College of Engineering (COE)

Chemical & Biological Engineering (ChBE)

Civil Engineering (CE)

● Local Technical Assistance Program (LTAP)

Computer Science (CS)

Electrical & Computer Engineering (ECE)

Mechanical & Industrial Engineering (M&IE)

Air Force ROTC

Army ROTC

COE Degree Programs

Chemical Engineering (B.S., M.S.)

Biological Engineering (B.S.)

Civil Engineering (B.S., M.S.)

● Option in Bio-Resources Engineering

Construction Engineering Technology (B.S.)

Construction Engineering Management (M.)

Computer Science (B.S., M.S.)

Computer Engineering (B.S.)

Electrical Engineering (B.S., M.S.)

Environmental Engineering (M.S.)

Industrial Engineering (B.S.)

Industrial & Management Engineering (M.S.)

Mechanical Engineering (B.S., M.S.)

Mechanical Engineering Technology (B.S.)

COE Ph.D. Programs

Ph.D. in Computer Science

Ph.D. in Engineering with options in

● Applied Mechanics

● Chemical Engineering

● Civil Engineering

● Electrical & Computer Engineering

● Environmental Engineering

● Industrial Engineering

● Mechanical Engineering

COE Research & Outreach Centers

Center for Biofilm Engineering (CBE)

Montana Manufacturing Extension Center (MMEC)

Western Transportation Institute (WTI)

●

DEGREES & ENROLLMENT

Undergraduate Students Enrolled

Master's Candidates Enrolled

Doctoral Candidates Enrolled

ENROLLMENT BY ETHNICITY

Fall Enrollment 2002 2003 2004 2005 2006

African American 2 7 3 6 4

Hispanic American 9 12 17 23 22

Native American 32 34 35 50 46

Asian American 14 19 17 58 19

Foreign National 88 86 93 92 73

Caucasian/Other 2,124 1,987 1,925 1,864 1,827

Total 2,269 2,145 2,090 2,048 1,991

ENROLLMENT BY GENDER

Fall Enrollment 2002 2003 2004 2005 2006

Male 1,940 1,870 1,848 1,823 1,779

Female 329 275 242 225 212

Total 2,269 2,145 2,090 2,048 1,991
Message from the Dean

This annual report is particularly meaningful for the faculty, staff and students of the College of Engineering at Montana State University. It summarizes accomplishments and activities which occurred in the fifth year of a scheduled 5 year strategic plan. As this report goes to press, the faculty are drafting new strategic goals which will build upon successes we have realized in the last several years. In FY07, the energetic work of our faculty resulted in an all-time high mark—at nearly $15.5 million—for dollars that our faculty attracted through external grants and contracts. The faculty also continue to earn national and international recognition, such as with Dr. Sarah Codd’s CAREER Award from the National Science Foundation.

Our students also are competing successfully in national competitions and representing MSU superbly. Our graduating seniors in engineering continue to outpace the nation in their past rate on the FE examination. Our Graduate Science students are now required to sit for a comparable examination and, after just two test cycles, have established MSU to be among the very few top performing universities.

Though as to be expected, giving is down slightly since the conclusion of the recent scholarship campaign, private support of the MSU-COE remains strong. Our endowment balance is at an all-time high, thanks to gifts from a greater number of individuals and corporations. For the latest news and other information, please visit our Web site (www.coe.montana.edu).

—Robert Marley, Dean of the College of Engineering

COE Research Endowments

<table>
<thead>
<tr>
<th>FE EXAM SCORES</th>
<th>2007 Total Balance $24,031,012</th>
<th>Capital/Equipment $929,420</th>
</tr>
</thead>
<tbody>
<tr>
<td>COE</td>
<td>Faculty/Staff $650,179</td>
<td>$380,759</td>
</tr>
<tr>
<td>National</td>
<td>General Support $4,172,852</td>
<td>$1,572,988</td>
</tr>
<tr>
<td></td>
<td>Endowed Chairs/Endowed</td>
<td>$6,397,457</td>
</tr>
<tr>
<td></td>
<td>Professorships</td>
<td>$11,500,345</td>
</tr>
</tbody>
</table>

Research $380,759
General Support $4,172,852
Endowed Chairs/Endowed Professorships $6,397,457
Student Resources $11,500,345

Fundamentals of Engineering

COE Research Expenditures

<table>
<thead>
<tr>
<th>Publication Type</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refereed journal articles, book chapters and creative works published</td>
<td>197</td>
</tr>
<tr>
<td>Non-refereed journal articles, book chapters and creative works published</td>
<td>82</td>
</tr>
<tr>
<td>Books or monographs published by an academic or commercial press</td>
<td>3</td>
</tr>
<tr>
<td>Books, collections and monographs edited</td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td>287</td>
</tr>
</tbody>
</table>

Engineering students Kyle Engelke, Scott Dent and Jeffrey Larsen spent a year working on a fuel delivery system for a device that breaks vegetable oil or diesel fuel into hydrogen gas and carbon monoxide. The Bozeman research lab owned by Leonardo Technologies, Inc. asked for help in getting more energy out of diesel fuel and Montana-grown vegetable oil. Although Engelke was determined to not attend graduate school before starting the project, he liked working with Joel Lindstrom of LTI. When LTI offered Engelke a job and funding for a graduate degree, he accepted both. According to Stephen Sofie, the students’ faculty advisor, chemically combusting hydrocarbon fuel, such as burning gasoline in a car, harnesses only 10 to 15 percent of that energy to run the engine. However, “refomred” vegetable oil or diesel can be used in fuel cells or other technologies, where energy efficiencies can exceed 40 percent. Learn more about COE’s Research Focus Areas at www.coe.montana/research.html.

FINDING ENERGY SOLUTIONS

—Jeffrey Larsen (left) and Kyle Engelke (right) with Joel Lindstrom of Leonardo Technologies Inc. (MSU photo by Kelly Garman)