



## 2018 YEAR IN REVIEW

Dear Colleagues, Alumni, Donors, and Friends of the Department of Chemistry:

As seems to always be the case, it's unbelievable that another year has again passed. In keeping with the tradition started last year, I'm sending out a brief recap of 2018 from the Department of Chemistry in hopes of keeping you all abreast of the latest developments, achievements, and successes. In spite of my best intentions to be better prepared this year and start earlier, this is once again a last-minute idea, and if I've omitted something that probably deserves mention, I hope you will forgive me.

The year 2018 was another outstanding year for the Department of Chemistry, and many of the most notable events are highlighted on the following pages. For example, it was an outstanding year for awards, and I am incredibly proud of the achievements of the faculty, graduate students, and undergraduate students. This past year, we hosted the the 101st Canadian Society for Chemistry Conference, with 2256 abstracts submitted by 2241 conference attendees from 43 countries! It was a fantastic event, and a huge number of faculty, students, and volunteers contributed to the success of this event. We've added a couple of new faces to our Faculty, and with Ran Zhao and Lingzi Sang, we are up to 36 faculty members. Finally, our renovations have continued through 2018, and if you haven't visited the Department in the past decade, you might not even recognize it now (and if you haven't visited, you really should!).

As the Department of Chemistry continues to grow, many of our achievements are greatly enhanced by the generous support of friends, partners, and Alumni. In particular, your contributions help us offer scholarships to our best undergraduate and graduate students from Canada and around the world, support inviting the world's top scientists as distinguished speakers to our lecture programs, and improve Departmental research infrastructure, just to name a few. To those who have supported the Department of Chemistry, a huge thank you!

As always, we'd love to hear from you. I'd always like to feature events and/or achievements over the past year from alumni or those formally affiliated with the Department. So, if you have something to share, pass it on – the contact info is on the last page.

All my best wishes for a healthy, safe, and productive 2019!

Faculty of  
**SCIENCE**  
University of Alberta



 **UNIVERSITY OF ALBERTA**  
EDMONTON · ALBERTA · CANADA

## COMINGS & GOINGS

### NEW FACES

The Department welcomes two new additions to our support staff, **Mike Barteski** (Stores) and **Kelli Luber** (Health and Safety Coordinator).

After many years as Senior HR Administrator, **Laura Pham** began as Assistant Chair, Administration, while **Kelly Fowler** came from the Dean's office as our new Senior HR Administrator.

In a step toward teaching excellence, three new Faculty Lecturers were hired in 2018, including **Drs. Vima Babooram, Melis Gedik, and Tina Grant**. As well, we welcomed **Drs. Kuburat Saliu and Hashem Taha**.

Earlier this year, Assistant **Professor Ran Zhao** joined our Department. Ran moved after his post-doctoral work at Cal Tech; his research will be at the interface of Environmental and Atmospheric Chemistry.

As the Department's newest faculty member, Assistant **Professor Lingzi Sang** joined us in August. Lingzi was a post-doctoral fellow at UIUC. She will establish her research program in the areas of Analytical and Materials chemistry.

In January, we added **Professor Ralf Schirmmacher** to our faculty as an Adjunct Faculty member. Ralf's primary appointment is in the Department of Oncology where he works in the area of imaging agents for positron emission tomography (PET) imaging.

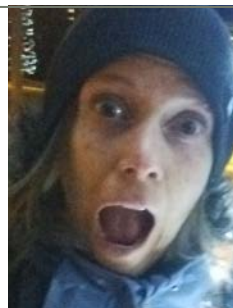
### PROMOTIONS

**Eric Rivard** and **Mike Serpe**, who both joined the Department in 2008, were promoted to Full Professor.

**Mike Serpe** moved into the position of Associate Chair, Graduate Studies, after **Mark McDermott** left as the new Associate Dean – Graduate Studies.

This year saw **Kerrie Johnston** take on the position of Senior Officer, Administration and Strategic Initiatives, moving to the Faculty of Science, Dean's Office. Also in the Dean's Office, **Professor Fred West** replaced **Professor John Beamish** (Physics) as Vice-Dean of Science, and **Christie McDermott** stepped into the role of Special Advisor, Science Awards.

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Kelly Luber



Laura Pham



Kelly Fowler



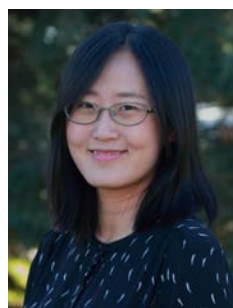
Vima Babooram



Melis Gedik



Tina Grant



Lingzi Sang



Ralf Schirmmacher



Mike Serpe



Kerrie Johnston

## COMINGS & GOINGS (cont.)

### RETIREMENTS

After too many years to count as the friendly face in our basement store-room, **Bernie Hippel** has retired. From our main office, **Scott Stelck** has departed for the Government of Canada. They will both most certainly be missed and we wish them all the best!

After an academic career spanning almost three decades, **Chuck Lucy** retired at the end of 2018. Chuck entered academics at the University of Calgary in 1992, and then in 1999 he joined us at the University of Alberta. In addition to a vibrant research program, Chuck was one of our most decorated teachers, including the 3M National Teaching Fellow in 2012. Enjoy your retirement Chuck, and don't forget to visit in between your world travels!



Fred West



Chuck Lucy

## UNDERGRADUATE STUDENT AWARDS 2018

### SOCIETY OF CHEMICAL INDUSTRY MERIT AWARD

- Dana Boe

### CSC PRIZE IN CHEMISTRY

- Linkun Miao

### FRED H. IRWIN MEMORIAL PRIZE IN ORGANIC CHEMISTRY

- Kyle Johnston

### PHYSICAL CHEMISTRY BOOK PRIZE

- Cuthbert Leung

### THE LEHMANN PRIZE IN CHEMISTRY

- Shuling Yang

### INTD 400 PRIZE

- Evan Hole

### THE CHEM 401 PRIZE

- Maria Matlinska

### DR R NORMAN AND MAGDA KEMENY JONES SUMMER STUDENTSHIP

- Maria Matlinska

### ACS ANALYTICAL CHEMISTRY AWARD

- Caleb Emil Sinn

### HERBERT E. MORRIS SCHOLARSHIP IN CHEMISTRY

- Isaac Zeer-Wanklyn

### DR. OSMAN JAMES WALKER UNDERGRADUATE SCHOLARSHIP IN CHEMISTRY

- Linkun Miao

### REUBEN BENJAMIN SANDIN MEMORIAL ACHIEVEMENT SCHOLARSHIP IN CHEMISTRY

- Alexis Gabbey
- RuoHua Gui
- Lan Chen

### THE GUARDIAN CHEMICALS SCHOLARSHIP IN CHEMISTRY

- Nicole Martinek

### GILEAD SCIENCES UNDERGRADUATE SCHOLARSHIP IN ORGANIC CHEMISTRY

- Quinn Halldorson

### GILEAD SCIENCES PRIZE IN CARBOHYDRATE CHEMISTRY

- Linkun Miao

### THE BRYCE REIKIE UNDERGRADUATE SCHOLARSHIP IN CHEMISTRY

- Katica Naude

### THE DR. ROBERT SCHUTTE AWARD IN SCIENCE

- Huba Razzaq

### THE GLEN BIGAM MEMORIAL SCHOLARSHIP

- Kevin Li

### LLOYD AND MARGARET COOLEY MEMORIAL STUDENTSHIP IN ANALYTICAL CHEMISTRY

- Gunwant Matharu

### SIMPLE CLOUD WORKS AWARD

- Matthew Parker



Department of Chemistry Gold medal: Dana Boe (left) presented Gold Medal from Professor Alex Brown (right).

## GRADUATE STUDENT AWARDS 2018

### ANDREW STEWART MEMORIAL GRADUATE PRIZE

- Jun Li

### UNIVERSITY OF ALBERTA RECRUITMENT SCHOLARSHIP

- Michael Armstrong
- Andreas Dorian
- Sarah Milliken
- Alvaro Omana
- Ahmed Oraby
- Cameron Pascoe
- Jasper Woodard
- Maxwell Akuamoah Boateng
- Md. Reazul Islam
- Nathaniel Tetteh
- Chu-Fan Wang
- Taylor Lynk

### CHEMISTRY RECRUITMENT SCHOLARSHIP

- Alexandra Burnett
- Ryan Dias
- Taylor Lynk
- Wesley McNutt
- Kevin Nguyen
- James Pearson

### QUEEN ELIZABETH II GRADUATE SCHOLARSHIPS

- Zhibo Wang
- Christopher Cooze
- Carl Estrada
- Alyssa Fu
- Hannah Hackney
- Aaron Kirkey
- Wayne Vuong
- Md. Amran Howlader
- Sarah Parke
- Emily Rodrigues
- Casey Rusin
- Aaron Kirkey
- Jocelyn Sinclair

### MARGARET THOMPSON MEMORIAL PRIZE IN CHEMISTRY

- Shuce Zhang

### WILLIAM B. MCCORMACK WRITING PRIZE IN CHEMISTRY

- Patrick Moon
- Shorena Gelozia
- Sorina Chiorean (runner up)

### ROBERT SWINDLEHURST GRADUATE BOOK PRIZE IN CHEMISTRY

- Qiming Shen

### DR. R. NORMAN AND MAGDA KEMENY JONES TRAVEL AWARD

- Ming Lyu

### MARSHALL SYSKA CHEMISTRY GRADUATE SCHOLARSHIP

- Hwee Ting Ang
- Sorina Chiorean
- Riley Endean

### FACULTY OF SCIENCE DOCTORAL DIS- SERTATION AWARD

- Shuang Zhao

### IVY A THOMSON AND WILLIAM A THOMSON GRADUATE SCHOLARSHIP

- Minjia Hu

### WALTER AND PHYLLIS HARRIS GRADUATE SCHOLARSHIP IN CHEMISTRY

- Yingwen Wang

### VALERIE JAGOLDAS GRADUATE SCHOLARSHIP IN SCIENCE

- Patrick Moon

### INDIGENOUS GRADUATE AWARD

- Christopher Cooze

### OSMAN JAMES WALKER MEMORIAL SCHOLARSHIP

- I Teng (Emily) Cheong

### CHEMISTRY ALUMNI INTERNATIONAL GRADUATE SCHOLARSHIP

- Nhan Do
- Bo-Shun Huang
- Abhoy Karmakar
- Qiming Shen

### NATURAL SCIENCES AND ENGINEERING RESEARCH COUNCIL (NSERC)

- Rochelin Dalangin

### ALBERTA STUDENT AID

- Michael Armstrong
- Andreas Dorian
- Michelle Ha

### GRADUATE STUDENT TEACHING AWARDS (GSTA)

- Meagan Oakley
- Chun-Jui Chu
- Richard Brunton
- Nicole Jankovic
- Riley Endean
- Caley Craven
- Angelo Perera
- Robin Abel



*Jean Cooley Graduate Scholarship in Analytical Chemistry* awardee, **Sicheng Lin** (Lowary Group, centre) with **Professor Tehshik Yoon** (University of Wisconsin, Madison, left) and **Dr. Ho-Yan Sun** (right), at the Gilead Lecture in Organic Chemistry on March 26, 2018.

FACULTY AND STAFF AWARDS 2018



**Margaret-Ann Armour**  
 CIC Chemistry Education Award



**Jillian Buriak**  
 CSC Rio Tinto Alcan Award



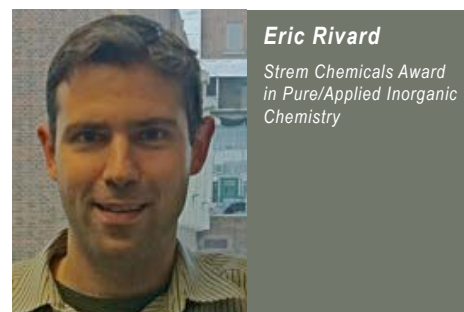
**Ratmir Derda**  
 CSC Melanie O'Neill Young Investigator Award in Biological Chemistry



**Yunjie Xu**  
 Fellow, Royal Society of Canada



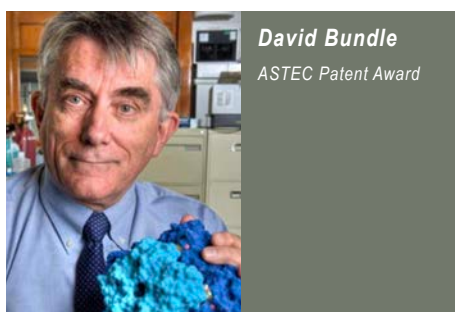
**Rick McCreery**  
 ASTEC Spinoff Company Award



**Eric Rivard**  
 Strem Chemicals Award in Pure/Applied Inorganic Chemistry



**Dennis Hall**  
 ASTEC Patent Award



**David Bundle**  
 ASTEC Patent Award



**Ratmir Derda**  
 ASTEC Patent Award



**Richard McCreery, Left (pictured with Adam Bergen)**  
 ASTEC Spinoff Company Award



**Glen Loppnow**  
 Fellow, Chemical Institute of Chemistry



Chem Award recipients at the CSC meeting

## A NEW LOOK!

### TEACHING AND RESEARCH INFRASTRUCTURE

Much needed modernization of both teaching and research infrastructure continued into 2018, with funding assistance from the federal government, the Faculty of Science, and Facilities and Operations. Renovations were completed in both Chemistry East and West. In Chem West, the South wing of the 3rd, 4th, and 5th floors, demolition and construction of all research labs and offices was completed during the second half of 2017 and into 2018. Renovations were finished by spring 2018 and the process of moving into this fantastic new space commenced. The research groups of Professors James Harynuk and Lingzi Sang now call the third floor home, while Professors Michael Serpe and Ran Zhao have moved into the new 4th floor space. Organic chemists rule the 5th floor with the groups of Professors Florence Williams, Derrick Clive, and Rik Tykwinski. Chem East also saw significant renewal on the 5th floor south. A section of the former Bundle labs has undergone a series of renovations and has become home to the labs of Professor Matt Macauley.



Introducing the new Chem West south wing! From left, 4th floor landing, 3rd floor renovated lab, and 2nd floor hallway.



From left; Profs. Sang, Williams, and Zhao working in their new offices, and the new Serpe lab.

### UNDERGRADUATE TEACHING LABS

In Chemistry East, the undergraduate teaching labs on the 1st and 2nd floors are finally being renovated. Beginning at the south end of the wing and moving north, a lab on each floor is being tackled each term starting in the summer 2017. The first two sets of labs were completed in 2017, and the third set was completed summer 2018 in time for Fall term.

## A FEW HIGHLIGHTS FROM 2018

### THE ALBERTA/TECHNICAL UNIVERSITY OF MUNICH INTERNATIONAL GRADUATE SCHOOL FOR HYBRID FUNCTIONAL MATERIALS (ATUMS)

The year 2018 was an exciting one for **ATUMS**. They hosted renowned science communicator **Jay Ingram** of **Daily Planet**, 13 Canadian students traveled to Germany on research exchange visits, and to top off the year, the fourth annual **ATUMS** meeting was held in Munich, Germany from Nov. 11–16, attended by 22 students and 7 faculty from the University of Alberta. In addition to the many oral and poster presentations, the 5-day meeting featured dynamic discussions related to current and future University of Alberta/TUM collaborative research that will include 8 planned graduate student research exchange visits in 2019. Congratulations to all those that attended on making this meeting and ATUMS a fantastic success!



*Fourth annual ATUMS meeting in Munich, Germany, November 11–16, 2018.*

### LEADERS OVERCOMING GENDER INEQUALITY RETREAT (LOGIC) 2018

The **LOGIC** retreat hosted by the University of Alberta **Working for Inclusivity** group (**WIC**), consisted of over 100 attendees featuring ten speakers and panel discussion leaders, two **WinSETT** workshops, and a networking event. It included speakers and attendees from industry as well as academia, and at all career levels. The event was featured in the **Canadian Chemical News Magazine (ACCN)** in June. The feedback and insightful discussions held at the retreat prompted the inception of a **Canadian Women in Chemistry Network (CWIC)**, along with many other groups at the university level. The success of **LOGIC** led to the formation of the annual **Margaret-Ann Armour Lecture Series** at the University of Alberta, which highlights a chemist who is outstanding in science and for their work in diversity.



*Attendees at the LOGIC retreat at the University of Alberta, May 26–27, 2018.*

## A FEW HIGHLIGHTS FROM 2018 (cont.)

### CSC MEETING, EDMONTON

The Department came together and showcased Edmonton, Alberta, and the University of Alberta when we hosted the 101st Canadian Chemistry Conference and Exhibition on May 27–31, 2018. We welcomed 2,242 conference attendees (including the first former Prime Minister to attend a CSC meeting) from 43 countries who enjoyed 90 symposia featuring 2,256 abstracts. This conference was made possible through the efforts of no fewer than 120 dedicated VOLUNTEERS (thank you Dr. Christie McDermott!) who contributed to the local organization of this meeting. In addition, four University of Alberta Faculty received CIC or CSC recognitions for contributions. Thank you to all those who participated and made the conference a huge success!



CSC Meeting at the Shaw Conference Centre, Edmonton, May 27–31, 2018.

### iGEM

The 2018 **UAlberta iGEM (International Genetically Engineered Machine)** competition team brought home first prize in the area of ‘Best Food and Nutrition Project’ for their project aimed at fighting *Nosema* infections in honeybees with an Antifungal Porphyrin-based Intervention System (APIS). The team also earned a Gold prize recognition and a nomination for “Best Integrated Human Practices”. This team of 10 exceptionally talented undergraduates was led by mentors in the Department of Chemistry (Rochelin Dalangin and Dr. Yi Shen) and supervised by professors Robert Campbell and Dominic Sauvageau (Engineering). The team’s project involved testing of protoporphyrin IX (PPIX) as an antifungal treatment for the control of the *Nosema ceranae* parasite which is increasingly becoming a problem for Alberta’s apiculture industry. With the help of an amateur beekeeper, the team collected and housed live bees in the laboratory and performed highly controlled tests of the efficacy of the treatment. These experiments showed that treatment with PPIX decreased spore loads in infected bees to levels that were indistinguishable from levels in healthy bees!



Undergraduate Irene Shkolnikov collecting bees to be used for iGEM experiments.

### UNIVERSITY OF ALBERTA – TOKYO CONNECTION

In July 2018, **Robert Campbell** started on a new adventure as he accepted a 50% appointment as a full Professor in the Department of Chemistry at The University of Tokyo. For the next 5 years, Robert will split his time between Tokyo and the University of Alberta, going back and forth every 2 months. This arrangement will enable Robert to maintain his world-leading research program in protein engineering at the University of Alberta while he builds a new program from scratch in Tokyo. We wish him great success in this new venture and look forward to increased interaction and cooperation between these two world-class institutions.



From left: Yasuda Auditorium at The University of Tokyo, Robert's new lab space, and a lab outing to hike up Mt. Takao with Assistant Professor Yusuke Nasu and undergraduate Mina Yamane.



## IN MEMORIAM, WE HONOR THE PASSING OF:

### PROFESSOR GARY HORLICK (BSc Alberta 1965, FRSC)

It is with great sadness that we share that our alumnus, colleague, and former chair Gary Horlick passed away on November 1, 2018. Gary joined our department as an undergraduate in 1961, and, except for his PhD at University of Illinois in Urbana-Champaign, was with us until his retirement in 2006.

Gary was world-renowned for his work in analytical atomic spectroscopy. His research advanced inductively coupled plasma (ICP)-optical emission and ICP-mass spectrometers such that both are now workhorses in analytical and environmental labs around the world. Gary pioneered the application of linear image sensors (photodiode arrays) for atomic spectrochemical measurements—work that predated the commercial developments by two decades. He was among the first to adopt micro-processors, to incorporate them into routine measurements, and to focus on the ‘human/processor’ interface that make modern instrumentation intuitive and easy to use. His honours included the Meggers Award from the Society for Applied Spectroscopy, the Fisher Scientific Lecture Award from the Chemical Institute of Canada, the Lester W. Strock Award from the Society for Applied Spectroscopy, the Spectrochemical Analysis Award from the American Chemical Society, and the Pittsburgh Spectroscopy Award from the Spectroscopy Society of Pittsburgh.

Gary mentored 45 graduate students and many undergraduates and postdoctoral fellows during his career. His laboratory at the U of A was a “must” stop for most analytical spectroscopists visiting North America and attracted a broad range of collaborators and co-workers. Gary was a gentleman and scholar. His friends and colleagues miss him.

### DR. ARTHUR TAYLOR BLADES

Arthur passed away peacefully on March 15, 2018 in Victoria, B.C. Born in Milton, Ontario, he was the youngest of three brothers. Arthur graduated with a PhD in chemistry from the University of Wisconsin in 1952. After completing a post-doctoral fellowship at the National Research Council, he joined the Alberta Research Council in 1955. Upon retiring he continued following his passion for research in chemistry and mass spectrometry in the Department of Chemistry at the University of Alberta until 2006, when he was 80.

### RONALD (RON) GARDNER

Ron passed away on December 19, 2018. He was born in Kerrobert, Saskatchewan, as the first of five children. He grew up and went to school in Kerrobert and then Rimbey, Alberta. He later attended the Provincial School of Technology and Arts in Calgary, where he began a life-long interest in electricity and electronics. In the late 1950s and early 1960s he worked for Alberta Government Telephones and also later as an instructor at NAIT. Ron joined the Department of Chemistry in 1969 where he worked at the Radiation Research Lab. He continued his work in the Department until 2001, specializing in electronics and later computer programming and networks. In retirement Ron started his own computer network and design business.

### DR. TAM MINH TRAN

It is with great sorrow that we announce the passing of Dr. Tam Minh Tran, a beloved friend to many in the Department. Tam was a gentle and friendly person who constantly exuded optimism and positive energy. His friends remember his big smile, his soft voice, his generosity of spirit, and the joy with which he told stories of his childhood in Vietnam. Tam was a gifted student and outstanding researcher that made important contributions in both industry and academia. He earned his degree from Ho Chi Minh City University of Medicine in Vietnam in 2009. After one year in the pharmaceutical industry, he was awarded a prestigious Vietnam Education Foundation (VEF) scholarship to support a move to the United States. After one year at the University of Pennsylvania (2010–2011) he moved to the University of Missouri where he undertook his PhD (2011–2015) in the lab of Prof. Timothy Glass. In 2016 Tam joined the Department of Chemistry at the University of Alberta as a postdoc in the lab of Prof. Robert Campbell. While in Alberta he developed a new cyan fluorescent protein that was immortalized as “Tam1” when published in 2017. For all that knew him, Tam was a light that made the world a little brighter. He will be sorely missed and never forgotten.



## CONTACT

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