

Jack Mollard, Ph.D. '52 establishes Fellowship honoring Don Belcher

Throughout the long and illustrious career of **Professor Donald J. Belcher**, he touched the lives of numerous people, especially his students. One of these students, Jack Mollard, Ph.D. '52, demonstrated his appreciation by initiating the Donald J. Belcher Master of Engineering (Civil) Fellowship endowment fund. At a luncheon on October 16, 2000, over 45 friends, faculty, and former students honored this world-renowned educator, researcher, and consultant who pioneered the field of remote sensing for his exceptional career and upcoming 90th birthday (February 11, 2001).

After the luncheon, Jack Mollard and several of Belcher's former students eloquently recollected their experiences, interactions, and thoughts about Don. Jack called Don imaginative, innovative, and feisty — someone who "loves a challenge and the intellectual reach of an assignment." Jack credits his interest in remote sensing for successfully captivating his future wife, Mary Jean, MS '52, after he told her that he was searching for gold and diamond mines from aerial photographs. Jack said that his son, as a kindergartner describing his father's career in remote sensing, called him a "Finder." He says he has been "Finding" since 1955 when he got his first job mapping an arctic island for oil and gas, a job he received "only because he was a Belcher student from Cornell University."

Professor Emeritus Floyd Slate, an educator at Purdue and Cornell for 51 years, discussed his relationship with Don when they were in their early 20's and helping to organize the field of remote sensing. He talked about one of their first uses of aerial photography: They had to find the soil types that were in the tire treads of a criminal's car in order to solve a murder case.



Linda Zall, Don Belcher, Ray Kreig, Robert Frost, and Jack Mollard

Photo by Frank DiMeo/University Photography

Floyd was also with Don during World War II and called Belcher an "independent thinker, stubborn, and a major contributor to the advancement of remote sensing."

Another former CEE faculty member, Warren Philipson, talked about the enthusiasm and excitement that was generated when Professor Belcher gave seminars in remote sensing. He also cited a few of Belcher's publications, like the "Manual of Photographic Interpretation" and the six volumes of the complete earth's landforms that Don and his co-workers compiled for the United States Navy.

Raymond Kreig '70, a Belcher Graduate Student from the Arkansas hills, said he first saw a picture of Don riding on a camel in the desert in "Popular Mechanics" and knew that's what he wanted to do in life. He "owes it all to Don Belcher" as the "best Teacher" he ever had and cited that the "REAL education was working on Don's Consulting Assignments." Heng Thung, Ph.D. '72, also said that Belcher "taught us how to think" and his best lifelong advice was to "be a technocrat not an administrator."

Robert Frost reminisced about being Professor Belcher's very first graduate student some sixty years ago at Purdue University. He earned \$70 a month back then mapping the Indiana soil and taking soil samples from airfields. He was surprised to be sitting next to Linda Zall,

CONTENTS

Word from the Director
 Editor's Note
 Ingraffea and NASA
 Lewis Professor Named
 Faculty Achievements
 Cornerstone Donors
 ASCE Happenings
 CEE Notables
 Staff News
 CEE Laboratory Status
 Web Focus

Word from the Director



Photo by C. Hamington/University Photography

Abel

Civil and Environmental Engineering education, like the CEE profession, is facing severe challenges. CEE enrollment has declined nationally by 27% from 1994 to 1999, and here at Cornell we have seen a more drastic decline from about 97 BS degrees awarded per year in the mid 1990's to only 44 in 2000-01. Our peer private institutions such as MIT and Stanford are experiencing similar falloffs. While the pool of applicants to competitive engineering colleges is increasing in size and quality, the number of undergraduates who select CEE is declining as students flock to computer science, electrical and computer engineering, mechanical engineering, and operations research.

If we graph Cornell CEE enrollment per class since the post-war years, we see an almost sinusoidal trend with about a 20-year period. But we must assume that "past performance is no guarantee of future returns." What steps are we taking to buck the current trend? In the short-term, we are certainly trying to increase our recruitment and public relations efforts to attract our "fair share" of freshman and transfer students to the School. In the long-term, we are actively re-evaluating our vision to identify the niche that CEE can fill that will build appropriately on the interests of the wonderfully talented undergraduates that Cornell is attracting. In the meantime, there are several medium-term developments that should help, and I will cite one related to each of our three CEE Mission Areas.

In our **Engineering Systems and Management** Mission Area, we are building on more than a dozen years of success in the School's Engineering Management MEng program. We have already implemented an engineering minor that is attracting undergraduates from other departments to the courses we already have in place. Now, we are embarking on giving a similar, highly visible opportunity to our CEE students by creating a certificate in Engineering Management that can be earned while obtaining our accredited degree in Civil Engineering.

Over the past year, our **Environment** Mission Area has been creating a new, separately accredited program in Environmental Engineering jointly with our sister department, Agricultural and

Biological Engineering (ABEN). In fact, ABEN has now changed their name to Biological and Environmental Engineering (BEE). Together, we will launch the new accredited BS program by 2003. In addition, we are working to create a new graduate field in Environmental Engineering that will allow the faculty from CEE, BEE, and other departments to have unified MEng, MS, and PhD programs in this field. Through the synergy of the complementary expertise of the two departments, we are confident that we can significantly raise the profile of Environmental Engineering at Cornell.

The **Civil Infrastructure** Mission Area has just implemented a revision to its undergraduate course offerings to convey a broader, more interdisciplinary background that is suitable for future leaders of the design enterprise. One manifestation of this is the offering of new senior design sequences that unify structural and geotechnical considerations with each other and with other disciplines. One example of this is the NASA and NYS sponsored experiment in collaborative distance design described separately in this issue (see "Ingraffea Initiative with NASA," pg 3).

As we continue to strive to be worthy of our high reputation as a leader in Civil and Environmental Engineering education, we certainly value the suggestions and support of our alumni and friends. Please feel free to communicate any of your ideas and suggestions to me.

Editor's Note

As the new CEE External Affairs Officer, I am beginning to build relationships with our students, alumni, and friends. You are the cornerstone of the School of Civil and Environmental Engineering. I am honored to be a part of the CEE family and continually impressed by the high caliber and professionalism of the Faculty and Staff. It is no wonder that we have such an outstanding reputation around the world as a leading teaching and research organization. It is a privilege to play a role in helping to bring about the visions and goals of our school. With your assistance, I hope to contribute to the implementation of the School's mission and development initiatives. Let us continue to forge ahead, educating tomorrow's leaders, enabling them to "Shape the Quality of Life."



Photo by C. Hamington/University Photography

Judge

Ingraffea Initiative with NASA

Excerpts by David Brand from the *Cornell Chronicle*, March 15, 2001

NASA and the state of New York will fund a \$3 million, three-year program at Cornell and Syracuse Universities to develop a virtual environment that uses advanced information technologies to improve undergraduate engineering education. Most significantly for students at the two universities, perhaps, will be a collaboration with NASA engineers on the virtual design of future reusable space vehicles that could replace the space shuttle.

"We intend to raise the bar at the undergraduate level" in collaborative engineering design, said Tony Ingraffea, the Dwight C. Baum Professor of Engineering in Civil and Environmental Engineering at Cornell, who helped unveil details of the course at a presentation at Syracuse University, March 12.

The program, to be called the Advanced Interactive Discovery Environment (AIDE) for Engineering Education project, was announced at a joint university event at the Syracuse Center for Science and Technology by NASA Administrator Daniel S. Goldin, New York State Gov. George E. Pataki, and U.S. Rep. James Walsh (R-Onondaga).

In announcing a three-year, \$2.5 million NASA commitment to fund the AIDE project, Goldin described the program as the agency's "pet project." It is aimed, he said, at projections of the need for scientists and engineers growing by 50 percent over the next decade, with about 2 million scientists and engineers due to retire. "If we don't do anything different, we will only graduate 2 million, so we're not going to be where we need to be," Goldin said. "This is not about a social program, it's not about an educational program, it's about the future of our country and our economy and our vitality. We have to do things differently."

Pataki, who announced \$500,000 in state matching funds, noted that the last time NASA and New York State had such a significant collaboration was on the lunar excursion module, made by Grumman for the lunar landing in 1969. "I expect, not too long from now, to be looking on television and watching the new generation of space shuttle and being able to say with tremen-

dous pride, this was designed by students of Syracuse and Cornell," he said.

Walsh, who as chairman of the House Appropriations Subcommittee on Veterans Affairs, Housing and Urban Development and Independent Agencies, has spending oversight responsibility for NASA, noted, "It is

my expectation that this program will help create world-class engineering curricula that will become the model for the nation and the world."

The participating faculty at Cornell and Syracuse are developing a two-semester, senior-level engineering design course to be delivered simultaneously to 15 mechanical, aerospace, and civil engineering students at each institution, linked by a variety of distance-learning tools, including videoconferencing and the Internet. The course will focus on the design of the structural sub-system for the next-generation space shuttle, or what NASA calls a reusable launch vehicle (RLV).

Next-generation RLV concepts also are being studied by the space agency and are expected to be significantly less costly to manufacture and operate than the present space shuttle, yet have dramatically improved versatility. The seriousness with which NASA is prepared to consider the students' design is indicated by the fact that NASA engineers will be participating throughout the course.

"This will be a team-based design course with an outcome that will be a virtual design of an RLV subsystem instead of a tangible piece of hardware," said Ingraffea. The project, he said, springs from NASA's desire to "go back and change the culture of engineering education so that graduating engineers think of collaborative distance design as a natural way of doing work." The space agency must work this way because its laboratories are scattered across the country, he said.



Photo by N. Koumoupe/University Photography

From left, Alan Zehnder, Cornell professor of Mechanical and Aerospace Engineering; Barry Davidson, Syracuse professor of Mechanical, Aerospace and Manufacturing engineering; and Tony Ingraffea, Cornell professor of Civil and Environmental Engineering, at a luncheon preceding the NASA project announcement at Syracuse.

(Continued on page 4)

Brutsaert Honored



Brutsaert

The School of Civil and Environmental Engineering is proud to announce that Professor Wilfried H. Brutsaert, member of the National Academy of Engineering, a distinguished Cornell University educator for thirty-eight years, and a prominent researcher, has been named the William L. Lewis Professor of Engineering effective February 1, 2001.

Professor Brutsaert, after receiving his B.Eng. degree in 1958 at the University of Ghent, Belgium, his M.S. in 1960, and his Ph.D. in 1962 at the University of California-Davis, joined the Cornell Faculty in 1962. During sabbaticals and short-term leaves, he has worked at government and university laboratories in New York City, Israel, the Netherlands, Switzerland, Belgium, and Japan. He was director of Graduate Studies of Civil Engineering at Cornell for several years and currently is a member of the Faculty Senate. He has supervised the thesis research of 20 Ph.D. students and 21 M.S. students at Cornell.

Wilf studies hydrology and fluid mechanics in the environment. He is the author of the often-quoted textbook Evaporation into the Atmosphere: Theory, History and Applications. In recent years, he has been developing methods to calculate regional evaporation and turbulent heat exchange from natural land surfaces with different types of land cover, using measurements made in the upper atmosphere by balloon-borne radiosondes, radar, and sodar as well as observations from aircraft and satellites. The work is applied in watershed hydrology, in climate dynamics with global circulation modeling, and in studies of scenarios of global change. He also studies the interaction between rivers and adjacent underground aquifers to predict available water supply and water quality.

Brutsaert was elected a member of Phi Kappa Phi, he is a fellow of the American Meteorological Society and a member of the American Society of Civil Engineers and the International Association of Hydrologic Sciences. He is a fellow of the American Geophysical Union and was president of its Hydrology Section in 1992-1994. He received

the Ray K. Linsley Award from the American Institute of Hydrology in 1993 and the American Geophysical Union's Robert E. Horton Award in 1988 and the Robert E. Horton Medal in 1999. He was awarded an honorary doctorate by the University of Ghent in 1995 and received the Distinguished Engineering Alumnus Award from the University of California-Davis in 1995.

This prestigious Professorship was established in 1979 as a result of a trust created by William L. Lewis '22, who worked for IBM for thirty-three years where he advanced to the position of Vice President of Purchasing. During the late 1950's and early 1960's, he was involved with the Cornell Leadership Gifts Program, the local Cornell Club, and served on the University Council for ten years. Lewis was a highly respected leader in business and community affairs, a Director of the First National Bank of Binghamton and the Associated Industries of New York State, a trustee of his church, and a member of the Binghamton YMCA Industrial Committee.

Ingraffea and NASA (Continued from page 3)

The RLV will be used as "a focal point," said Syracuse's Professor Barry Davidson, to teach fundamental engineering concepts and the way these are applied to a complex, multidisciplinary problem. In the first semester, the students will consider alternative designs for elements and systems of the RLV. In the second semester, a detailed design will be made, with virtual manufacturing, construction, and testing. The course will end with a presentation to NASA.

A further outgrowth of the course funding will be the equipping of Hollister and Upson Halls and the physical experimental facility in the Civil and Environmental Engineering George Winter Structural Testing Laboratory for a wireless environment.

Noted Zehnder, "AIDE builds on Cornell's strong tradition of student teams, such as the Hybrid Electric Vehicle, but adds dimensions of multidisciplinary experience, risk and cost assessment, and use of information technology for collaborating at a distance."

Faculty Achievements

Faculty photos by N.Kountoupes & C. Harrington/University Photography

Sarah Billington won a CERF Academic Research Council Career Award and was also selected by the National Academy of Engineers to participate in the Fall 2000 Frontiers of Engineering Symposium.

Tim Bond received the first annual Cornell Society of Engineers Academic Excellence Award for non-tenure track individuals who have provided outstanding support for undergraduates outside of the classroom.

Edwin "Todd" Cowen is an NSF CAREER Award recipient. Cowen, who also is director of the Defrees Hydraulics Laboratory at Cornell, will receive \$375,000 over five years from the NSF to support his research on environmental flows. Specifically, he is studying the effect of clean and contaminated free surfaces on turbulence and gas transfer at an air-water interface. Gas-



Cowen

exchange processes across interfaces are fundamental to environmental, biological and industrial fluid mechanics. Experiments will be conducted in a water tank with grid-generated turbulence with and without surfactants. Velocity and carbon

dioxide concentration will be measured by digital particle tracking and laser-induced fluorescence techniques to obtain the vertical transport of fluid and flux of carbon dioxide at the air-water interface. The ultimate goal is to use the experimental data to develop an analytical model for gas transfer between air and water.



Gebremedhin

Kifle Gebremedhin, a joint appointment between CEE and ABEN, was selected to the Rural Builder Hall of fame, an honor sponsored by the magazine *Rural Builder*.

Kenneth Hover received a Stephen H. Weiss Presidential Fellowship, Cornell's most prestigious recognition for excellence in undergraduate teaching. Ken also won the ACI Joe W. Kelly Award "in recognition of his innovative and motivational teaching of concrete materials and the design and construction of



Hover

concrete structures," and the New England District Chi Epsilon Excellence in Teaching Award.



Stedinger

College of Engineering Teaching Awards for 2000-01 have been announced for **Anthony Ingraffea, Leonard Lion, and Jerry Stedinger**.

The website <http://simscience.org/cracks/index.html> designed and created by **Megann Polaha MS '99** and **Anthony Ingraffea** has been designated by Lightspan StudyWeb as one of the web's best educational resources.

Monroe Weber-Shirk received the 2001 Chi Epsilon Instructor of the Year Award, while **Kenneth Hover** won the Chi Epsilon Professor of the Year Award.

The Alexander von Humboldt Foundation selected **Christine Shoemaker** as a recipient of a von Humboldt Research Award for Senior U.S. Scientists. This award is given in recognition of her life-long accomplishments in research and teaching.



Shoemaker

Richard White has been elected an Honorary Member of the American Society of Civil Engineers (ASCE) and will be installed at the October 2001 annual ASCE awards ceremony in Houston, Texas.

Cornerstone

We wish to express our sincere appreciation to all of you who continually support our School. The donors listed are those who gave between April 2000 and March 2001. Please accept our apologies if anyone was accidentally omitted.

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 Ralph Waldo Emerson

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A SCE Happenings

“More than Roads and Bridges”



From left, Mal McLaren, President, McLaren Engineering Group; Lucie Fougner, '01, Secretary, Ben Lord, '01, Vice President, and Troy Zezula, '01, President of the ASCE student chapter.

Mal McLaren, '73, at the View of the Lake Dinner sponsored annually in April by the Cornell Student Chapter of the American Society of Civil Engineers, illustrated to the students,

faculty, staff, and the local ASCE members that Civil and Environmental Engineering is definitely “More than Roads and Bridges.” Citing examples from his own successful company, McLaren Engineering Group, Mal pointed to projects ranging from work on the Rolling Stones and N'Sync entertainment stages to hospitals, marinas, waste storage facilities, bridge and highway rehabilitation, and underwater inspection of dams, port facilities, and outfalls.

McLaren directed his talk to the students giving them insight into the business world as they enter the work force. By discussing his own diverse projects, Mal demonstrated that the Civil and Environmental Engineering profession holds much excitement, enjoyment, and satisfaction. He said that, by improving communications and through the effective use of the technological advances in computers, materials, analysis, and methodologies, Civil and Environmental Engineering *IS* “America’s business.”

Before McLaren’s talk, the outgoing President of the ASCE student chapter, Troy Zezula, '01, summed up the past year’s accomplishments and activities of Cornell’s very active ASCE student chapter. He showed slides of the construction of two bridges for the Cayuga Trails Club in the Connecticut Hill State Wildlife Management Area, the 2000 National Concrete Canoe Competition in Colorado, Engineering Day 2001 at the Ithaca Pyramid Mall, and the Annual School Pig Roast, just to name a few activities. Awards were given to the students for their accomplishments. In addition, Professor Ken Hover was selected as the

recipient of the 2000-01 Chi Epsilon Excellence in Teaching Award for the New England District, and Chapter Advisor Tim Bond was chosen to receive the Cornell Society of Engineers Academic Excellence Award for 2001.

ASCE Community Service

Spring 2001 - Engineering Day at the Mall.

Students from the School of Civil and Environmental Engineering spent a day at the Pyramid Mall to get children excited about engineering. Organizations from throughout the college set up displays, experiments, and games that teach kids more about their major. This year, we brought back the ever popular Tinker Toys. For a more edible construction material, we had marshmallows and toothpicks. Future engineers had a great time building all kinds of structures. The environmental engineers among us took on the challenge to construct a working model of a water treatment plant. Visitors could see how clay was removed from the water using a sand filter. They could even measure the clarity of the water with a turbidimeter.

Fall 2000 - Pedestrian Bridges.

ASCE was commissioned by the Cayuga Trails Club to design and build two pedestrian truss bridges for the Finger Lakes Trail in Connecticut Hill State Wildlife Management Area.

The 40' and 53' bridges were designed in May 2000 by MEng students Dan Mullins and Mike Tavolaro. Students volunteered their time during the Fall to cut wood to the proper lengths, drill holes in the wood and steel plates, and pre-assemble two of the trusses. On weekends these volunteers dug holes and poured concrete for the foundations, transported wood and other materials to the site, constructed the trusses, pulled them across the streams, and finished the bridges by adding cross-bracing, decking, and handrails. Construction was finished on December 3, 2000.



CEE N_{otables}

Alumni(ae)

The following awards were presented at the October 21, 2000 ASCE Annual Meeting:

Jerome F. Hajjar MS '85, PhD '88. the Structural Engineering Institute's Norman Medal

David Darwin BS '67, MS '68. State-of-the Art of Civil Engineering Award

Gregory G. Deierlein BS '81. Walter L. Huber Civil Engineering Research Prize and the State-of-the -Art of Civil Engineering Award

Richard E. Goodman AB '55, MS '58. H. Bolton Seed Medal and the Civil Engineering History and Heritage Award

Wendy L. Gottshall MEng(C) '95 and Kelly D. Payne MEng(C) '95, Edmund Friedman Young Engineer Award for Professional Achievement

Neal FitzSimons BCE '50, William H. Wisely American Civil Engineering Award (posthumously)

LeRoy A. Lutz, PhD '66 is the recipient of the Arthur J. Boase Award, presented by the Reinforced Concrete Research Council at the March annual 2001 ACI International Awards.

Joseph F. Atkinson ME C '79 has been named Director of the Great Lakes Program at the University at Buffalo.

Michael P. Haseltine ME C '90 joined Consigli Construction as General Supervisor, in March 2001, where he will oversee field operations, safety and project control procedures.

Andrew William McElwee '36 from Ithaca, NY died in February, 2001. He served as a leader and builder in the community.

Terrence J. McManus MS CE '74 Director of Environmental Health & Safety at Intel's Technology & Manufacturing Group was named an Intel Fellow for outstanding technical contribution.

Sami S. Matar ME C '95 was promoted to Associate at Leslie E. Robertson Associates.

Jon P. Ostendorf BS ENGR '92 joined Charleston County School District as Executive Director of Technology and Information Services.

Students

Charles Lee Crandall Essay Prizes were awarded to **Wei Shyan Lim '01**, Environmental Engineering; **Daniel Kuek '01**, for first place in the Civil Infrastructure category, and **Carmel Majidi '01**, for second place in Civil Infrastructure.

The John E. Perry Outstanding Teaching Assistant Prize went to graduate students **Jessica Moeller, Owen Bailey, and Ketan Dodhia** and the John E. Perry Outstanding Undergraduate Prize went to **Lucie Fougner '01, Courtney Kimball '01, Matthew Sledjeski '01, Peter Velez '01, and Troy Zezula '01.**

The Margaret Arronet Corbin '21 Prize went to **Peter Velez '01.**

The Richard N. White Master of Engineering Prize went to **Michael Tavolaro '00 ME C '01.**

Troy Zezula '01 received the ASCE Winslow T. Shearman Student Merit Award and the ASCE John P. Riley Senior Award.

The ASCE Marshal Case Haggard Award and the ASCE Student Service Award were presented to **Courtney Kimball '01.**

Lucie Fougner '01 was presented with the 2001 Clark Construction Award and was a recipient of the Frank and Rosa Rhodes Scholarship.

The George Winter Graduate Fellowship in Structural Engineering and a Fulbright Fellowship was won by **Rebekah Green MS '01.**

Steven Caldwell '00, ME C '01 was selected as one of three national finalists for the Skidmore, Owings and Merrill Foundation Structural Engineering Traveling Fellowship.

This year's Samuel Garmezy CE '13 Prize winners are **Jonathan Azevedo '01 and Heidi Feigenbaum '02**, first place, and **Daniel Kuek '01 and Brian Kuzma '01**, second place.

Chin Kuan Kuek '01 is the winner of the 2001 Fuertes Medal for maintaining the highest degree of scholarship while at Cornell.

Staff News



Butler

A highly-skilled and energetic Administrative Assistant for the Engineering Systems and Management mission area of CEE, **Karen Butler**, celebrated her five-year anniversary in April. Karen has an A.A.S. degree in Office Technology from Tompkins Cortland Community College. She worked in the Dept. of Policy Analysis and Management in the College of Human Ecology prior to joining CEE. Karen is a Certified Aerobic Instructor and Personal Trainer and works part-time for a local fitness center.

Linda Hall began her new post as Administrative Assistant to the Environment Mission Area in October, 2000. She worked for 15 years as the Administrative Assistant to the General Manager of the Steuben Rural Electric Cooperative, Inc. in Bath, New York. What Linda likes the most about working at CEE is the energy and enthusiasm that the professors have for their students and research interests.



Hall

This past October, **Deborah Koziel Judge**, joined CEE in the new position of External Affairs Officer. She is a Magna Cum Laude graduate of Fordham University with a BA in Economics and Business. Debbie has over 25 years experience in the areas of public relations, marketing, technical recruiting, data base development, web page design, and administration in engineering and data processing business environments.



Judge

In December, **Walter Iddings** came aboard as an Equipment Technician supporting the faculty and students in the design and the construction of class and research equipment. Walter's primary role is to keep the CEE laboratory equipment functioning in top condition. He has worked at Cornell for 15 years.



Iddings

Keith Slayden began his 9th year at Cornell last August as the College Classroom Technology Manager and CEE Web Master. Including CEE, he is responsible for 40 classrooms across the Engineering College. Leisure activities include performing with a local professional singing



Slayden

group, the Cayuga Vocal Ensemble, where he puts his BA in Music from Ithaca College to work.

Stephanie Strickland has worked in the CEE accounting office since last August. She is a lifelong resident of Ithaca and comes to our School with a strong background in accounting. Stephanie is doing a terrific job and enjoys the teamwork, diversity and challenges of her work at Cornell.



Strickland

Prof. Don Belcher (Continued from page 1)

Ph.D. '76, Don's last graduate student ("the baby"), who works for the CIA in Washington, DC.

John Abel, the Director of the School of Civil and Environmental Engineering, added glowing comments and presented a slideshow highlighting a few of Don's most famous consulting contributions. These include the site selection for Brasilia, the new capital city of Brazil, and finding the site for the largest radiotelescope structure in the world, Cornell's huge hemispherical reflecting dish, located in the self-draining terrain of Arecibo, Puerto Rico.

Don and his wife, Nancy were moved by the accolades. Don said to please "put away the kudos" and he told a wonderful story about working with General Douglas MacArthur during World War II in the South Pacific and the Philippines. Don had served a vital role in MacArthur's campaign by using aerial photography to identify suitable landing beaches.

Plaques and mementos were given to both Jack Mollard and Don Belcher. John Abel concluded the ceremonies by saying "We are indebted to Jack for initiating this stimulating and happy event."

[As our newsletter went to press, we were saddened to learn of the death of Nancy Belcher on May 11, 2001.]

If you would like to participate in this tribute to a brilliant and renowned teacher, please send contributions to the Donald J. Belcher Master of Engineering (Civil) Fellowship in care of the School of Civil and Environmental Engineering. You can help make a difference in the future of our graduate students.

Instructional Laboratories

Civil Infrastructure Laboratories Including the White Instructional Labs

The renovation efforts to the structural, materials, and geotechnical laboratories, now called the Civil Infrastructure Laboratories, including the White Instructional Laboratories, is in the process of early architectural planning. During a preliminary meeting with the Cornell design and planning department we walked through and discussed the past, present, and future uses of these important laboratories to the faculty, staff and students at the School of Civil and Environmental Engineering.

During the past three years, we have raised over \$104,000 from 185 very generous donors. Our initial estimate for this reconstruction



was \$300,000 but that cost may increase by as much as 50%. We anticipate a firm estimate of costs at the conclusion of the feasibility study scheduled for completion in the next few months.

The George Winter Laboratory includes roughly 10,000 square feet of laboratory space. There is a crane bay 55'x 60' (3,300 square feet) by 40' high, a 5,500 square foot low bay and a 2,000 square foot Concrete Materials Laboratory.

Environmental Fluids Laboratories Including Hydraulics Teaching Lab

The CEE Environmental Fluids Instructional Laboratory – formerly known as the Hydraulics Teaching Laboratory – has been in use with only modest changes since the opening of Hollister Hall over 40 years ago. This 3,200 square foot space is in drastic need of overhaul to meet the current instructional needs of the School. The first phase is expected to cost about \$300,000.

We used current donations to make

upgrades to our other Environmental labs, including the purchase of some measurement hardware and data acquisition workstations. These workstations allow individual students to gain hands-on experience making experimental measurements with modern techniques in hydraulics and environmental fluids.



The old Hydraulics Teaching Laboratory in need of complete renovation.

Electronic Classroom, in honor of Arnim H. Meyburg

The Electronic Classroom in honor of Arnim H. Meyburg will be the first distance-learning classroom in the College of Engineering. It will be ready for the Fall 2001 semester when we will be using it for a challenging new experimental system design course in cooperation with the NASA "Intelligent Synthesis Environment" (ISE) program and Syracuse University. We will be developing an "advanced interactive discovery environment" (AIDE) that capitalizes on the emerging communications and information technologies to educate and train our students in Collaborative Distance Design (CDD). For more information read the article on Page 3.

Digital Image Processing, a CEE graduate level course, is now being offered as a team-taught course with contributions from Dr. William Philpot (Cornell University, Civil and Environmental Engineering), Dr. Michael Duggin (SUNY/ESF, Syracuse) and Dr. John Schott (Rochester Institute of Technology). At Cornell, this course is taught using the distance-learning facilities in the School of Industrial Labor Relations but next year it will be taught in the School of Civil and Environmental Engineering electronic classroom.

110 donors have contributed to our quest to provide students with state-of-the-art video, computer, networking, and distance learning capabilities. These donors currently gave over \$91,000 toward the \$150,000 anticipated cost of this studio-style instructional lab.

<http://www.cee.cornell.edu/alumni/>



Remembering your Cornell Days!

Did you ever go on a long road trip and play "I spy with my little eye!" Now you can join in the fun and play "I spy" to find all your classmates and friends. Visit the Alumni(ae) page at the CEE website @ <http://www.cee.cornell.edu/alumni/>

You can click on the [Advisory Council](#) ~ Representatives from both industry and academe contribute expertise and commentary to guide the school strategically. Find out who they are and what they do.

[Gift Opportunities](#) ~ Find out about our current initiatives and special ways that you can make a direct impact to the future of the School of Civil and Environmental Engineering. Your giving will make a difference.

[CEE Update Newsletter](#) ~ Read all about it! Check out our current issue and some of our past issues of the *CEE Update*.

[Class Photos](#) ~ Find your class picture. Click



on the decade that corresponds to your class year, then click on the specific year to view an image suitable for printing. Click on the ++ to get a closeup view with full names that correspond to the number printed on the picture. Here is an example. Can you guess which class year this is? Can you find our current Director, John Abel, among the graduates?



CEE Low Tech Auction!



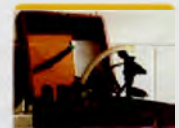
Item No. 1 : Stactipole and Brothers of New York circular brass precision protractor in a wooden case.

Opening Bid: \$50.00
place a bid



Item No. 2 : Cross staff head Compass in an excellent condition dovetail case.

Opening bid \$100.00
place a bid



Item No. 3 : Brandis and Sons, Inc. numbered nine inch brass sextant in a numbered box.

Opening Bid: \$500
place a bid

[CEE Home](#)

[Auction](#) ~ CEE Scientific Instruments auction. Every year, in early June, we hold an Antique Scientific Instrument Auction, exclusively for CEE Alumni(ae). This auction occurs on-line and concludes during the Reunion breakfast. All proceeds go to the CEE Unrestricted Gift Fund. This year you could have bid on a Brandis and Sons, Inc. numbered nine inch brass sextant in a square, dovetailed, numbered box. On the lid -- a signed certificate of inspection from the U.S. Naval Observatory dated February 27, 1936!

[Contact Us](#) ~ find out who to call to update your alumni(ae) information or to learn more about our school or gift giving opportunities.

News for the *Update*

Do you have some news and information to communicate with your fellow classmates and friends? Do you have any photos of your class or your days at the School of Civil and Environmental Engineering that you would like us to include in our website? Just let us know by

~ email at dk222@cornell.edu or

~ regular mail at Cornell University

CEE Update

220 Hollister Hall

Ithaca, NY 14850-3501

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\$ _____ Environmental
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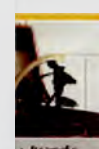
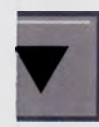
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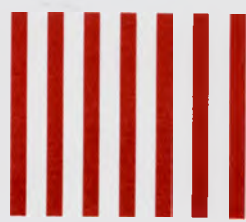
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the graduates?

or your days at the School of Civil and Environ-
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include in our website? Just let us know by
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CEE Update
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Telephone: 607 255-3438
Telex: WUI 6713054
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Email: civil_env_eng@cornell.edu

Office of the Director
Professor John F. Abel

June 7, 2001

Dear CEE Alum:

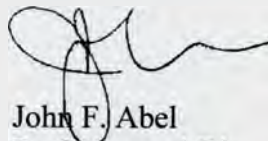
I am pleased to enclose a copy of *CEE Update*, the School's newsletter that we send to all of our alumni and friends. I refer you to it for the latest about the faculty, staff, students, alumni, and our various projects.

At this time of year, we invite our alumni to support the specific projects that are of high priority for the School. A year ago, I requested your donations for the improvement and upgrade of our undergraduate teaching laboratories. These medium-range projects remain at the top of our list for development, and our progress to-date in fundraising and planning is summarized in this issue of *CEE Update*. Also included there are a pledge card and a return envelope for your use. We would be grateful for any support than you can provide, either now or later in the year.

The centerfold of the newsletter contains a listing of the donors to all CEE projects and funds for the 12-month period April 1, 2000 – March 31, 2001. This impressive list speaks eloquently about the generosity and loyalty of CEE alumni and friends. While I have tried to respond individually to each donor on behalf of the School, I take this opportunity to again thank each of you for past and future support.

Please be sure to visit me and our CEE External Relations Officer, Debbie Judge, in Hollister Hall, if you are in Ithaca. We appreciate and value your association with the School and would be glad to give you a personalized tour.

Very truly yours,



John F. Abel
Professor and Director

Encl: Spring/Summer 2000 Issue of *CEE Update*