



THE
UNIVERSITY OF
BRITISH
COLUMBIA

ingenuity

Faculty of Applied Science
Engineering News

Creative Engineering: Turning People into Imagicians

Dr. Sidney Fels advances the integration of technology with art

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At a recent virtual reality exhibition in Rio de Janeiro this summer, Dr. Fels, Assistant Professor in the Department of Electrical and Computer Engineering, won first prize for the exhibition of his *lamoscope*.

With *lamoscope*, a person replaces the colored glass used in a traditional kaleidoscope; which explains how Dr. Fels chose his invention's name—*I-am-a-(kaleido)scope*. A video camera captures a pie slice of a person and the software program developed by Dr. Fels repeats the body fragment with the appropriate reflections until a circle is completed, becoming the visual kaleidoscope projected onto a wall. As the person moves in front of the camera, the body fragment in the camera's range changes, correspondingly changing the image on the wall. While watching the wall, people learn very quickly how their movements affect the changing pattern; thereby, they learn how to control the images they create. In this way, *lamoscope* is a graphical instrument. Just as a person who plays a musical instrument is called a musician, Dr. Fels terms a person who plays his *lamoscope* an "imagician."

Simultaneously, *lamoscope* is a musical instrument. Through the software, that same slice of pie in the camera's range is divided down its length and each division is assigned a carefully chosen musical note, culminating in a harmonized chord. As the person moves through the camera's range, the body activates different notes in a similar way that a hand will strum a guitar's strings while the other hand holds down the chord. In the analogy, the strumming hand is the person's body and *lamoscope* acts as the hand that holds down the chord. The melody line and rhythm are controlled by *lamoscope*, but the person gets to pick the different notes out of the chord.

lamoscope had its first public appearance in August 1997 during a conference organized by SIGGRAPH, the Special Interest Group on Graphics and Interaction. Since then, it



DR. FELS with his prize, a sculpture by Brazilian artist Roberto Moriconi

has been demonstrated at a number of exhibitions in Japan, Brazil and, most recently, Austria.

There are at least three directions in which *lamoscope* could go. One direction is artistic expression, for example, in a music video or as the backdrop to a live musical performance. Another direction is to make it an attraction at an amusement park. The third direction is in architectural design. Because there is no keyboard or mouse, just a wall, it can be used in a public space, such as a lobby, so as to make the space more inviting.

The Natural Museum of Science and Technology in Ottawa has recently expressed interest in exhibiting *lamoscope*. Dr. Fels' primary objective is to have at least one installation somewhere in Canada, for example, Science World in Vancouver, so that he can test a live audience's reaction to potential improvements during an active exhibit.

Overall, *lamoscope* has already proven as engaging for the audience as it is for the imagician. Certainly, the prize-winning performance in Rio de Janeiro grabbed an unprepared audience. It was a great success!

Message

from the Dean

I am pleased to report that the Faculty continues with its strong record of successes and is moving forward on a number of important initiatives. Over the last few months, we have developed a draft strategic plan for engineering that is now in its final stages of approval. The Plan includes a set of 18 strategic initiatives grouped into five areas: teaching and learning; research; students, faculty and staff; external communities; and infrastructure and resources. The Faculty will place a high priority on implementing these initiatives.

As reported elsewhere in this newsletter, a number of our faculty members have achieved very significant honours over the last few months, including Professor Martha Salcudean, who was awarded the \$50,000 Killam Memorial Prize and was named to the Order of British Columbia, and Professor Emeritus Charles Laszlo, who was named to both the Order of British Columbia and the Order of Canada.

We continue to make a significant impact on society through the large number of our graduating students who enter the work force: over the last year, about 425 of our students graduated with BAsC degrees, 145 with Masters degrees and 50 with PhD degrees. We are continuously examining and updating the curricula of our programs so as to keep abreast of the changing employment climate and the profession's demands on our graduates. We are developing a business minor in our BAsC programs; we are improving the communication skills component of our programs; and we are increasingly using new technologies to enhance teaching and learning. Our co-op program is expanding rapidly and now involves over 800 work-term placements per year, with over 10% of these being overseas.

Our research activities also continue to flourish. Our faculty members now attract research funding of approximately \$16.2 million per year, which represents

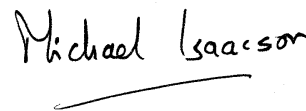
a 14% increase over the previous year. We are particularly proud of our success in establishing the Advanced Papermaking Initiative in collaboration with the BC Institute of Technology and the Pulp and Paper Research Institute of Canada (see page 4).

An Engineering Advisory Council with distinguished representation from a broad cross-section of our external community was recently established and held its inaugural meeting last Spring (see page 6).

Of course, we still face a number of challenges; primarily, our ability to maintain the high standards of our programs and accommodate increasing student demand in the light of a difficult fiscal climate. One consequence of this is that the Faculty is increasingly engaged in fundraising for a number of vital projects.

I would like to take this opportunity to pay tribute to the Associate Deans, the Engineering Heads and Directors, and all faculty members and staff of the Faculty of Applied Science for their very considerable efforts in assuring the quality of our programs and of the services that we provide to our students and external partners. I would also like to thank our many friends and partners for their support of the Faculty in a variety of ways.

I hope that you find this newsletter both engaging and useful. Please feel free to contact me [by letter, telephone (604) 822-6412, fax (604) 822-7006, or e-mail dean@apsc.ubc.ca] if you would like further information on the Faculty's activities, if you can assist in the development of the Faculty, or if you have any suggestions to provide.



Michael Isaacson, DEAN



Women in the Workplace: *Achieving Harmony*

A conference for engineers, scientists, technologists and mathematicians

The conference *Women in the Workplace: Achieving Harmony* was held from May 21 to 23, 1998, in Vancouver, and provided an opportunity for women engineers, scientists, technologists and mathematicians to come together to

discuss issues affecting women in these professions; to discuss projects to promote their professions to society; to develop professional skills; and to form business and support networks.

The Faculty lent much support in organizing this year's conference. Dr. Elizabeth Croft, Assistant Professor of Mechanical Engineering, was

co-chair of the conference; and UBC Bio-Resource Engineering student, Michelle Katerberg, provided valuable administrative support. As well, the Faculty of Applied Science sponsored several students as delegates to the conference.

Dr. Croft was extremely pleased with the success of the conference. Strategically located in downtown Vancouver, the

conference achieved its desire to attract more women from industry than ever before.

"After all," points out Dr. Croft, "after we attract women into engineering careers, we need to support them; especially the lone female engineers in traditionally male workplaces."

Co-op Goes to the Bottom of the World

Co-op student Kevin Maloney writes about his co-op experience at Methanex in South America

The Faculty values its new partnership with Methanex

It was a Tuesday afternoon in the middle of March and I was performing a lab at UBC with my lab partner. We might have been doing something with heat exchangers, fluidized beds, pumps, who knows—for all I could think about was whether or not I would be the student chosen to go to Chile. What I remember is a friend walking into the lab to tell me I had received the assignment at Methanex. I think my heart skipped a few beats...

I left Toronto on July 2nd and arrived in Santiago the next day. I was met at the airport and taken to a hotel near the Methanex Chile Head Office. After some time to rest and get freshened up, I was taken to the Head Office. I was greeted there and taken on a tour of the office to meet the staff.

The next day I flew to Punta Arenas. I was met at the airport by my supervisor, Jorge Soto and the HR director, Carlos Rohde. My first weekend in Punta Arenas was spent with Jorge as he showed me around the city and introduced me to some of the many Chilean delicacies, such as Pisco Sours and Empanaditas.

My first week of work began on July 7th, and, as is typical in a chemical plant, it was spent on safety training, tours, introductions, and a review of plant proce-

dures. I was also assigned my first project, which was to develop a graphical interface to the Data Historical Servers with a Dynamic Data Exchange software package. It was an excellent project on which to start and enabled me to learn a lot about the process and the Distributed Control System (DCS).

I really enjoyed working there. I was learning tons at the plant; there was much activity and new projects were underway all the time, so that I was soon learning many different aspects of the chemical engineering profession.

After I completed my first project, I began working on a mass balance for utility chemicals, which helped me learn about the many intricacies of the steam generation system. Next, I worked on a project to evaluate compressor efficiencies on site. I also had the opportunity to help review reformer trip logics, which I found to be an extremely interesting project.

In November, I was visited by Axel Meisen, former Dean of Applied Science, currently on industrial leave and an advisor to Methanex. We spent a weekend together talking about technical matters and sightseeing in and around the Magallenes.

My final project focussed on the Plant Information (PI) System to ensure that there would be a smooth transfer of data and programming



KEVIN MALONEY takes time out at Methanex

code for the DCS used to produce the operational reports. The PI System is an exciting project for the plant. With it, Methanex can apply fundamental engineering equations and programs to the necessary data to determine and trend the major factors that influence the efficiency of the methanol process.

I noticed that my co-workers were able to improve their English because of my visit to the plant. As well, I was able to bring my skills from other work experiences to Methanex, namely that cross between computer and engineering skills that has enabled me to improve work habits.

By taking the time to add some programming to a monthly technical report, I was able to reduce the time required to complete the report from a few weeks to one day. I passed these programming skills onto my co-workers who were eager to learn.

This was an extremely valuable experience for me. Every day was an intense learning experience. The language, the culture, and the technical aspects of this work experience blended together to provide a truly enriching experience, from the relationships that I developed to the intricacies of Chilean Spanish, from the projects I worked on to the Chilean lust for life. Each experience I will cherish and take with me onto all my future endeavors. I am grateful to the Faculty of Applied Science and to Methanex for the wonderful opportunity that was provided to me.



Faculty of Applied Science Instrumental in Establishing the Advanced Papermaking Initiative

The Advanced Papermaking Initiative will strengthen BC's post-secondary educational capability in research and teaching for British Columbia's pulp and paper industry

The pulp and paper sector is essential to the economic health of the province, with the pulp and paper industry employing approximately 17,000 people. However, while the industry is vital to the province, it is facing unprecedented challenges: decreasing fibre supplies due to smaller allowable cuts; increased expenditures necessitated by compliance with environmental regulations; new competition from foreign plantation-grown trees; and competition from recycled fibre, to name a few.

In 1995, Dr. Axel Meisen, then UBC's Dean of Applied Science, working closely with Dr. Richard Kerekes, Director of the UBC Pulp & Paper Centre, and Dr. Martha Salcudean, Professor of Mechanical Engineering, led the development of a proposal to establish the Advanced Papermaking Initiative (API) as a partnership between UBC, the BC Institute of

Technology (BCIT) and the Pulp and Paper Research Institute of Canada (Paprican). The API was finalized earlier this year and announced by the Minister of Forests, David Zirnhelt, in June.

The initiative is funded by Forest Renewal BC through an Endowment Fund and a Managed Fund totalling \$8.5 million, such that income from these funds will support the ongoing activities of the API. In addition, the API will receive contributions from the UBC Faculty of Applied Science and Paprican.

As part of the API, two new faculty positions at UBC and one new faculty position at BCIT have been created; as well, funds will be available for equipment, scholarships and a new technology network. Overall, the API should significantly enhance our research and teaching capabilities for the benefit of BC's pulp and paper industry.

BASc/MEng in Electro-Mechanical Design Engineering

Responding to the needs of industry, the Faculty of Applied Science now has an electro-mechanical engineering program to produce engineers with capabilities in both mechanical and electrical engineering. This combination of skills enables engineers not only to design machines but control them as well; and so have skills and knowledge relating to machine design and structure as well as computer control and theory.

The five-year, integrated BASc/MEng program combines core mechanical engineering courses with courses in digital electronics and software engineering. Students are required to supplement their academic learning with practical engineering experience through two summer co-op work terms and a BCIT machining course. During the fourth year, the curriculum focuses on advanced mechanical design and real-time digital systems design. In the final year, students take a modified work term, during which they complete two Master's level projects for a sponsoring company and four graduate-level courses.

Employers have expressed strong support for the program and are eager to have more electro-

mechanical engineering students placed with them. Students work for companies such as Ballard, Halkin Tools, NRC, Duraflow, Telflex, Neptune Dynamics and Western Clinical. This year, two students are working in the biomedical area assisting orthopaedic surgeons in developing a device for measuring mobility; and two students are working at Neptune Dynamics developing a system for automated cutlery packaging.

What more could companies ask for? They get a Master's level engineering project completed within 12 months at a labor cost of less than a new graduate.

For more information about the Electro-Mechanical Design Engineering program, please contact:

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Her Life's Truly a Feat of Engineering

Earlier this year, Dr. Martha Salcudean, Professor of Mechanical Engineering and holder of the Weyerhaeuser Industrial Research Chair, was awarded the prestigious Killam Memorial Prize and was named to the Order of British Columbia. Below are excerpts of an article first appearing in *The Globe & Mail* on May 22, 1998; reprinted here courtesy of its author, Doug Rushton, a freelance writer living in Vancouver.

Martha Salcudean is passionate about engineering. And successful at it, which is why she's in the spotlight as a winner of a prestigious Killam Prize. The award is worth a tax-free \$50,000 and recognizes her lifetime achievement in the field.

In 1985, the University of British Columbia made her the head of its mechanical engineering department, the first woman in Canada to occupy such a post.

She now holds a research chair at UBC, created with the help of a \$500,000 donation from forest-products giant Weyerhaeuser Co. The research is into computational fluid dynamics, which may sound theoretical but is of critical interest to industry, especially pulp and paper.

This proximity pleases Prof. Salcudean. "I like to work on major industrial problems," she said in an

Why Killam Prize winner Martha Salcudean is so passionate about her profession

interview at her home near the university. "I like the feeling of my work being needed and making a difference...If I make a process more productive, I can save jobs which would otherwise go away."

She has always worked closely with industry, and feels that it's what engineers should do, whether employed by a university or a company. She has worked with Atomic Energy of Canada Ltd. on nuclear reactors, Pratt and Whitney Canada on turbine blades and, most recently, on the boilers that power pulp and paper mills.

She wishes that more Canadians had a better understanding—and appreciation—of her profession. "Engineers are at the very core of industrial development."

But they aren't exactly high profile. "There are all kinds of TV shows about doctors and lawyers." And should there be some about engineers? "Yes, they do many exciting and interesting things."

For the same reason, she wants other engineers to speak up more—and governments and industry to put more resources into ensuring that young people interested in the field get all the support they need.

She praised both the federal government for its recent decision to restore



Photo: Chris Petty

research funding it had cut, and industry for investing in research and development. Companies that hire scientists and researchers in bad times as well as good come in for special mention.

"The pressures are on them as well, but I think they look on R and D as something other than just an expense. I don't want to lecture them, but I think it is very important to hire young people and keep them enthusiastic."

On the other hand, BC forest stalwart MacMillan Bloedel recently closed its innovative research facility to cut costs, a decision she called a "tragedy," asking "what kind of a signal, what kind of a message to our young people," does such a move send out?

And yet she is adamant that employment is a responsibility of industry.

"I do not believe that governments create jobs; I believe the private sector creates jobs. I certainly support the fact that as a society we have to redistribute wealth. I am having difficulty when people do not acknowledge the fact that wealth has to be generated...Change is not easy. In order to effect change in anything, sometimes you have to push hard."

At 64, she has been pushing hard most of her life. Not that retirement looms large. She will continue her work at UBC, teaching in both official languages. As well, she is a member of two scientific councils, and a fellow of both the Canadian Academy of Engineering and the Royal Society of Canada.

Engineering Advisory Council Holds Its Inaugural Meeting

The Faculty of Applied Science has established an Engineering Advisory Council with distinguished representation from the engineering profession, industry and governments.

The Council's mandate is to provide advice to the Dean of Applied Science on matters relating to the Faculty's activities in engineering, including its academic programs, teaching, research and professional service. Its advice is aimed at helping the Faculty remain responsive to social, cultural, economic and technological changes taking place.

At the Council's inaugural meeting on March 30, 1998, Dean Michael Isaacson provided an overview of the Faculty and engaged the Council members in a discussion of the Faculty's strategic plan. As well, President Martha Piper discussed her vision for UBC as outlined in the University's Green Paper Trek 2000.



Members of the Engineering Advisory Council with President Piper, the Dean, Associate Deans and Department Heads. From left to right: Standing—Douglas Fraser, John Haythorne, Chris Nelson, Alan Russell, Anoush Poursartip, Malcolm Scoble, Jim Reichert, Bruce Bowen, Robert Evans, Michael Davies, Ron Britton, John MacDonald, Bob Affleck, Stanley Cowdell, Dan Gelbart, Bruce Dunwoody; Sitting—Gordon Bacon, Kevin Huscroft, Michael Isaacson, Martha Piper, Claudine Simson, Indira Samarasekera and Douglas Horswill.

Dean Meets UBC Alumni in Calgary

Thirty-six Faculty of Applied Science alumni turned up last June in Calgary to listen to Dean Michael Isaacson's vision for the Faculty and to reminisce awhile about old

times at UBC. Guest speaker, **Haig Farris**, President of UBC's Alumni Association, also gave his views on the evolution of the University over the next decade.

There are approximately 450 Applied Science graduates in the Calgary area. Among those in attendance were the Percy family—all UBC graduates: **Graeme R. Percy** (BASc '69), **Maureeta Percy** (BA '68), and recently graduated **Carmen Percy** (BMLSc '98).

Mel Blackburn (BASc '65), **Brian Danco** (BASc '81), **Arthur Peterson** (BASc '49) and **Graeme Percy** were all winners of the Dean's draw that evening.

While in Alberta, the Dean also met some of Alberta's business leaders to solicit their views on the strategic plan of the Faculty. Among them, he visited **Eric Newell** (BASc '67), now President of Syncrude, **Charles Wilson**, President of Shell, **Gerry Bolton**, Senior Manager of Operations at Dynatec Technologies, and **Jim Popowich**, Fording Coal's VP Operations.

The Dean would like to build on the event's success. He plans to visit alumni and corporate donors in Toronto this November.



From left to right: **Bob Mills** (BASc '74), **Dean Isaacson** and **Paul Mah** (BASc '64)

Achievements

- Mechanical Engineering Professor **Yusuf Altintas** won the Best Manufacturing Research and Research Collaboration Award from Pratt & Whitney Canada for his work in computer-controlled machining.
- Electrical Engineering Professor **Guy Dumont** is the first recipient of the Universal Dynamics Prize for Leadership in Process Control Technology. Dumont pioneered the development of a general purpose 'smart' controller for industrial use.
- Chemical Engineering Professor **Peter Englezos** has been named a Fellow of the Tokyo Electric Power Company Endowed Chair, Faculty of Science and Technology, Keio University, Japan. He will be conducting a series of lectures at Keio University next year.
- Chemical Engineering Professor **John Grace** is the winner of the US Engineering Foundation Award of Achievement. His award was presented at a Fluidization Conference in Colorado in May.
- Electrical Engineering Professor Emeritus **Charles Laszlo** has been named to both the Order of British Columbia and the Order of Canada. The honours recognize his achievements in biomedical engineering research and his advocacy on behalf of the hard-of-hearing community.
- **Alec Mitchell**, Professor of Metals and Materials Engineering and Director of AMPEL, has been elected a Fellow of the American Society of Materials.
- Professor **Warren Poole** of the Department of Metals and Materials Engineering has won the Cook/Ablett award of the Institute of Materials (UK) for his paper "Process Model for Two Step Age Hardening of 7475 Aluminum Alloy."
- Professor **Indira Samarasekera** of the Department of Metals and Materials Engineering will become a Fellow of the Royal Society of Canada at a ceremony in Ottawa in November.
- Professor Emeritus **K.D. Srivastava** of the Department Electrical and Computer Engineering has received the IEEE's Outstanding Engineer-ing Educator Award. The award recognizes his lifetime contribution to education and administration.
- Metals and Materials Engineering Professor **Tom Troczynski** won the best paper award at the 15th International Thermal Spray Conference and Exhibition in Nice, France earlier this year.
- **Steve Wilton**, Assistant Professor in the Department of Electrical and Computer Engineering, has been awarded the 1998 Douglas R. Colton Medal for Research Excellence. The prize is given to recognize excellence in research leading to new understanding of and developments and applications in microelectronics in Canada.
- **The UBC Pulp & Paper Centre**, along with OpTest Equipment Inc. and Paprican, have won the 1998 Synergy Award for University-Industry Collaboration for the development and commercialization of the Fibre Quality Analyzer.

Killam Research and Teaching Prizes

Each year, UBC awards several \$5,000 Killam Research Prizes and Killam Teaching Prizes to our best researchers and teachers.

Over the last year, a Killam Research Prize was awarded to **Rabab Ward**, Professor of Electrical and Computer Engineering and Director of the Centre for Integrated Computer Systems Research, for her research in image processing and digital signal processing. She has invented a number of devices and holds several patents relating to monitoring and noise reduction of cable television signals. She was also recently elected as Fellow of the Engineering Institute of Canada. Killam Teaching Prizes were awarded to **Mike Jackson**, Associate Professor of Electrical Engineering, who works in the area of field effect transistors and fibre optic electronics; and **Phil Hill**, Emeritus Professor in Mechanical Engineering, who works in the area of engine combustion. As well, a Killam Teaching Prize was awarded through the Faculty of Forestry to **Jonathan Fannin**, Associate Professor of Civil Engineering.

Development Activities

The Faculty's development activities continue to receive a high priority, and it is actively engaged in fundraising for a number of vital projects. These include:

- Several endowed professorships and chairs relating to the research activities of the engineering departments, including a Chair in Building Science and Design, a Chair in Sustainable Mining and a Chair in Applied Thermodynamics
- Capital projects intended to establish or expand teaching and research laboratories in several areas of engineering, including the Earthquake Engineering Facility in the Department of Civil Engineering, and new Project and Design Laboratories
- An Executive-in-Residence program, whereby senior leaders from industry spend several weeks or more in the Faculty participating in teaching and/or research
- Engineering scholarships, an engineering equipment fund, and a Dean's endowment fund

For further information on these and other fundraising projects and on donation opportunities, please contact:

Development Officer
Faculty of Applied Science

e-mail: development@apsc.ubc.ca
Telephone: 822-0603.

New Faces

MINING AND MINERAL PROCESSING ENGINEERING



• **Dr. Bernhard Klein**, Assistant Professor; appointed December 1997. For the past seven years, Bernhard has directed applied research studies relating to mineral processes for precious metals, base metals and industrial mineral prospects.

• **Dr. Marcello Veiga**, Assistant Professor; appointed December 1997. Marcello is experienced in applied mineralogy, gold processing, mineral processing design and environmental issues associated with mining and mineral processing.



METALS AND MATERIALS ENGINEERING

• **Dr. Geoffrey Kelsall**, Professor and holder of the NSERC Industrial Research Chair in Aqueous Electrometallurgy; appointed September 1998. Geoff was Professor of Electrochemical Engineering at the Imperial College of Science and Technology, London, England. His interests are in the areas of mineral chemistry, electrochemistry and surface chemistry of metal sulfides.



Changing Places

ADVANCED MATERIALS AND PROCESS ENGINEERING LABORATORY (AMPEL)

Dr. Alec Mitchell, in the Department of Metals and Materials Engineering, was appointed Director of AMPEL in January, replacing Dr. Jeff Young, who had been serving as Acting Director.

BIO-RESOURCE ENGINEERING

Dr. Victor Lo replaced Dr. Sietan Cheng as program director in August.

CHEMICAL AND BIO-RESOURCE ENGINEERING

Dr. Paul Watkinson returned from an administrative leave and resumed his position as Department Head in July, replacing Dr. Bruce Bowen, who had been serving as Acting Head.

ENGINEERING PHYSICS

Dr. Jeff Young, in the Department of Physics and Astronomy, was appointed Director of the Engineering Physics Program in July, replacing Dr. Ed Auld, who stepped down after 17 years as Director.

Seminar Series

Graduate-level seminar series are open to all who are interested. For more information on specific department seminars, please contact the following:

Chemical and Bio-Resource Engineering:

Dr. Joel Bert
bert@chml.ubc.ca
Phone: 822-4888

Civil Engineering:

Ms. Kelly Lamb
klamb@civil.ubc.ca
Phone: 822-0667

Mechanical Engineering:

Dr. Ian Gartshore
gshore@unixg.ubc.ca
Phone: 822-3770

Metals and Materials Engineering:

Dr. Mary Wells
mary@cmpe.ubc.ca
Phone: 822-1918

Mining and Mineral Process Engineering:

mmpe@mining.ubc.ca
Phone: 822-2540

GEOLOGICAL ENGINEERING

Dr. Oldrich Hungr, in the Department of Earth and Ocean Sciences, was appointed Director of the Geological Engineering Program in August, replacing Dr. Al Sinclair.

MINING AND MINERAL PROCESSING ENGINEERING

Dr. Malcolm Scoble was appointed Department Head in February, replacing Dr. Richard Lawrence.

The Centre for Integrated Computer Systems Research (CICSR):

cicsrinfo@cicsr.ubc.ca
Phone: 822-6894

In addition, the Office of Continuing Education in Engineering and Architecture offers a wide range of courses and workshops for practicing professionals at the post-baccalaureate level.

conted@unixg.ubc.ca
Phone: 822-3347
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The Faculty's engineering activities include the following:

Departments

- Chemical and Bio-Resource Engineering
- Civil Engineering
- Electrical and Computer Engineering
- Mechanical Engineering
- Metals and Materials Engineering
- Mining and Mineral Process Engineering

Office of the Dean

- Engineering Student Services
- Engineering Co-op Office
- Office of Continuing Education
- First Nations Access Program
- Undergraduate Programs (with the Faculty of Science):
 - Engineering Physics
 - Geological Engineering
- Graduate Programs:
 - Advanced Technology Management (with the Faculty of Commerce and Business Administration)
 - Fire Protection Engineering

The Faculty participates in several research centres and laboratories including:

- The Centre for Integrated Computer Systems Research (CICSR)
- The Advanced Materials and Process Engineering Laboratory (AMPEL)
- The Biotechnology Laboratory
- The Pulp and Paper Centre