University of Saskatchewan

June 2016, Issue 2

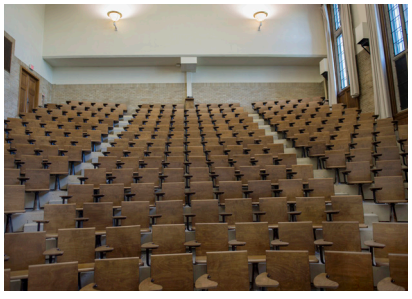
Department of Chemistry 2016 Newsletter

A Message from the Head

Dr. David Palmer
Department Head

Hello and thank-you for reading! The past year came with some surprising changes, and in this newsletter you will read about the arrival of two new but familiar faces to our faculty, and the retirement of a departmental mainstay. You will also find news of increased research funding to historical highs, and from more and more diverse funding agencies. The size of our research groups continues to increase as our graduate program flourishes, and this summer has the usual gaggle of undergraduate research students, including eight NSERC USRA award winners, another department record. And speaking of undergraduates, please read on to learn about the winners of our new full-tuition scholarships, and the sponsors who made them possible.

Chemistry, the science and faculty, have evolved in many ways. I believe we are now the only chemistry department in the world with two Metis faculty, but the evolution goes beyond the changing faces of our staff. Chemistry is sometimes called the *central science* because of the way it overlaps with so many other sciences, and because while the fundamentals remain the core of our discipline, new applications continue to spread from it. Thus we are developing new courses, such a course in medicinal chemistry, and an upcoming offering in applying spectroscopy to studying cultural materials. Not surprisingly, our research continues to broaden in scope, with faculty members applying chemistry in fields as diverse as mining, alternative energy, water purification, and diagnostic medicine. The cyclotron (officially the Saskatchewan Centre for Cyclotron Sciences) is online and producing radioisotopes, and we are poised to take advantage of this new facility. The SCCS is not to be confused with the Saskatchewan Structural Science Centre, which has also expanded this year with new staff.

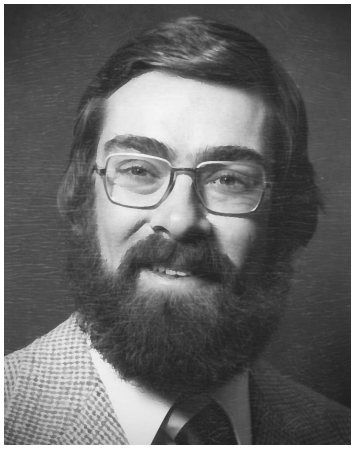


One other development from the past year: I have been renewed for a new three-year term as Department Head. We will face many challenges in the next few years: funding shortfalls, larger and more diverse student cohorts, changing staff, depreciating equipment, and space constraints on

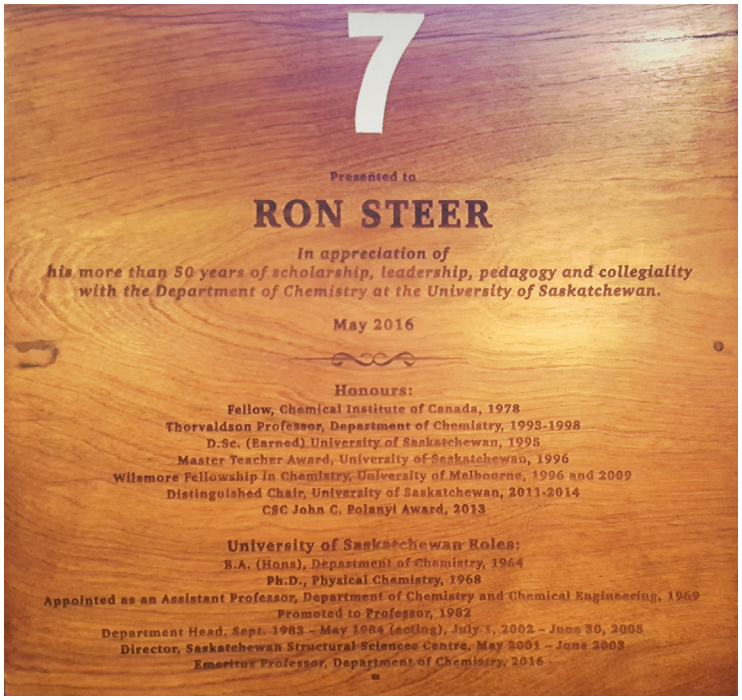
our growing enterprise. My goal always is to make sure this department is a place people want to work and to study; where they can learn and be successful. That requires a positive, inclusive atmosphere, along with the best possible facilities and approaches for teaching and research. On that last note, I want to express my sincere appreciation to our donors. We could not mount our current programs without the support of the Thorvaldson, Spinks, Wilson, and Brown families, and our many anonymous donors, as well as scholarships and bursaries in the names of Lee, von Rudloff, Nixon, Spinks, Verrall, Currie, Fuller and Saddington.

The End of an Era: Happy Retirement, Dr. Ron Steer!

Faculty will come and go in this department, but perhaps none will have had the direct impact on so many colleagues and students as Professor Ron Steer. This year we celebrated Ron's official retirement, and I say "official" because we all hope he will remain active in the department for years to come. Chemistry has been taught at the University of Saskatchewan for 109 years, and Ron Steer has been part of this department for more than half of those years! Both of Ron's parents had been students at the U of S, so naturally Ron enrolled as a student, assigned seat #7 in the Airplane Room. He went on to complete his Honours BA in Chemistry in 1964, and stayed in this department to complete his PhD in 1968. After a postdoctoral fellowship at the University of California, Riverside, he returned to Saskatoon and took up his faculty position here.



Ron has had a legendary 47-year career as professor. He has taught thousands of students, undergraduate and graduate, and was honoured with a Master Teacher Award in 1996. He has published (and continues to publish) over 200 peer-reviewed articles, has been honoured as a Fellow of the Chemical Institute of Canada, and is a recipient of the John Polanyi award presented by the Canadian Society for Chemistry for excellence by a scientist carrying out research in Canada in physical chemistry. Our university honoured him with an Earned D.Sc. in 1995, and named him a Distinguished Professor in 2011. He has filled many important roles in Canadian chemistry, including President of the CSC, Chair of the 88th Canadian Chemistry Conference and Exhibition, and member of the NSERC Executive Committee.
For someone who has been part of the department for over 50 years, we knew we wanted a special send-off (someone who hosted the J.M. Pepper Golf Tournament barbecue so many times has earned a good party). At the reception at the University Club, we had a crowd of over 80 guests, heard kind words from long-time friends and colleagues Wilson Quail, Ron Verrall, and Ronda Duke, and we presented Ron with a number of gifts. The highlight was the presentation of the back of one of the original seats from Thorvaldson 271, the legendary Airplane Room (now officially the Henry Taube Lecture Theatre). We had the seat back engraved for him, highlighting his accomplishments and expressing our appreciation.



Ron will remain in the department and continue his research career as Professor Emeritus.

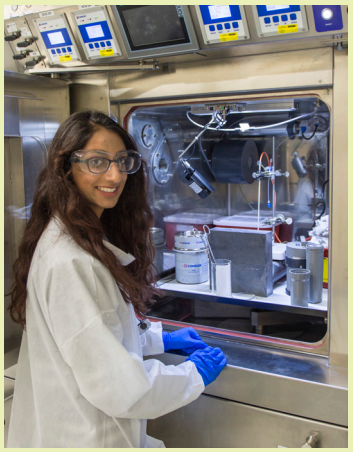
Faculty Updates

Two New Additions

This past year the Department was pleased to welcome two new faculty members, Drs. **Thomas Ellis** and **Christopher Phenix**.

Dr. Ellis' productive career began at the Université de Montréal where he was a faculty member in the chemistry department for seventeen years. He then went on to serve as the first Dean of Research and Graduate Studies at Acadia University for two years prior to relocating to Saskatoon to become the Director of Research at the Canadian Light Source for the following ten years. Dr. Ellis joined our Department in October 2015. He is an expert in infrared synchrotron spectroscopy.

Dr. Phenix completed his Ph.D. at the U of S under the supervision of Dr. David Palmer in 2007. After his postdoctoral studies at UBC and TRIUMF, Dr. Phenix began working at the Thunder Bay Regional Research Institute as a scientist while also holding positions as an assistant professor at the Northern Ontario School of Medicine and adjunct professor at Lakehead University. Dr. Phenix joined our Department in January 2016, and is working toward moving his pre-existing research group from Ontario to Saskatchewan. As a radiochemist, his research focuses on developing novel PET imaging agents that will enable functional and diagnostic imaging of disease with a primary focus on cancer. His research will utilize the U of S's newest state-of-the-art facility, the Saskatchewan Centre for Cyclotron Sciences. This facility is operated by the Sylvia Fedoruk Canadian Centre for Nuclear Innovation and contains a 24 MeV cyclotron and radioisotope laboratory.



Research Updates

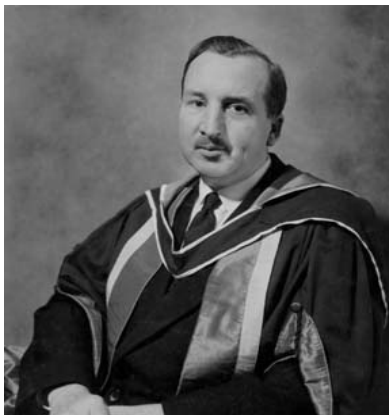
There is so much research going on in our department, it is impossible to discuss it all. Below are some highlights from this past year.

One of the primary measures of our research success is our ability to obtain funding from the Natural Sciences and Engineering Research Council (NSERC), key to building sustained research programs. This year, **David Sanders, Lee Wilson** and (new addition) **Chris Phenix** applied to the Discovery program for new or renewed funding, and all were successful. This brings our number of NSERC Discovery grants to 17, the highest in the department's history. We are especially happy for Dr. Phenix, who also received a Catalyst Grant from the Canadian Glycomics Network. Congratulations to **Andrew Grosvenor**, who led a team awarded $1.44 million in order to purchase a long-sought X-ray photoelectron spectrometer. Dr. Grosvenor and **Ian Burgess** worked with colleagues in chemical engineering to secure funding through the International Mineral Innovation Institute worth $2.3 million. This work is a joint venture of the U of S, U of R, and a consortium of potash mining companies in the province to test the effectiveness of polystyrene sulfonate coatings to prevent corrosion of concrete. (Thorbergur Thorvaldson would be smiling!) This work will involve electrochemical experiments and synchrotron radiation studies using multiple beamlines at the Canadian Light Source. All this research funding provides equipment, supplies, and trainee salaries.

Promotions

The University's Board of Governors granted **Dr. Timothy Kelly** tenure and promotion to Associate Professor. In addition, **Dr. Robert Scott** was promoted to Full Professor. Both promotions take effect July 1, 2016.

2016 J.W.T. Spinks Lecture



The J.W.T Spinks Lectures are a series of annual lectures that were originally established in 1975 to recognize the many contributions Dr. John Spinks made to his department, the University, and the chemical professions, both nationally and internationally. As faculty member, Department Head, Dean of the College of Graduate Studies and Research, University President, and President Emeritus, Dr. Spinks was associated with our University from 1930 until his passing in 1997.

The lecture series brings to the University of Saskatchewan eminent scientists and engineers in the fields of chemistry and chemical engineering to deliver a series of lectures and to share their knowledge and experience with students and staff. This series is run jointly with the Department of Chemical Engineering, which hosts the Spinks lectures every third year.

The 2015-16 Spinks Lecturer was **Dr. Prashant Kamat** from the University of Notre Dame. Dr. Kamat gave the traditional pair of research presentations on his work in the area of physical and materials science, specifically his work in the development of quantum dot solar cells. These presentations were particularly relevant to the cluster of researchers in our department, led by Tier 2 Canada Research Chair Tim Kelly, engaged in photovoltaic research. Dr. Kamat was delighted to be giving a talk named for "the famous radiation chemist", as he referred to Spinks on his twitter account. Dr. Kamat, who is an experienced American Chemical Society journal editor, also gave an engaging lecture aimed at students on best practices in publishing your research.

Department Milestones

Our Department's talented scientific glassblower, **Rick Elvin**, has now been with the Department for over 30 years.

Michel Gravel has been a faculty member in our Department for ten years as of August 1st!

Heather Lynchuk retired from her position as the Department's junior storekeeper in 2016.

Alumni Updates

Cuylar Conly (M.Sc.'16) has taken up a position as a Science Associate on the Canadian Macromolecular Crystallography Facility (CMCF) beamlines at the Canadian Light Source (CLS).

Mita Dasog (B.Sc. '09) joined Dalhousie University as an assistant professor. Dr. Dasog's research group's interests lie primarily in the development of materials for energy, optoelectronics, and catalytic applications.

John Hayes (M.Sc. '12, Ph.D. '16) and **Aimee Maclennan** (M.Sc. '13) were married in Saskatoon on June 11, 2016.

Athanasios (Thano) Karagiannis (M.Sc.'15) began working at Gilead Alberta.

Cheyanne Lehnert (B.Sc.'16) began working at the Saskatchewan Research Council in Saskatoon.

Concepcion (Conie) Ponce completed her Ph.D. under the supervision of Dr. Paige and will return to her faculty position at the University of the Philippines Visayas in August.

Li Wang (M.Sc., '08) took up a position with Gilead Alberta.

Myron Wilde (Ph.D.'16) began working for TC Scientific Inc. in Alberta.

2016 Taube Medalist - Dr. John Russel Hayes

The Taube Medal is an annual award given to the graduate student in the Department of Chemistry who is judged to have made the most significant overall contribution to research and scholarly activity. The 2016 Taube Medal was awarded to John Hayes, who recently completed his Ph.D. degree under the supervision of Dr. Andrew Grosvenor. Dr. Hayes' PhD research focussed on using X-ray spectroscopy to study nuclear materials, and he made considerable contributions to the study of tailings (solid waste) from a uranium mining and milling operation as well as to the development and study of inert matrix (nuclear) fuels. Understanding the chemistry of tailings is important to determining how these materials will evolve over time and how they could potentially interact with the environment. Dr. Hayes used multiple beamlines at the CLS synchrotron radiation facility to identify the molybdenum-bearing materials in tailings from the McClean Lake operation operated by AREVA Resources Canada. The low concentration of molybdenum in the tailings meant that highly sensitive techniques were needed to identify these materials. This investigation was the first detailed description of the solid molybdenum chemistry in the tailings and will allow AREVA Resources to better understand how these materials will interact with the environment. Along with these materials, Dr. Hayes also studied materials that can be used as inert matrix (nuclear) fuels. These materials can contain transuranic elements (i.e., plutonium, americium, neptunium, curium) and can be used to reduce the amount of these elements that needs to be stored in long-term repositories. In collaboration with Canadian Nuclear Labs, Dr. Hayes studied a series of yttrium and scandium stabilized zirconium oxide materials. Dr. Hayes successfully investigated how the local and long-range structures of these materials changed depending on composition and synthesis method. His detailed analyses have provided important information on these materials that is necessary if these materials are to be used in nuclear reactors.

2015/16 Award Recipients

Congratulations to the following members of the Chemistry Department who were recipients of awards or scholarships this past year:

Hridaynath Bhattacharjee (Ph.D. Student, Mueller Group) - Viewer's Choice, 2016 U of S Images of Research Competition, "Colours of Chemistry"

Cuylar Conly (M.Sc. '16, Palmer/Sanders Groups) - 2015/2016 M.Sc. University of Saskatchewan Graduate Thesis Award - Physical and Engineering Sciences, Thesis Title: *Determination of the Structural Allosteric Inhibitory Mechanism of Dihydrodipicolinate Synthase.*

Naveen Diddi (Ph.D. student - Ward Group) - 1st Place Poster Presentation award, 2015 Banff Symposium on Organic Chemistry , Poster: "*One-pot Synthesis of Polypropionate Stereononads by Sequential Enantiotopic Group Selective Aldol Reactions of Meso 1,5-Diketones*"

John Hayes (Ph.D. '16, Grosvenor Group) - 2015/2016 Ph.D. University of Saskatchewan Graduate Thesis Award - Physical and Engineering Sciences, Thesis Title: *Analysis of Nuclear Fuel Cycle Materials by X-ray Absorption Spectroscopy*

Alicia Koo (NSERC USRA, Grosvenor Group) - 3rd place in the U of S's 2015 NSERC-USRA Poster Competition

Cheyanne Lehnert (B.Sc. '16) - Most Outstanding Graduate in Chemistry Award, Spring Convocation

Mohammad Mahaninia (M.Sc. student, Wilson Group) - 2nd Place, Annual World Water Day Poster Competition organized by the Global Institute for Water Security, Poster: "*Cross-linked chitosan beads doped with calcium for organophosphate removal from aqueous solution*"

Tyler Morhart (M.Sc. Student, Burgess Group) - Materials Science Poster Session Award at the 2016 CLS Annual User's Meeting, Poster: "*Monolayer Detection at Near-Diffraction Limited Length Scales using Attenuated Total Reflection SEIRAS and Synchrotron Infrared Radiation*". Tyler has also been awarded an NSERC Master's Scholarship for 2016-17.

Kelly Summers (Ph.D. student, Urquhart/Pickering/George groups) - Michael Smith Foreign Study Supplement

Huy To (Ph.D. student, Pedras Group) - Dr. Gerhard Herzberg Fellowship for 2016/17

Sudheesh Kumar Veeranmaril (Ph.D. student, Scott Group) - 1st place, 24th Canadian Symposium on Catalysis, Poster: "*Sinter-resistant Au25@Silica Catalysts*"

Natash Vetter (Ph.D. student, Palmer Group) - awarded an NSERC PGSD3

Karn Parmar (M.Sc. student, Gravel Group), **Naheda Sahtout** (Ph.D. student, Sanders Group), **Kaiyang Tu** (Ph.D. Student, Burgess Group), **Inimfon Udoetok** (Ph.D. Student, Wilson Group), along with incoming students **Dalia Ahmed** and **Ifeoma Ebinumoliseh** have been awarded 2016 Saskatchewan Innovation and Opportunity Scholarships

Chemistry Students' Society (CS2)Update

The Chemistry Students' Society consists of nine executive members with two members not majoring in Chemistry. This diverse group gives undergrad students the opportunity to explore this field of science by providing a welcoming lounge and friendly faces to talk with. There were forty-two members in total for 2015-2016 school year.

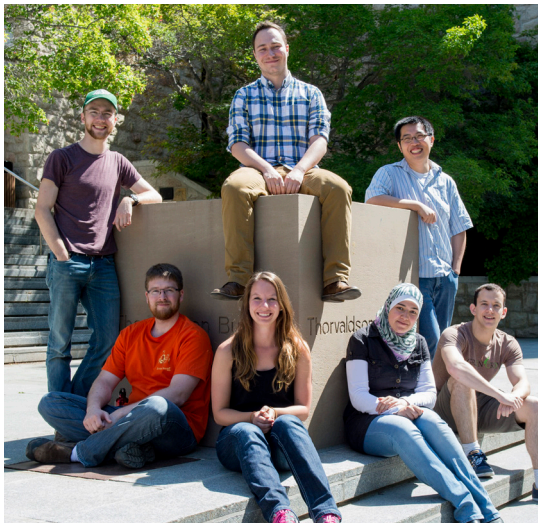
This year, the CS2 had put on three 'Burger and Beer' Nights at the Thirsty Scholar. These events allowed for the Chemistry faculty and Chemistry students alike to mix and mingle. At the final Beer and Burger Night, there were fantastic door prizes to be won. There was a Periodic Table blanket, a laboratory glass set, and a grand prize of The Thirsty Scholar Pilsner glasses and beer jug set.

2015/16 CS2 Executive
Back row *(l-r): Evan Ulsifer (President), Travis Spriggs (VP Internal), Brandon Chivers (VP Social), William Barrett (VP Admin)*
Front row *(l-r): Lisa Bachiu (VP External), Bryden Hughton (1st year Rep), Shivani Tauh (2nd year Rep), Jenny Panchuck (VP Academic)*

This year the outstanding teaching award went to Dr. Matthew Paige. Dr. Paige is a busy man with interests in the modification of Atomic Force Microscopy, biosensors using diffraction, and single-molecule fluorescence spectroscopy. His efforts in teaching were appreciated by all his students.

The CS2 is already starting off strong with events planned for the next fall and winter semesters. These events will provide undergraduate students with the oppurtunity to meet graduate students and faculty, and to explore the idea of pursuing further studies in chemistry and science-related fields.

Chemistry Course Council (CCC) Update



2015/16 CCC Executive
Back row *(l-r): Tyler Morhart, Steven Langdon, Kaiyang Tu*
Front row *(l-r): Kyle Fransishyn, Christa Blaquiere, Naheda Sahtout, Rick Pettipas*
Missing: *Kelly Summers*

The CCC proudly hosted a variety of activities this past year including the summer barbeque, the annual Pumpkin Carving and Door Decorating Contests, the Department Holiday Party (with bonus curling), and the ever-popular I-Can't-Believe-I-Watched-That Movie Night. We are excited to introduce our laser tag event this summer. Professionally, a pair of seminars in our series outlined how to effectively present scientific data and how to apply for post-doctoral and academic positions. We look forward to another year of fun and professional advancement!

2015 JM Pepper Golf Tournament Winners: Matt Hougham, Christa Blaquiere, and Steven Langdon

Recent Graduates

Fall 2015

Bachelor of Science
3 Year
Nathan Johnston
Qingxin Zhang

Bachelor of Science
4 year
YeonHee Jung

Bachelor of Science
Honours
Chaojie Wang

Master of Science
Tyler Gore
Athanasios Karagiannis
Hanxiang Li

Doctor of Philosophy
Cletus Asuquo
Abhinandan Banerjee
Atal Shivhare

Spring 2016

Bachelor of Science
3 Year
Taylor Bird
Lisa Chan
Maanga Mwanamwambwa
Ellen Verity

Bachelor of Science
4 Year
Syed Shah
Chi Zhang

Bachelor of Science
Honours
Lisa Bachiu
Lan Huang
Yow Ting Jeen
Cheyanne Lehnert

Master of Science
Cuylar Conly

Doctor of Philosophy
Abbas Abdoli
Ester Rani Aluri
John Hayes
Myung Park
Myron Wilde

Starting them Early

"What do you think of when I say the word 'chemistry'?" This is how a discussion begins with a group of 9 to 12-year-old Girl Guides who are visiting the department's undergraduate analytical lab with Val MacKenzie on a quest to learn about the science of matter and add to their badge collection.

Girl Guide Chemistry Badge

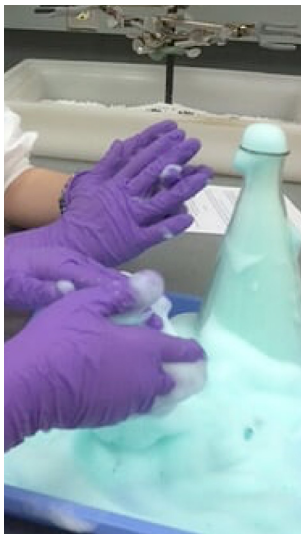
The answers shouted out are pretty typical of those you hear when you ask kids (or many adults for that matter) that very question: Science! Potions! Chemicals! Poison! Explosions! The girls, decked out in lab coats and safety glasses and looking decidedly scientific, are excited and happy to have the chance to be in a real lab to do some hands-on experiments. During their evening in Spinks, they create decorations using the principles of chromatography, they learn about the pH scale and measure the acidity of common household liquids, they make dry ice 'potions', synthesize elephant toothpaste using peroxide and yeast, and end their night finding out what happens when balloons, rubber, lettuce, and bananas are cooled down to a chilly -196 ˚C with liquid nitrogen. It's only a small introduction to chemistry, but as they leave the girls comment, "Can we come back again? That was so much fun! I love doing science!" The Guide leaders and parent helpers, who had just as much fun as the kids, also mention how valuable it is to have women leading science demonstrations for a group of girls.

Alex's Diet Coke/Mentos eruption

It can be very beneficial to have groups come to campus to work in our labs because many schools simply do not have the facilities or resources to perform these kinds of activities. However, engagement with children also sometimes happens outside of our department. In one case, Alex Bartole-Scott took chemistry on the road and visited a pre-school and kindergarten class at the Allegro Montessori school in June 2016 to do some spectacular demonstrations. The 3 to 5-year-old children, who had made ice cream with an ice/salt bath the previous day, watched as she froze up a batch of ice cream using liquid nitrogen this time. Sweet treats are always a hit! She also took chemistry to new heights with the most spectacular elephant toothpaste and Mentos/Diet Coke reactions.

These are but a couple of small examples of some of the many outreach activities that have taken place with the help of Department of Chemistry faculty, staff, and students over the years. We continue to be involved with many outreach programs such as the College of Arts and Science Kamskénow and Museum of Natural Sciences field trips, as well as participating with organizations such as Science Rendezvous, Let's Talk Science, and the Girl Power Sci-Fi camps. These activities help to foster an interest in science among young people, aim to improve appreciation and understanding of chemistry in the general public, and connect the Department with the greater community of Saskatoon.

Girl Guides making dry ice/ acid-base indicator potions



Girl Guides making and playing with elephant toothpaste

Fuller Lives Through Chemistry

Story by Advancement & Community Engagement

Cheyanne Lehnert never had the opportunity to meet Dr. Robert Fuller, but his life and the generosity of his family have inspired her immeasurably.

Dr. Robert A. Fuller

Lehnert, a chemistry major, was wrapping up her final weeks in the honours program, when she received a surprising, but welcome, message in her inbox.

"I got an e-mail informing me that I received the Robert A. Fuller Memorial Scholarship. I was super excited. I phoned my mom and said 'guess what?' It was a surprise! I wasn't expecting it at all!" she said.

Robert Arthur Fuller was born in Moosomin, SK, and his interest in chemistry brought him to the U of S in 1944. After earning his BA in chemistry in 1949 and an MA in physical chemistry the next year from the U of S, he earned his PhD in biochemistry at the University of Minnesota. It was also at the U of S where he met his wife Maureen Colbeck (BA'48). Fuller further built his expertise after leaving academia serving as a research director for Johnson & Johnson Canada. From there, he continued with Johnson & Johnson in New Jersey, working as corporate vice-president of the Office of Science and Technology. In this role, he was responsible for all research and development, including joint and sponsored research at a number of universities from around the world.

Fuller passed away in 2012, after a life of storied accomplishments and many years with his family. Fuller's children, Tom, Barbara and Lynn wanted to ensure that their father's legacy would endure and inspire U of S students. They decided to continue their father's generosity and support his love of chemistry in his memory. With these principles in mind, his children established the Dr. Robert A. Fuller Memorial Scholarship in Chemistry in December 2014.

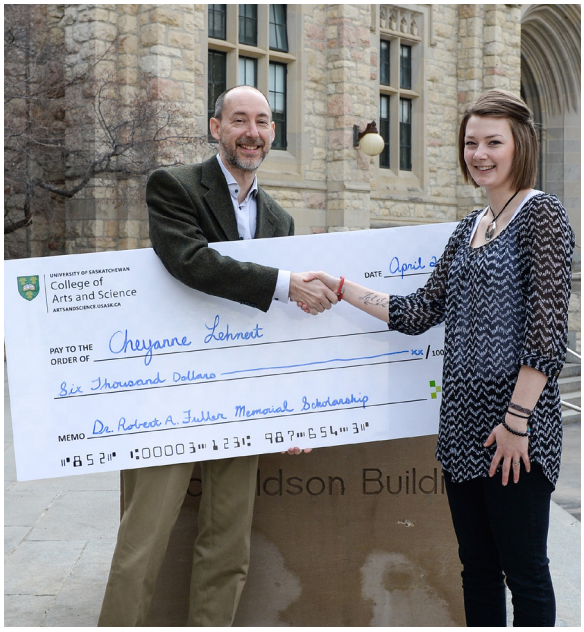
"We are delighted to provide this scholarship in honour of our father, whose very successful career began at the University of Saskatchewan," said Tom, speaking on behalf of the Fuller family. "His career centered on research and development, and we know he would be very pleased that a scholarship aiding students in their study of chemistry has been established in his name at his alma mater."

The scholarship recognizes outstanding academic achievement and provides financial assistance to a chemistry major. Cheyanne Lehnert is the inaugural recipient, receiving $6,000 this spring.

Without ever having the opportunity to cross paths, Fuller and Lehnert's stories intersect at the passion for the scientific discipline that brought them to the U of S in the first place.

Having always excelled in the sciences throughout her academic career, studying chemistry at the U of S was the next frontier for Lehnert to explore. After completing a two-year diploma program at SIAST, she came to the U of S to expand her knowledge and develop a broad base of chemistry knowledge.

Despite unquestionable dedication and talent in her discipline, Lehnert still had to face the all-too-familiar financial obstacles, resulting in paying back debt incurred from student loans. She recognizes that the Fuller family, through this scholarship, are champions for U of S students. "It takes a weight off. I now have a jumpstart on paying back my student loans," Lehnert said. "Receiving this scholarship was a huge affirmation of my hard work and dedication to this program. It reinforces that I want to continue not just striving for the best grades, but to make a difference in my field."



Cheyanne Lehnert receiving the Dr. Robert A. Fuller Memorial Scholarship in Chemistry from Chemistry Department Head Dr. David Palmer (photo: Rick Elvin)

The Dr. Robert A. Fuller Memorial Scholarship in Chemistry not only provided financial stimulus, but it also inspired Lehnert to uphold the standard of excellence, giving, and commitment to the U of S that Dr. Fuller established.

The Samuel and Ethel Brown Memorial Fund for Chemistry

Weldon G. Brown was born in Saskatoon in 1908 and was precocious enough to complete his bachelor's degree in chemistry in 1927 and a master's degree 1928. He enjoyed a remarkable time here, editing The Sheaf, playing Huskies football for two years, and publishing several peer-reviewed articles with his mentor, Thorbergur Thorvaldson.

Dr. Brown thanked his home department by establishing the Samuel and Ethel Brown Memorial Fund in honour of his parents. The fund is used to support special projects in the Department of Chemistry.

We are pleased to announce that this fund continues to advance science by maximizing the learning experiences of the students in our Department. In 2015/16 financial support was provided to 27 of our graduate students, which allowed them to present their research at local, national and international conferences. The international conferences that our students were able to attend are the American Physical Society March 2015 Meeting (San Antonio), 24th North American Catalysis Society Meeting (Pittsburgh), 16th International Conference on X-ray Absorption Fine Structure (Germany), Inorganic Polymers Conference 2016 (San Diego), Hybrid and Organic Photovoltaics Conference (Italy), 12th International Symposium on Functional Pi-Electron Systems (Seattle), and the 54th Annual Meeting of the Phytochemical Society of North America (Illinois).

Harold Ross Saddington Memorial Award

Harold Ross Saddington was born in England in 1916 and immigrated to Canada in 1927. After completing grade school, Harold began his career by teaching in country schools in Saskatchewan and would devote much of his career to education. He received his B.A. from the University of Saskatchewan in 1943, majoring in mathematics and chemistry. After two years of serving in the Royal Canadian Navy Volunteer Reserve at the end of WWII, Harold gained employment as a lecturer of mathematics at the University of Manitoba and worked as a chemist at Canada Packers. The remainder of his career was spent teaching grade school, working for the Department of Education for the Province of Manitoba's Correspondence Branch and in private business. Harold retired in 1981 and enjoyed years of retirement in Victoria before passing away in 2010.

Lisa Bachiu being presented with the Harold Ross Saddington Memorial Award

A bequest from his estate generously established two Harold Ross Saddington Memorial Funds at the University of Saskatchewan, one in chemistry and the other in mathematics. Awards will be made from the chemistry fund annually to undergraduate and graduate students registered in a chemistry program, with the recipients being selected based on academic achievement.

This year, awards for $6,000 were made to Ph.D. students Kaiyang Tu and and Naheda Sahtout, along with 4th year undergrad student Lisa Bachiu.

Thanks!

We are appreciative to those who assisted us with developing the content of this year's newsletter. We especially want to thank Rick Elvin who took many of the pictures that were included, Neeraj Joshi who took the photos from Dr. Steer's retirement event and Valerie MacKenzie for her science outreach write up!

Staying Connected

We're always interested in knowing what our alumni are up to! Please send updates to chem.dept@usask.ca.

Make sure we have your current contact information to receive your college magazine or newsletter, the Green & White alumni magazine, event invitations, and information on special University of Saskatchewan alumni programs and offers. http://alumni.usask.ca/connect/update_information/

We would love to hear from you if you have any feedback about our newsletter.
Please email dave.palmer@usask.ca and leah.hildebrandt@usask.ca