.
CE 606 Special Projects (Credit to be arranged.) Consent of instructor.
CE 607 Seminar (Credit to be arranged.) Consent of instructor.
CE 610 Selected Topics (Credit to be arranged.) Consent of instructor.
APPENDIX D  FACULTY RESUMES

Robert L. Bertini – Curriculum Vitae

Rank: Associate Professor
Date of Original Appointment: 2000
Number of Years of Service on this Faculty: 5
Dates of Advancement In Rank: 2004 Associate Professor

EDUCATION
1999 Ph.D., Civil Engineering, University of California at Berkeley.
1991 M.S., Civil Engineering, minor in Construction Management, San Jose State University.
1988 B.S., Civil Engineering, cum laude, California Polytechnic State University, San Luis Obispo.

REGISTERED CREDENTIALS: Professional Engineer, Oregon and California.

PRINCIPAL PUBLICATIONS OF THE LAST FIVE YEARS [partial list, total of 38 refereed and 40 non–refereed since 2000]

REFEREED JOURNAL ARTICLES [60 citations in ISI database]
"Using PeMS Data to Empirically Diagnose Freeway Bottleneck Locations in Orange County, California," with Myton, A., Transportation Research Record: Journal of the TRB, 2004.
"Some Observed Queue Discharge Features at a Freeway Bottleneck Downstream of a Merge," with...

REFEREED BOOK CHAPTERS [partial list]

REFEREED PROCEEDINGS [partial list]

PROFESSIONAL SOCIETIES
Intelligent Transportation Society of America
Intelligent Transportation Society of Oregon
TransPort Technical Advisory Committee
American Society of Civil Engineers
Institute of Transportation Engineers
Women’s Transportation Seminar
Transportation Research Board
American Society for Engineering Education
Chi Epsilon, Civil Engineering Honor Society
Tau Beta Pi, Engineering Honor Society

HONORS AND AWARDS [partial list]
2002, National Science Foundation Faculty Early Career Development (CAREER) Award, first in PSU College of Engineering history
2004, Chinook Award, Outstanding Volunteer Group Contribution, Metro Regional Parks and Greenspaces.
2004, Individual Achievement Award, Institute of Transportation Engineers, Oregon Section.
2003, District 6 Annual Meeting Best Paper Award, Institute of Transportation Engineers.
2002, Outstanding Research Award, College of Engineering and Computer Science, Portland State University.
2001, Outstanding Teaching Award, Civil and Environmental Engineering, Portland State University.

INSTITUTIONAL AND PROFESSIONAL SERVICE IN THE LAST FIVE YEARS [partial list]
2004–2007, Faculty Senate, Portland State University.
2004, Transportation Graduate Program Coordinator, Portland State University.
2004, Faculty Search Committee, Structural Engineering and Seismic Testing Position, Portland State University.
2003, Northwest Center for Engineering, Science and Technology, Laboratory Planning and Design Committee.
2003, Transportation Graduate Program Coordinator, Portland State University.
2001–Present, Secretary, TRB Committee on Traffic Flow Theory and Characteristics

PROFESSIONAL DEVELOPMENT ACTIVITIES IN THE LAST FIVE YEARS [partial list]
GRANTS: partial list, total $2,700,000
Oregon Department of Transportation, "Region 1 Intelligent Transportation Systems (ITS) TransPort
Oregon Department of Transportation, "Institutional and Technology Options for VMT Data and Fee Collection Centers," $64,906, 2002.

EMPLOYMENT
2004–Present, Portland State University, Department of Civil and Environmental Engineering and School of Urban Studies and Planning, Associate Professor.
2003–Present, Portland State University, College of Urban and Public Affairs, Center for Transportation Studies, Director.
2003–2004 Portland State University, Urban Studies and Planning, Assistant Professor.
2001–Present Portland State University, College of Urban and Public Affairs, Center for Urban Studies, Research Associate.
2000–2004 Portland State University, Department of Civil and Environmental Engineering, Assistant Professor.
1995–1997 University of California at Berkeley, Department of Civil and Environmental Engineering and Institute of Transportation Studies, Graduate Research and Teaching Assistant.
1994–Present San Jose State University, Norman Y. Mineta International Institute for Surface Transportation Policy Studies (IIISTPS), Research Associate.
1993–1995 San Jose State University, Department of Civil and Environmental Engineering, Lecturer.
1990–1993 DeLeuw, Cather & Company (Parsons Transportation Group), Senior Civil Engineer.
1988–1990 San Mateo County Department of Public Works, Design Division, Associate Engineer.
1984–1986 San Mateo County Department of Public Works, Surveying & Construction Inspection Division, Senior Engineering Aide.
Robert Doneker - Curriculum Vitae

Rank: Research Assistant Professor
Date of Original Appointment: 2003
Number of Years of Service on this Faculty: 2
Dates of Advancement In Rank: N/A

EDUCATION:
1988 M.S., Environmental Engineering, Cornell University.
1983 M.S., Agricultural Engineering, Cornell University.

REGISTERED CREDENTIALS: Registered Professional Civil Engineer, Oregon.

PRINCIPAL PUBLICATIONS OF THE LAST FIVE YEARS
PAPERS

PROFESSIONAL SOCIETIES
American Society of Civil Engineers

INSTITUTIONAL AND PROFESSIONAL SERVICE IN THE LAST FIVE YEARS
2000 Institute for Hydromechanics, University of Karlsruhe, Visiting Scholar.

PROFESSIONAL DEVELOPMENT ACTIVITIES IN THE LAST FIVE YEARS
GRANTS

EMPLOYMENT
2003- Portland State University, Research Assistant Professor
1996-2003, Oregon Graduate Institute, Assistant Professor
1990 - 1997 USEPA, Consultant, Instructor
1991 National Artificial Intelligence Laboratory, Soil Conservation Service, Knowledge Engineer
1984 Rodale Research Center, Environmental Systems Analyst
1983 Susquehanna River Basin Commission, Hydraulic Engineer
Peter Dusicka - Curriculum Vitae

Rank: Assistant Professor
Date of Original Appointment: 2004
Number of Years of Service on this Faculty: 1
Dates and Ranks of Advancement: N/A

EDUCATION
2004 Ph.D., Civil Engineering, University of Nevada, Reno.
2000 M.S., Civil Engineering (Earthquake Engineering), University of British Columbia, Canada.
1997 B.S., Civil Engineering, University of British Columbia, Canada.

REGISTERED CREDENTIALS
Professional Engineer, California.

PRINCIPAL PUBLICATIONS OF THE LAST FIVE YEARS
PAPERS


"Large-Scale Cyclic Experiments on Built-up Steel Shear Links" with Itani, A.M. and Buckle, I.G., 72nd Annual Convention of Structural Engineers of California Proceedings, 2003, pp. 175-182.


"Investigation into the Significance of Strength Characteristics in Inelastic Torsional Seismic Response" with Davidson, B.J. and Ventura, C.E., 12th World Conference on Earthquake Engineering, 2000.

SCIENTIFIC AND PROFESSIONAL SOCIETIES
American Society of Civil Engineers (ASCE)
Earthquake Engineering Research Institute (EERI)
American Institute of Steel Construction (AISC)
Network for Earthquake Engineering Simulation (NEES) Consortium
HONORS AND AWARDS
2003 Outstanding International Graduate Student Award, University of Nevada in Reno.
2002 Vinnakota Award, Best Graduate Student Paper, Structural Stability Research Council (SSRC).

INSTITUTIONAL AND PROFESSIONAL SERVICE IN THE LAST FIVE YEARS
2004 ATC 58 Member of Development Team for “Interim Shake Table Test Protocol for Quantifying Seismic Fragility of Motion-Sensitive Nonstructural Components”.

PROFESSIONAL DEVELOPMENT ACTIVITIES IN THE LAST FIVE YEARS
GRANTS


EMPLOYMENT
2004 - Present Portland State University, Civil and Environmental Engineering Department, Assistant Professor.
2000 - 2004 University of Nevada in Reno, Civil Engineering Department, Graduate Research Assistant.
1998 - 2000 University of British Columbia, Canada, Civil Engineering Department, Graduate Research Assistant.
1997 - 1998 British Columbia Hydro and Power Authority, Canada, Junior Engineer.
H. Chik M. Erzurumlu - Curriculum Vitae

**Rank:** Emeritus Dean, Maseeh College of Engineering and Computer Science  
**Date of Original Appointment:** 1962  
**Number of Years of Service on this Faculty:** 43  
**Dates of Advancement In Rank:**  
1995 Emeritus Dean, Maseeh College of Engineering and Computer Science  
1987 Dean, School of Engineering and Applied Science  
1979 Head, Department of Engineering and Applied Science  
1975 Head, Civil-Structural Engineering  
1972 Professor  
1968 Associate Professor  
1965 Assistant Professor  
1962 Instructor

**EDUCATION**  
1970 Ph.D., Civil Engineering, University of Texas at Austin.  
1962 M.S., Civil Engineering, University of Texas at Austin.  
1957 B.S., Civil Engineering, Technical University of Istanbul.

**REGISTERED CREDENTIALS**  
Professional Engineer, Civil Engineering, Oregon, 1965.

**PRINCIPAL PUBLICATIONS OF THE LAST FIVE YEARS**  
PAPERS  

**PROFESSIONAL SOCIETIES**  
American Society of Civil Engineers (ASCE)  
American Society for Engineering Education (ASEE)  
American Concrete Institute (ACI) Oregon Chapter  
Structural Engineers Association of Oregon (SEAO)  
National Society of Professional Engineers (NSPE)  
Professional Engineers of Oregon (PEO)

**HONORS AND AWARDS**  
Fellow, National Society of Professional Engineers, 2005  
Engineer of the Year Award, Professional Engineers of Oregon, 1999  
Fellow, American Society of Civil Engineers, 1992  
Outstanding Engineer of the Year Award, American Society of Civil Engineers Oregon Section, 1985  
Ford Foundation Fellow, University of Texas at Austin, 1968-1970  
University Fellow, University of Texas at Austin, 1968-1970  
Outstanding Undergraduate Teaching Honorary Award, Portland State University, 1967  
Outstanding Undergraduate Teaching (Mosser) Award, Portland State University, 1966  
Tau Beta Pi  
Chi Epsilon  
Sigma Xi  
Phi Kappa Phi

**INSTITUTIONAL AND PROFESSIONAL SERVICE IN THE LAST FIVE YEARS**  
2004 - Present  ABET/EAC Program Evaluator Training Workshops, Instructor.
2003 – Present  ABET Engineering Accreditation Commission (EAC), Member.
2003 - 2004  NSPE/Professional Engineers in Education (PEE), Chair.
2003 - 2004  NSPE Board of Directors, Member.
2001 - 2002  Executive Board, Professional Engineers in Education (PEE), Secretary.

EMPLOYMENT
1972 - Present  Portland State University, Department of Civil and Environmental Engineering, Professor of Civil Engineering.
1968 - 1972  Portland State University, Department of Civil and Environmental Engineering, Associate Professor of Engineering.
1965 - 1968  Portland State University, Department of Civil and Environmental Engineering, Assistant Professor of Engineering.
1962 - 1965  Portland State University, Department of Civil and Environmental Engineering, Instructor in Engineering.
1960 - 1962  University of Texas at Austin, Research Engineer.
Profesional Preparation

- Universidad Nacional de Córdoba, Summa Cum Laude Civil Engineer (1987-1993)
- University of Texas at Austin, M.Sc Transportation (1996-1998)
- University of Maryland College Park, Ph.D. Engineering (2000-2004)

Appointments

- Portland State University, Assistant Professor, CEE Dept. (2007-2007)
- University of Sydney, Assistant Professor, Business School (2004-2007)

Publications

- Figliozzi, M. 2006. Modeling the Impact of Technological Changes on Urban Commercial Trips by Commercial Activity Routing Type. Transportation Research Record 1964, 118-126
- Figliozzi, M., Mahmassani, H., and Jaillet, P. 2006. Quantifying opportunity costs in sequential transportation auctions for truckload acquisition. Transportation Research Record 1964, 247-252

Development of a graduate course in Logistics Systems at the Institute of Transport and Logistics, Faculty of Business, University of Sydney

Development of a graduate course in Maritime Logistics at the Institute of Transport and Logistics, Faculty of Business, University of Sydney

Guest Editor to the Special Issue of Transportation Research, part B on “Behavioral Insights into the Modeling of Freight Transportation and Distribution Systems”. Issue to appear November / December 2007

Member Intermodal Freight Terminal Design and Operations Committee, Transportation Research Board, Academy of Sciences, 2004 to present.

Member Transportation and Logistics Society, Institute for Operations Research and Management Science (INFORMS), 2002 to present.

Member Logistics Association of Australia, 2004 to present.

Manuscript Reviewer for:
Transportation Science
Transportation Research – Part B
Transport Reviews
Australian Economic Review
Transportation Research Record (for the following committees: Network Modeling, Freight Transportation and Logistics Planning, and Intermodal Freight Terminal Design and Operations)

International Symposium on Transportation and Traffic Theory (ISTTT)

Collaborators and Co-Editors:
Stephen Greaves, University of Sydney
David Hensher, University of Sydney
Patrick Jaillet, MIT
Hani Mahmassani, University of Maryland

Graduate Advisors:
Patrick Jaillet, MIT
Hani Mahmassani, University of Maryland

Thesis Advisor:
Zeyan Zhang, University of Sydney
Yafar Zafahri, Malaysian University of Science and Technology
William Fish - Curriculum Vitae

Rank: Associate Professor
Date of Original Appointment: 1998
Number of Years of Service on this Faculty: 7
Dates of Advancement In Rank: N/A

EDUCATION
1984 Ph.D., Civil and Environmental Engineering, Massachusetts Institute of Technology.
1979 B.S., Environmental Engineering, University of Florida.

CONSULTING
Consultant for Environmental Forensics, Inc.

PRINCIPAL PUBLICATIONS OF THE LAST FIVE YEARS
PAPERS

PROFESSIONAL SOCIETIES
American Chemical Society
American Society of Engineering Education
American Geophysical Union
American Society of Limnology & Oceanography
Sigma Xi
Tau Beta Pi

HONORS AND AWARDS
1995 Distinguished Teaching Award, Oregon Graduate Institute.
1987 ACS Environmental Chemistry Division Paper-Presentation Award, 194th National Meeting.
1987 Distinguished Teaching Award, Oregon Graduate Institute

INSTITUTIONAL AND PROFESSIONAL SERVICE IN THE LAST FIVE YEARS
Portland State University Accreditation Steering Committee
Department of Civil and Environmental Engineering ABET Steering Committee
Tau Beta Pi Chapter Adviser
Columbia Slough Sediment Cleanup Technical Advisory Committee

PROFESSIONAL DEVELOPMENT ACTIVITIES IN THE LAST FIVE YEARS
GRANTS

EMPLOYMENT
1998 - Present  Portland State University, Department of Civil Engineering /Environmental Sciences and Resources, Associate Professor.
1992 - 1998  Oregon Graduate Institute, Department of Environmental Science and Engineering, Associate Professor.
1987 - 1992  Oregon Graduate Institute, Department of Environmental Science and Engineering, Assistant Professor.
1986 - 1987  Oregon Graduate Institute, Department of Environmental Science and Engineering,
Instructor/Research Scientist.
1984 - 1986 Oregon Graduate Institute, Department of Chemical, Biological, and Environmental Sciences, Postdoctoral Research Associate.
1979 - 1984 Massachusetts Institute of Technology, Graduate Research Assistant.
Manouchehr Gorji - Curriculum Vitae

Rank: Associate Professor  
Date of Original Appointment: 1981  
Number of Years of Service on this Faculty: 24  
Dates of Advancement In Rank:  
1984 Associate Professor  
1981 Assistant Professor

EDUCATION
1975 Ph.D., Engineering, University of California, Los Angeles.  
1971 M.S., Engineering, University of California, Los Angeles.  
1967 B.S., Civil Engineering, California State Polytechnic University.  
1965 B.S., Mathematics, California State Polytechnic University.

REGISTERED CREDENTIALS
Professional Engineer, Oregon.

CONSULTING
1984 – Present  Max EM Engineering, Los Angeles, California; served as a consultant on various structural/mechanical projects.  
1980  Northrop Aircraft, Hawthorne, California; consultant on projects related to composite materials.  
1980 – 1981 Seven Engineering, Los Angeles, California; consultant on various structural mechanics projects.

PRINCIPAL PUBLICATIONS OF THE LAST FIVE YEARS
PAPERS  

PROFESSIONAL SOCIETIES
Senior Member, American Institute of Aeronautics and Astronautics (AIAA)  
Member, American Society of Civil Engineers (ASCE)  
Member, American Society of Mechanical Engineers (ASME)

HONORS AND AWARDS
2004 Outstanding Teaching Award, College of Engineering and Computer Science, Portland State University.  
2003 Outstanding Teaching Award, College of Engineering and Computer Science, Portland State University.  
2001 Outstanding Teaching Award, College of Engineering and Computer Science, Portland State University.

INSTITUTIONAL AND PROFESSIONAL SERVICE IN THE LAST FIVE YEARS
2004 Member of the AISC Panel for Career Enhancement Award.  
2000 - 2004 College of Engineering and Computer Science Curriculum Committee.  
2002 - 2003 Department of Civil and Environmental Engineering Promotion and Tenure Committee.  

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PROFESSIONAL DEVELOPMENT ACTIVITIES IN THE LAST FIVE YEARS

PROJECTS
1999 "Investigation of an Asymmetric 3-Story Structure Subjected to El-Centro Earthquake Ground Motion" with Gretchen Hall.

EMPLOYMENT
1981 - Present  Portland State University, Associate Professor of Civil Engineering.
1989 - 1990 California Polytechnic State University, Visiting Associate Professor, Architectural Engineering.
1980 - 1981 California State University, Los Angeles, Lecturer.
1976 - 1980 Shiraz University (formerly, Pahlavi University), Assistant Professor of Civil Engineering.
1966 - 1971 Pascoe Steel Corporation, Design Engineer, Engineering Specialist, Research Engineer.
David Jay - Curriculum Vitae
Professor
Department of Civil and Environmental Engineering
Portland State University
PO Box 751, Portland, Oregon 97207-0751
E-mail: djay@cecs.pdx.edu
Web: www.cee.pdx.edu/~jaylab/

EDUCATION
Ph.D. in Physical Oceanography 1987, Department of Oceanography, University of Washington
M.S. in Marine Environmental Studies 1974, SUNY at Stony Brook, Stony Brook, New York
B.A. (cum laude) in Chemical Physics 1970, Pomona College, Claremont, California

PRINCIPAL PUBLICATIONS OF THE LAST FIVE YEARS [partial list]

REFEREED JOURNAL ARTICLES []
Jay, D. A., P. M. Orton, T. Chisholm, D. J. Wilson, and A. M. V. Fain, 2007a, Particle trapping in stratified estuaries – I. Consequences of Mass Conservation explorations of a parameter space, accepted by Estuaries.
Jay, D. A., P. M. Orton, T. Chisholm, D. J. Wilson, and A. M. V. Fain, 2007b, Particle trapping in stratified estuaries – II. Application to Observations, accepted by Estuaries.

PROFESSIONAL SOCIETIES
American Association for the Advancement of Science
American Geophysical Union
The Oceanography Society
INSTITUTIONAL AND PROFESSIONAL SERVICE IN THE LAST FIVE YEARS [partial list]

Program Chair for 1998 Eastern Pacific Ocean Conference (EPOC)
National Science Foundation, Long-Term Ecological Research Program Review Panel, May 2006
Hudson River Foundation Advisory Committee, 2005
National Science Foundation, Physical Oceanography Program Review Panel, May 2002
National Science Foundation, Long-Term Ecological Research Program Review Panel, December 1999
Coordinating Committee, NSF Land Margin Ecosystem Research Program 1991-98
Coordinating Committee, SCOPE Conference on Estuarine Synthesis 1994-98
Chair “Harbors and Approaches Working Group”, National Research Council Conference on Coastal
Associate Editor, Estuaries, 1993-1995
Co-editor of a special issue of Continental Shelf Research for papers from the 2006 Physics of Estuaries
and Coastal Seas (PECS2006).
Oregon Graduate Institute (OGI) representative on the OHSU Faculty Senate, 2001-2002
Member, OGI-OHSU merger committee, 2000-2001.
Faculty Senate Chair, 1998-2000, Oregon Graduate Institute (OGI)
Member, OGI Faculty Senate, 1996-2000

GRANTS: partial list

Engineers, Portland District, award under negotiation, funding expected October 2007, $10,000.
A. R. Horner-Devine (PI), D. A. Jay and J. Nash (Co-PIs), Particle removal and re-suspension in the near-field
of the Columbia River plume, National Science Foundation, 2007-2010; PSU component: $36,000.
D. Bottom (PI, NMFS), D. A. Jay, C. A. Simenstad, and others, Historic habitat opportunities and food-web
linkages of juvenile salmon in the Columbia River estuary: Implications for managing flows and restoration,
Bonneville Power Administration; renewal for 2007-2010 (D. Jay $285,000).
M. Kosro, A. Baptista and W. Peterson, Collaborative Research: Productivity, Biogeochemical
Transformations and Cross-Margin Transport in an Eastern Boundary Buoyant Plume Region
(A.K.A. RISE – River Influenced Shelf Ecosystems), National Science Foundation Coastal Ocean
Program (Co-OP), $6 million, 2003-2008 (D. Jay, $775,000).
Ed Casillas (PI, NMFS), D. Bottom, D. A. Jay, A. M. Baptista and others, Estuarine Habitat and Juvenile
Salmon – Current and Historic Linkages in the Lower Columbia River and Estuary, US Army Corps
of Engineers, Portland District, Ed Casillas (NMFS), $350,000-$500,000 annually, 2001-2008 (D.
Jay, $120,000/yr); a renewal for 2008-2011 will be submitted in winter 2007-08.
D. Bottom (PI, NMFS), D. A. Jay, C. A. Simenstad, and others, Historic habitat opportunities and food-web
linkages of juvenile salmon in the Columbia River estuary: Implications for managing flows and restoration,
Bonneville Power Administration, $1.9 million, 2003-2007 (D. Jay, $379,000).
D. A. Jay, T. Chisholm and C. N. Cudaback, Evaluation of Impacts of Maintenance Dredging at the Mouth of
the Columbia River on Plume Salinity, US Army Engineers, Portland District, 2004, $84,000.
Ed Casillas (PI, NMFS), A. M. Baptista, D. A. Jay, B. M. Hickey, M. Kosro and others, Survival and Growth
of Juvenile Salmonids in the Columbia River Plume, Bonneville Power Administration, $9 million,
D. A. Jay and D. J. Wilson, Suspended Particulate Dynamics in Advection Dominated Environments,
National Science Foundation, 2001-2004, $299,000.
D. A. Jay, I. Belkin (U Rhode Island), R. Brodeur (NMFS), T. Sanders, Satellite Ocean Front Mapping in
Support of Salmonid Resource Management, NOAA/NESDIS Ocean Remote Sensing Program,
D. J. Wilson, D. A. Jay, Mechanisms of Sorting in Mixed Sediments, US Geological Survey, $89,000, 2000-
2002.
D. A. Jay (PI) and A. M. Baptista (Co-PI), Estuarine Amplification of El Niño-Southern Oscillation Signals,


EMPLOYMENT
2007-date, Professor, Department of Civil and Environmental Engineering, Portland State University
2005-date, Associate Professor, Department of Civil and Environmental Engineering, Portland State University
1995 to 2005, Associate Professor; Department of Environmental and Biomolecular Systems (formerly Department of Environmental Science and Engineering), OGI School of Science and Engineering, Oregon Health & Science University
2000 to date, Affiliate Associate Professor, College of Oceanic and Atmospheric Sciences, Oregon State University
1993 to 1995, Research Associate Professor; Geophysics Program, University of Washington
1996 to 1999, Affiliate Research Associate Professor; Geophysics Program, University of Washington
1993 to 1999, Adjunct or Affiliate Research Associate Professor; Physics Department, University of Washington
1991 to 1995, adjunct faculty member; Department of Environmental Science and Engineering, Oregon Graduate Institute
1987 to 1993, Research Assistant Professor; Geophysics Program, University of Washington
1979-1981, Scientist, Mathematical Sciences Northwest, Bellevue, WA
1976-1979, Marine Resource Specialist, Columbia River Estuary Study Taskforce (CREST), Astoria, OR
Gwynn R. Johnson - Curriculum Vitae

Rank: Assistant Professor
Date of Original Appointment: 2002
Number of Years of Service on this Faculty: 3
Dates of Advancement In Rank: N/A

EDUCATION
1996 M.S., Environmental Engineering, University of Florida.
1993 B.S., Environmental Engineering, University of Florida.

REGISTERED CREDENTIALS
Engineering Intern in Training, April 1996

PRINCIPAL PUBLICATIONS OF THE LAST FIVE YEARS
PAPERS

PROFESSIONAL SOCIETIES
American Chemical Society
American Geophysical Union
Geological Society of America
Society of Women Engineers
Subsurface Biosphere Interdisciplinary Doctoral Program (IGERT)
Tau Beta Pi (National Engineering Honor Society)

INSTITUTIONAL AND PROFESSIONAL SERVICE IN THE LAST FIVE YEARS
2005 U.S. Environmental Protection Agency / NCER Star Program, Adhoc Peer Reviewer.
2002-2005 College and Department Scholarship Committees, Portland State University.
2004 American Geophysical Union National Fall Meeting Sponsored Hydrology Special Session: “Mass Transfer and Mass Flux Processes in Source-Zone Systems”
2004 Journal of Contaminant Hydrology, Adhoc Peer Reviewer.
2004 Vadose Zone Journal, Adhoc Peer Reviewer.
2004 Cooperative Institute for Coastal and Estuarine Environmental Technology (CICEET), Adhoc Peer Reviewer.
2004 Journal of Soil and Sediment Contamination, Adhoc Peer Reviewer.
2004 Umbrella Tour Host for the Environmental Engineering Lab, Portland State University.
2004 Water Resources Research, Adhoc Peer Reviewer.
2004 U.S. Civilian Research and Development Foundation Cooperative Grants Program (CRDF), Adhoc Peer Reviewer.
2002 College of Engineering and Computer Science Preview Day Open House Host, Civil and Environmental Engineering, Portland State University.

60
PROFESSIONAL DEVELOPMENT ACTIVITIES IN THE LAST FIVE YEARS
American Geophysical Union 2004 National Fall Meeting
Geological Society of America 2003 Seattle Annual Meeting
Society of Women Engineers 2003 Region J Conference, Portland, Oregon
American Geophysical Union 2002 National Fall Meeting
Annual Superfund Basic Research Program Meeting, Tucson, Arizona, 2002

GRANTS
Oregon Department of Agriculture Pesticides Division, "Complete Characterization of Parameters Used in Risk Assessment Models for Heavy Metal Transport Associated with Fertilizer Applications in Oregon," $213,000, 2004.

EMPLOYMENT
2002 - Present Portland State University, Department of Civil and Environmental Engineering, Assistant Professor.
2001 - 2002 The University of Arizona, Post-Doctoral Research Associate.
1997 - 2001 The University of Arizona, Contaminant Transport Research Laboratory, Research Specialist.
1997 - 2001 The University of Arizona, Partitioning Tracer Project Manager.
1997 - 1998 The University of Arizona, Lab Safety and Operations Manager.
1996 - 2001 The University of Arizona, Research Associate.
1992 University of Florida, Undergraduate Assistant.
B. Kent Lall - Curriculum Vitae

**Rank:** Professor  
**Date of Original Appointment:** 1977  
**Number of Years of Service on this Faculty:** 28  
**Dates of Advancement in Rank:**  
1984 Professor  
1977 Associate Professor

**EDUCATION**  
1969 Ph.D., Transportation & Environmental Planning, University of Birmingham.  
1964 M.S., Highway Engineering, University of Roorkee.  
1961 B.S., Civil Engineering, Panjab Engineering College.

**REGISTERED CREDENTIALS**  
Registered Professional Engineer, Province of Manitoba, 1976-83.  
Registered Professional Engineer, State of Oregon.

**PRINCIPAL PUBLICATIONS OF THE LAST FIVE YEARS**  
**BOOKS**  

**PROFESSIONAL SOCIETIES**  
American Society of Civil Engineers, Fellow  
Transportation Research Board  
Institute of Transportation Engineers  
American Society of Engineering Education

**HONORS AND AWARDS**  
Who’s Who in America, Marquis.  
Who’s Who in the World, Marquis.  
Frank M. Masters Transportation Engineering Award, American Society of Civil Engineers, 1999.  

**INSTITUTIONAL AND PROFESSIONAL SERVICE IN THE LAST FIVE YEARS**  
2004 - 2007 Portland State University Faculty Senate.  
2000 - 2004 Institution of Transportation Engineers, Student Chapter Advisor.  
2001 - 2003 CE World, First Virtual World Congress for Civil Engineering, ASCE, Content Area Chair.  
2003 - Present Transportation Research Board, Highway Capacity and Quality of Service Comm., Conference Sessions Chair.  
1987 - Present Transportation Research Board, Unsignalized Intersections Subcommittee.  
1987 - Present Transportation Research Board, Interchange Subcommittee.  
1999 -2000 Intelligent Transportation Society of America, Oregon Chapter, President.  
1989- Present Accreditation Board of Engineering & Technology (ABET), Program Evaluator.

**PROFESSIONAL DEVELOPMENT ACTIVITIES IN THE LAST FIVE YEARS**  
Attended ABET Faculty Workshop for Continuous Program Improvement, Salt Lake City, Utah, June 2004.  

**EMPLOYMENT**  
2004 - Present Maseeh College of Engineering and Computer Science, PSU, Accreditation Coordinator.  
1984 - Present Portland State University, Professor.  
1977 - 1984 Portland State University, Associate Professor.
1975 - 1977 University of Manitoba, Associate Professor.
1972 - 1975 Indian Institute of Technology, Assistant Professor.
1961 - 1964 University of Roorkee, Teaching Fellow.

**OTHER RELATED EXPERIENCE**
1989  US Army, Cold Regions Research and Engineering Laboratory, Summer Faculty Research, Subcontractor.
1985  University of Adelaide, South Australia, Visiting Professor.
Christopher M. Monsere - Curriculum Vitae

Rank: Assistant Professor
Date of Original Appointment: 2004
Dates and Ranks of Advancement: N/A

EDUCATION
2001 Ph.D., Civil Engineering (Transportation), Iowa State University.
1997 M.S., Civil Engineering (Transportation), Iowa State University.
1995 B.S., Civil Engineering, University of Detroit Mercy.

REGISTERED CREDENTIALS
Professional Engineer, Civil Engineering, Oregon PE #74673.
Engineer in Training (EIT), Michigan, May 1995.

PRINCIPAL PUBLICATIONS OF THE LAST FIVE YEARS
PAPERS

SCIENTIFIC AND PROFESSIONAL SOCIETIES
Institute of Transportation Engineers
Tau Beta Pi
Chi Epsilon

HONORS AND AWARDS
1999 Student of the Year, Region 7, University Transportation Centers Program.
1998 Tau Beta Pi, Engineering Honor Society.
1997 Eno Transportation Fellowship, Eno Foundation.
1996 Dwight David Eisenhower Graduate Fellowship, Master’s, National Highway Institute, U.S. Department of Transportation.
1996 Graduate Student of the Year, Mid-America Transportation Center.
1995 Chi Epsilon, Civil Engineering Honor Society.
1991 Insignis Academic Scholarship, University of Detroit Mercy.
INSTITUTIONAL AND PROFESSIONAL SERVICE IN THE LAST FIVE YEARS
2004 Institute of Transportation Engineers, Oregon Section Student Chapter Liaison and Webmaster, Member.
2004 TRB Task Force to develop the Highway Safety Manual, Member.
2004 TRB Subcommittee on Road Safety Audits, Member.

PROFESSIONAL DEVELOPMENT ACTIVITIES IN THE LAST FIVE YEARS

GRANTS
Clackamas County, "Clackamas County Safety Survey," $3,000, 2005.
"PSU Faculty Travel Grant," $600, 2005.
"Integrated Transportation System Freeway Travel Time Study," $15,000, 2005.

EMPLOYMENT
2004 - Present Portland State University, Research Assistant Professor.
2000 - 2004 Oregon Department of Transportation, Highway Safety Engineer.
1997 - 2000 Iowa State University, Teaching Assistant.
1995 - 2000 Iowa State University, Research Assistant.
1994 - 1995 Angelo Iafrate Construction Company, Assistant Project Manager.
1991 - 1993 Hubbell, Roth and Clark, Engineering Assistant.
Hamid Moradkhani, Ph.D., P.E.
Department of Civil and Environmental Engineering
Portland State University
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Portland, OR 97201 TEL: (503)725-2436
FAX: (503) 725-5950
hamidm@cecs.pdx.edu

(a) Professional Preparation
Postdoctoral University of California, Irvine (2004), Civil Engineering Department, Center for Hydrometeorology and Remote Sensing
Ph.D. University of California, Irvine (2004)
Major: Civil Engineering (Hydrology and Water Resources)
M.S. University of Science and Technology, Iran, (1994)
Civil Engineering (Hydraulic Structures)
B.S. University of Tabriz, Iran, (1991)
Civil Engineering (Water Resources Engineering)

(b) Appointments
Assistant Professor, Portland State University, Civil and Env. Eng., 2006-present
Assistant Scientist, University of California, Irvine, 2005-2006
Postdoctoral Scholar, University of California, Irvine 2005
Research Associate, University of California, Irvine, 2003-2004
Research Assistant, University of Arizona, 2003-2004
Research Fellow, Kyoto University, Dept. Civil Eng., Japan, 1999-2000
Project Manager/Senior Hydraulic and Water Resources Engineer/Junior Engineer, Mahab Ghods Consulting Engineers, Iran, 1991-1999

Honors and Awards
Salt-River Project Doctoral Scholarship in Surface Water Hydrology, University of Arizona, 2001-2002
ICSC-World Laboratory Hydrologic Science and Water Resources Fellowship, Lausanne, Switzerland, 2000-2001
Japan Ministry of Education (Monbusho) Fellowship, Japan, 1999-2000

(c) Related and Other Publications


(d) Synergistic Activities

Participant in several international research initiatives including, HEPEX (lead a test bed), HUGE, MOPEX, DMIP, GEWEX, PUB

Reviewing research proposals for: NSF, NASA, NOAA, NWS, and other federal and local agencies.


Professional Affiliations: Professional Engineer (P.E.), American Society of Civil Engineers (ASCE/EWRI/Surface Water Committee), American Geophysical Union (AGU), American Water Resources Association (AWRA), International Association of Hydrological Sciences (IAHS), American Society for Engineering Education (ASEE), Consortium of Universities for the Advancement of Hydrologic Science (CUAHSI)

(e) Collaborators & Other Affiliations
Newsha Ajami (Berkeley Water Center), Jack Corbet (PDX), Kevin Dressler (Penn State Univ., PSU), Qingyun Duan (UC-LLNL), Xiaogang Gao (UCI), Konstantine Georgakakos (HRC), Hoshin Gupta (UA), Paul Houser (GMU), Yang Hong (NASA), Kuolin Hsu (UCI), Bisher Imam (UCI), Gwynne Johnson (PDX), Jasmeet Judge (UFL), Venkat Lakshmi (SC), Steve Margulis (UCLA), Eylon Shamir (HRC), Soroosh Sorooshian (UCI, Graduate and postdoctoral Advisor), David van Dyk (UCI), Scott Wells (PDX), Eric Wood (Princeton)
Wendelin Mueller - Curriculum Vitae

Rank: Professor
Date of Original Appointment: 1973
Number of Years of Service on this Faculty: 32
Dates and Ranks of Advancement:
1980 Professor
1976 Associate Professor
1973 Assistant Professor

EDUCATION
1972 Ph.D., Civil Engineering, University of Missouri at Rolla.
1966 M.S., Civil Engineering, University of Missouri at Rolla.
1962 B.S., Civil Engineering, St. Louis University.

REGISTERED CREDENTIALS
Missouri, Civil Engineering, 1972.

CONSULTING
1997 - Structural Engineers Association of Oregon, Invited speaker at seminar.
1985 - 2005 ASCE Professional Engineers, Taught 2 sessions for Professional Engineers Review Course.
1973 - 2005 Local Industry, Structural analysis, computer application in civil engineering, structural and seismic testing.

PRINCIPAL PUBLICATIONS OF THE LAST FIVE YEARS

PAPERS


SCIENTIFIC AND PROFESSIONAL SOCIETIES
American Society of Civil Engineers
Structural Engineers Association of Oregon

HONORS AND AWARDS
1986 Burlington Northern Faculty Achievement Award, Burlington Northern.
1971 American Institute of Steel Construction (AISC) Fellow, AISC.

INSTITUTIONAL AND PROFESSIONAL SERVICE IN THE LAST FIVE YEARS
2004 - present The Committee on Substation Structures, (ASCE), Secretary.

**PROFESSIONAL DEVELOPMENT ACTIVITIES IN THE LAST FIVE YEARS**

**GRANTS**

Bonneville Power Administration, "Steel Ankle Splice Connections," $45,000, 2001-2002.

**EMPLOYMENT**

1980 - Present Portland State University, Professor
1976 - 1980 Portland State University, Associate Professor
1973 - 1976 Portland State University, Assistant Professor
1982 - Present Bonneville Power Administration, Structural Engineer/Consultant.
1971 - 1972 University of Missouri at Rolla, Instructor.
1971 U.S. Army Corps of Engineers Portland District, Structural Engineer.
1969 - 1971 University of Missouri at Rolla, Instructor.
1965 - 1966 University of Missouri at Rolla, Graduate Assistant.
1963 - 1965 U.S. Army Corps of Engineers St. Louis District, Structural Engineer.
Jiayi Pan - Curriculum Vitae
Senior Research Associate
Department of Civil and Environmental Engineering
Portland State University
Post Office Box 751
Portland, Oregon 97207-0751
E-mail: panj@cecs.pdx.edu     Web: www.cee.pdx.edu/~jaylab/

ACADEMIC TRAINING
Ph.D. in Physical Oceanography 1996, Institute of Oceanology, Chinese Academy of Science
M.S., 1988, Optics, Institute of Optics and Fine Mechanics of Anhui, Chinese Academy of Science
B.S., 1985, Applied Physics, Hefei University of Technology, China

ACADEMIC EMPLOYMENT
2005-date, Senior Research Associate; Dept of Civil and Environmental Engineering, Portland State University
2004 to 2005, Associate Research Scientist; Department of Environmental and Biomolecular Systems, OGI School of Science and Engineering, Oregon Health & Science University
2003 to 2004, Assistant Research Scientist; Department of Marine Science, University of Southern Mississippi
1999 to 2003, Postdoctoral Fellow; College of Marine Studies, University of Delaware

WORK REPORTED IN NEWS
Interviewed by Ms. Sara Pratt, Geotimes contributing writer
Work reported in Geotimes, News Notes: El Niño gives Earth new spin (http://www.geotimes.org/jan03/NN_nino.html)

PUBLICATIONS

Franz N. Rad - Curriculum Vitae

Rank: Professor
Date of Original Appointment: 1971
Number of Years of Service on this Faculty: 34
Dates of Advancement In Rank:
Department Chair 1979 – 2002
Professor 1980
Associate Professor 1975
Assistant Professor 1971

EDUCATION
1973 Ph.D., Civil Engineering, University of Texas at Austin.
1969 M.S., Civil Engineering, University of Texas at Austin.
1968 B.S., Civil Engineering, University of Texas at Austin.

REGISTERED CREDENTIALS
Professional Engineer, Structural Engineering, Civil Engineering, Oregon.

CONSULTING
Technical consultant to various engineering firms and government agencies, including: City of Portland,
Bureau of Buildings, C. G. Peterson Consulting Engineers, Moffit, Nichol, and Bonney, US
Geological Survey, Roger Brown Consulting Group LLC, 1972-present; Project Engineer,

PRINCIPAL PUBLICATIONS OF THE LAST FIVE YEARS
“Oregon HAZUS Case Histories: Lessons Learned and Resulting Mitigation Policies,” with Wang, Y. and
Hasenberg, C., Annual Conference of the Western States Seismic Policy Council (WSSPC), 2002.
“Our Experience with Guiding a Major Design Experience,” with Huff, E. S., Mohammadi, A., McCormack,
T., and Richwine, D., Proceedings of the 2001 American Society for Engineering Education Annual
“An Experimental Study on the Strength of Grouted Conduit Connections Under Cyclic Axial Loading,” with

PROFESSIONAL SOCIETIES
National Society of Professional Engineers (NSPE)
American Society for Engineering Education (ASEE)
American Society of Civil Engineers (ASCE)
American Concrete Institute (ACI)
Prestressed Concrete Institute (PCI)
Structural Engineers Association of Oregon (SEAO)
Portland Advisory Committee for Engineering Education (PACEE)
Professional Engineers of Oregon (PEO)
Tau Beta Pi, Chi Epsilon, Phi Kappa Phi, Sigma Xi

HONORS AND AWARDS
2004 Endowed Professorship, The Arthur M. James Professor of Structural Engineering, Maseeh College of
Engineering and Computer Science, Portland State University.
2002 Engineer of the Year Award, American Society of Civil Engineers, Oregon Section.
1993 Centennial Certificate, American Society for Engineering Education.
1992 Excellence in Concrete Award, ACI Oregon Chapter.
1991 Fellow, American Concrete Institute.
1989 Fellow, American Society of Civil Engineers.
1979 ASEE Western Electric Fund Award for Excellence in Teaching

INSTITUTIONAL AND PROFESSIONAL SERVICE IN THE LAST FIVE YEARS
Institutional Service
2003-2004, 2004-2005 Chair, Department Promotion and Tenure Committee.
2003 – 2004 Faculty Grievance Committee, Portland State University.

Coordinated/Chaired the following Seminars/Short Courses/Conferences (past 5 years)
2002 Civil Engineering Department Heads Conference, Pacific Coast Region, Irvine, CA.
2001 Civil Engineering Department Heads Conference, Pacific Coast Region, Honolulu, HI.
1982 – Present, Civil Engineering Professional License Review Course, annually, 1982-present

Reviewer for

Technical/Professional Offices (past 5 years)
2004-2005 Seismic Retrofit State Task Force
1997-2002 Editor, Dept Heads Council Executive Committee, ASCE
1997-2000 Chair, Structural Engineers Association of Oregon Seismic Committee
1996-2002 Department Heads Council Executive Committee, ASCE, (two terms)

PROFESSIONAL DEVELOPMENT ACTIVITIES IN THE LAST FIVE YEARS
Speaker at the following National Conventions/Conferences/Special Lectures (past 5 years):


"Solid-as-Concrete Relationships Between Students and Mentor: R. W. Furlong," with S. A. Mirza, American Concrete Institute Annual Conference & Exposition, Detroit, MI, April 21-24, 2002.


Attended the following National Conventions/Conferences/Seminars (past 5 years):
2005 Structural Retrofit Seminar, Structural Engineers Association of Oregon.
2004 2003 IBC Seminar, Portland, OR.
2004 Wind Design for the 2003 IBC, presented by SEAO, Portland, OR.
2003 ASCE Forensic Congress, San Diego, CA.
2003 Western States Seismic Safety Council Annual Meeting, Portland, OR.
2003 EERI Annual Meeting, Portland, OR.
2003 Seismic Design Using Structural Dynamics, Presented by ICBO, Portland, OR.
2003 Seismic Design of Reinforced Concrete Shear Walls, Presented by ICBO, Portland, OR.
2002 New ACI 318-02 Building Code Seminar, presented by ACI, Portland, OR.
2002 American Concrete Institute Annual Conference & Exposition, Detroit, MI.
2001 American Society for Engineering Education Annual Conference & Exposition, Albuquerque, NM.
2001 USGS Seismic Hazard Mapping Workshop, presented by USGS, Portland, OR.
2000 Concrete Repair Basics Seminar, presented by ACI, Portland, OR.
2000 Des of Steel Buildings for High Wind and Earthquake Forces, presented by ICBO, Portland, OR.

OTHER RELATED EXPERIENCE
Co-Principal Investigator, NSF sponsored research, RescueNet - embedded sensors, 2004-present.
Principal Investigator, sponsored research projects on strength of grouted anchors in masonry walls, 1997-98; retrofitted hollow clay tile walls, 1997-98; wind and seismic tiedowns on manufactured housing, 1998; grouted conduit connections for precast concrete wall panels under cyclic axial loading, 1999
Principal Investigator, Metro/DOGAMI sponsored research on earthquake damage assessment of urban areas, 1993 – 2001
Co-principal Investigator, U.S. Dept of Interior sponsored research, 1977-78; Research Fellow, PCI, 1988-89
Principal Investigator, NSF sponsored research, 1975-77
Principal Investigator, NSF sponsored lab development, 1973-75
Teaching, laboratory research, and consulting in graduate school, 1968-71
Trevor Smith - Curriculum Vitae

Rank: Professor
Date of Original Appointment: 1982
Number of Years of Service on this Faculty: 23
Dates of Advancement In Rank:
Professor 1990
Associate Professor 1986
Assistant Professor 1982

EDUCATION
1983 Ph.D., Geotechnical Engineering, Texas A&M University.
1976 M.S., Soil Mechanics, University of London, U.K.
1974 B.S., Civil Engineering, University of Aston, U.K.

REGISTERED CREDENTIALS
Professional Engineer, Texas and C. Eng. (U.K. Registration)
Former Chartered Membership of the Institution of Civil Engineers (London, UK) 1980.

CONSULTING
2001- Kleinfleder, Las Vegas-Insitu behavior of arid soils
2004, Port of Portland-Terminal 3 expansion-Insitu soil Behavior
2005 Washington County-Soils Review

PRINCIPAL PUBLICATIONS OF THE LAST FIVE YEARS
PAPERS
Initial burn and distribution of 5,000 to CTIP members (FHWA, BIA, USFS, USDFW,NOAA-Fisheries)
"Ensuring ESA Field Compliance in Construction Through Multi-Media Education on CD," with Kramer, M.,
"Inspection of Ground Anchors," Multi-Media Double Compact Disc, IRS and CEE, 3,000 burn and
distribution by FHWA 2003.
" Multi-Media Review of Ground Anchors and Soil Nails from a CD," with Barrows, R., ADSC Foundation
"Introduction to Soil Nails and Ground Anchors," Multi-Media Single CD, IRS and CEE, 2002 Total initial
3,000 burn and distribution by FHWA 2003.
"Collapsible Soil Settlement Predictions Using the Pressuremeter Measured Strains," Proceedings of 9th
International Congress Engineering Geology for Developing Countries, 2002.
"Virtual field Trip to the Pleistocene and Holocene Dunal landscapes of the Central Oregon Coast,"
Cordillera Section Meeting, 2002., with Curt Peterson, John Bham
"Lateral Load Prediction and Testing of 3.05m Diameter Shafts," Proceedings of Performance Confirmation

PROFESSIONAL SOCIETIES
Institution of Civil Engineers, London, M.I.C.E.
Imperial College, London.
Geo-Institute of A.S.C.E.
Former Deep Foundations Committee of A.S.C.E.
Former American Society for Testing Materials (ASTM).
Former British Geotechnical Society.
Professional Engineer State of Texas.
Oregon Section A.S.C.E.
Technical Affiliate of Association of Drilled Shaft Contractors (ADSC).
HONORS AND AWARDS
1998 Design Excellence Award, USACE, Portland District
2001 Oregon Civil Engineer of the Year 2000-01, ASCE.
2004 Reviewer for 5th Ed. Designing with Geosynthetics, by Robert Koerner

INSTITUTIONAL AND PROFESSIONAL SERVICE IN THE LAST FIVE YEARS
2003 - 2004 Promotion and Tenure Committee
2000 - 2005 Graduate Awards Committee
2000 - 2005 Major Advisor to 20+ graduate students

PROFESSIONAL DEVELOPMENT ACTIVITIES IN THE LAST FIVE YEARS
GRANTS
FHWA Western Federal Lands, "Develop Distance Learning CD for Ground Anchor," $73,000, 2002.

EMPLOYMENT
1983 - Present Department of Civil Engineering, Portland State University, Professor of Civil and Geotechnical Engineering.
1980 - 1983 Texas A&M University, Graduate Research Assistant.
1976 - British Mining Consultants, Design Engineer, Resident Engineer.
Scott Wells - Curriculum Vitae

Rank: Professor and Chair
Date of Original Appointment: 1987
Number of Years of Service on this Faculty: 18
Dates of Advancement In Rank:
2002 Department Chair
1995 Professor
1990 Associate Professor
1987 Assistant Professor

EDUCATION
1990 Ph.D., Civil and Environmental Engineering, Cornell University.
1982 M.S., Civil Engineering, S.M. Massachusetts Institute of Technology.
1979,1980 B.S., M.S., Civil Engineering, Tennessee Technological University.

REGISTERED CREDENTIALS: Professional Engineer (Civil Engineer, Environmental Engineer), Oregon.

CONSULTING
2003, Columbia River Intertribal Fish Commission, Portland, OR, Review of Lake Chelan and Chelan River Model in WA.

PRINCIPAL PUBLICATIONS OF THE LAST FIVE YEARS


PROFESSIONAL AND HONOR SOCIETIES
Water Environment Federation, American Filtration and Separations Society, American Society of Civil Engineers
Phi Kappa Phi, Tau Beta Pi, Kappa Mu Epsilon, Chi Epsilon, Sigma Xi

HONORS AND AWARDS
2001, Pathfinder Award of Excellence, HDR Engineering, Boise ID.
2000, PSU College of Engineering and Computer Science Faculty Research Award

INSTITUTIONAL AND PROFESSIONAL SERVICE

Intel Northwest Science Expo 2002, Judge.
Project Advisory Committee (PAC) for American Water Works Association (AWWA), Advisory Board Membership.

PROFESSIONAL DEVELOPMENT ACTIVITIES: SELECTED GRANTS IN THE LAST FIVE YEARS
Middle Fork Irrigation District, Oregon, "Laurence Lake Management Strategies," $8,000, 2005.
Waterways Experiment Station, MS, "Long Lake and Spokane River Water Quality Model, Corps of Engineers," $90,000, 2004.
Middle Fork Irrigation District, Oregon, "Laurence Lake Hydrodynamic and Temperature Model," $30,000,

**EMPLOYMENT**

1987 - Present Department of Civil and Environmental Engineering, Portland State University
1983 - 1984 Department of Mechanical and Aerospace Engineering, Boston University, Visiting Assistant Professor.
1982 - 1982 R. M. Parsons Laboratory for Hydrodynamics, Massachusetts Institute of Technology, Research Engineer