ACS NEWS

The biannual newsletter for the American Chemical Society Division of Fluorine Chemistry

MESSAGE FROM THE CHAIR

MICHAEL GERKEN

Greetings from Lethbridge, Alberta, Canada! I hope everybody was able to enjoy the summer, although it was unusually hot (too hot) for many of us. COVID-19 still seems to have an impact in our lives, but as many of you, I am looking forward to seeing you at conferences as travel restrictions are eased.

We received a number of nominations of outstanding candidates for the ACS's Division of Fluorine Chemistry Doctoral Thesis Award. I am very proud of the excellence in research by doctoral students in fluorine chemistry. I would like to congratulate all nominees; it was a tough decision for the selection committee. The **2021 Recipient of the ACS's Division of Fluorine Chemistry Doctoral Thesis Award is Benjamin Scheibe**, who obtained his Ph.D. from the Philipps Universität Marburg, Germany under the supervision of Prof. Florian Kraus for his doctoral thesis about the chemistry of chlorine trifluoride and fluorides of uranium, neptunium and plutonium.

I want to congratulate **Prof. Jinbo Hu from Shanghai Institute of Organic Chemistry, Shanghai for receiving the 2022 ACS Award for Creative Work in Fluorine Chemistry**, sponsored by the Arkema Inc. Arkema has been an invaluable partner of the Fluorine Chemistry community and has sponsored the award since 2021. Jinbo has made outstanding contributions to organofluorine chemistry and has been extremely productive. Congratulations for this well-deserved ACS award.

I also want to congratulate two other outstanding Division members for receiving national ACS awards: **Véronique Gouverneur** (University of Oxford, UK), recipient of the Arthur C. Cope Award, and **Douglas Stephan** (University of Toronto, Canada), recipient of the F. Albert Cotton Award in Synthetic Inorganic Chemistry.

Elections to the Executive Committee of the ACS Division of Fluorine Chemistry and for the position of Vice-Chair Programming are coming up and we have many candidates who agreed to stand for election. Several candidates were 'nominations from the floor' after our call via e-mail. It is wonderful to see so many people willing to become more engaged in our Division. Please find the bios of all the candidates in this Newsletter.

Please remember our upcoming Winter Fluorine Conference in January 2022. **Slava Petrov** (Conference Chair) and **David Vicic** (Co-Chair) are working on the organization of our

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VICE-CHAIR MEMBERSHIP REPORT

AS OF AUGUST 2021, THE DIVISION OF FLUORINE CHEMISTRY OF THE ACS HAD 466 MEMBERS. THE BREAKDOWN IS AS FOLLOWS:

GROUP	COUNT	%	CHANGE TO MAR. '21
Regular Member	329	70.6	(-7)
Regular Student Member	32	6.86	(+4)
Student Member – UnderGrad	15	3.22	(+1)
Emeritus Member	50	10.73	(0)
Retired Member	18	3.86	(-1)
Division Affiliates	11	2.36	(+1)
Society Affiliate	11	2.36	(+2)
TOTAL	466	100	

Please join me in welcoming the newest members to our Division: Mauro F. Adamo, Michael F. Aldersley, Carlson Alexander, Maali Alshammari, Estelle Deddowes, Phil Bennington, Kelling Donald, Hoda Elsayed, Anil Govekar, David Grey, John B. Griffith III, Yoshiyuki Inaguma, Daqian Jiang, Johnny Lee, Henry S. La Pierre, Katherine A. Legg, Jean-Yves Lenoir, Jinyong Liu, Yanni Moraites, Bjorn Ottosson,

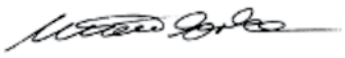
Continued on p. 2

MESSAGE FROM THE **CHAIR** *Continued from p. 1*

Division's flagship meeting, the **25th Winter Fluorine Conference** held in Clearwater Beach, Florida from January 16-21, 2022. Abstract submission is open now and closes on November 1; you can register already with discounted early registration ending on Oct 31, 2021. Please visit the conference website for more information: www.winterfluorineconference.com We will honor and celebrate our award winners at this conference and hope that everybody can participate in person.

The Division will continue its sponsorship of undergraduate research by awarding two **Moissan Summer Undergraduate Research Fellowships** (SURF) of $5000 each. The deadline for next year's Moissan SURFs will be January 31, 2022. Please send your proposals to Prof. Olga Boltalina (olga.boltalina@colostate.edu), the Division Chair for 2022. Instructions for submission of applications can be found at the end of this Newsletter.

It has been an honor and pleasure to serve the ACS Division of Fluorine Chemistry as its Chair. My interactions with the Division Members during this year have reinforced my views of the Division as a friendly, collegial community of truly excellent researchers. We should continue to grow our membership and show all our new members that they are welcome and highly appreciated. Please do not hesitate to contact me directly (michael.gerken@uleth.ca) if you have any comments, concerns, or questions. New ideas, improvements, and/or criticism for the Division are always welcome. ■



—Michael Gerken, *Chair 2021*

PLEASE PLAN TO ATTEND THE
25TH WINTER FLUORINE CONFERENCE,
CLEARWATER, FL | JANUARY 16-21, 2022
(See page 7 for more details.)

Conference will be held at the Hyatt Regency Clearwater Beach Resort and Spa. Abstract submission closes on November 1, 2021. Registration closes on December 17, 2021 and housing closes on December 17, 2021. Chair: Slava Petrov and Co-chair: David Vicic. Conference website: winterfluorineconference.com

THANKS TO OUR SPONSORS: The following are the current sponsors for the 25th WINTER FLUORINE CONFERENCE AS OF OCTOBER 26, 2021. We are very grateful to these companies for their support:

DIAMOND SPONSOR
ACS Technical Division
Fluorine Chemistry (FLUO)

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VICE-CHAIR **MEMBERSHIP REPORT** *Continued from p. 1*


MARKUS ETZKORN

Merlyn X. Pulikkathara, Meenakshi Sharma, and Wouter Stam

In particular, I encourage our new student members to take advantage of the Division of Fluorine Chemistry many opportunities to grow professionally and to network, as you hopefully will remain part of our community throughout their future careers.

Division members are continuing to impact many areas of fluorine chemistry with outstanding contributions, and we remain the principal international organization of fluorine chemists around the world. The Division of Fluorine Chemistry, though drawing the largest number of members in the United States, continues to keep an international profile.

Our total membership has not changed since the March 2021 report, though a small drop in the regular membership (–7, since March 2021) should be noted. As pointed out previously, we all need to be very mindful of attracting new members, and I want to encourage our current members to talk to colleagues who work in fluorine chemistry, particularly those at your institution, to join our Division and become part of our welcoming, collegial, and close-knit fluorine chemistry community. In addition, I hope you can convince students or postdoctoral fellows in your groups to join the Division, as the new generation of fluorine chemists. The form and instructions to join our Division can be found at www.acs.org/content/acs/en/membership-and-networks/join. Please note, as a regular member of the Division one has to be a member of the ACS. Non-members of the ACS can become affiliate members of the Division. If you have any questions or suggestions of activities that will expand our membership, please feel free to contact me. ■


OLGA BOLTALINA

ACS Innovative Programming Grant (IPG) was submitted on February 15th 2021 under the title: Building Digital and Virtual Infrastructure for FLUO Division: Networking, Education and Inclusivity. The ACS **Divisional Activities Committee (DAC)** *funded* our project, total grant is: $4174.00. Unfortunately, the funds were only transferred to the Division account on September 2, instead of May-June. This interfered with our tentative plan to hold the second Tutorial Week in the Summer 2021 and we had to move to the Fall 2021.

Future programming activities

In the anticipation of the IPG funds, EC member Daniel Hercules and myself were exploring optimal options for the platforms available for virtual and hybrid events that would upgrade our current Zoom platform via the ACS account**.**

The 2nd Tutorial Week "Synthetic methods in Fluorine Chemistry" will be organized in the Fall 2021.

Planned Fluorine Symposia in 2021/23:

- **Three Symposia at the PACIFICHEM 2021.** The Pacifichem 2021 will be held in a virtual format from December 16 to December 21, 2021.
- **The Chemistry of 18F, 11C and Radiometal-based Probes for Molecular Imaging & Precision Medicine (#178)** ORGANIZERS: Vasdev, Neil; VanBrocklin, Henry; Luyt, Leonard; Tamagnan, Gilles; Choe, Yearn Seong; Reiner, Thomas; Davis, Thomas
- **Diversity in Inorganic Fluorine Chemistry, from Fundamental Aspects to Applications for Global Challenges (#243)** ORGANIZERS: Gerken, Michael; Hagiwara, Rika; Matsumoto, Kazuhiko; Mercier, Helene; Schrobilgen, Gary J.; Syvret, Robert
- **Innovative Fluorination/Fluoroalkylation/Fluoro-functionalization (#368)** ORGANIZERS: Shibata, Norio; Amii, Hideki; Hu, Jinbo; Vicic, David

Update as of October 8, 2021:

The health and safety of our members and attendees are our top priority. Due to the rising number of COVID-19 cases worldwide and the challenge this presents for traveling to and meeting in Honolulu, Hawaii, the Pacifichem, Inc. Board has decided to terminate the in-person portion of Pacifichem 2021.

We are happy to announce that Pacifichem 2021 will still take place. Pacifichem 2021 will now be fully virtual. The Congress will take place over the original dates of December 16 – 21, 2021 and will have the scientific sessions the same dates and times as previously scheduled (see the scientific program schedule below). This schedule allows for people from multiple time zones to participate in portions of the Congress.

- **The 25th Winter Fluorine Conference** will take place on January 16 – 21 2022, in Clearwater, Florida at the Hyatt Regency Clearwater Beach Resort and Spa. https://winterfluorineconference.com/abstracts.html

  Abstract submission is open until November 1, 2021.

- **The 20th European Symposium on Fluorine Chemistry (20th ESFC)** will take place on August 14 – 19, 2022 in Berlin, Germany. (www.esfc2022.de)

- **The 23rd International Symposium on Fluorine Chemistry (23rd ISFC)** will be held in conjunction with the 9th International Symposium on Fluorous Technologies (ISoFT'23) conference will take place on July 23 – 28, 2023 in Québec City, Canada. (www.isfc2021.org) ■

FOLLOW US ON TWITTER!

AN EASY WAY TO DISCOVER THE LATEST NEWS RELATED TO THE ACS DIVISION OF FLUORINE CHEMISTRY IS TO FOLLOW OUR TWITTER ACCOUNT LOCATED HERE:

TWITTER.COM/FLUORINECHEM.

AMERICAN CHEMICAL SOCIETY VIRTUAL COUNCIL MEETING ON AUGUST 25, 2021

DAVID A. DIXON

ELECTION RESULTS: ELECTED COMMITTEES OF COUNCIL

- By electronic ballot, the Council elected Donna G. Friedman, Matthew Grandbois, Fran K. Kravitz, and Louise M. Lawter for a three-year term (2022-2024) on the Council Policy Committee (CPC).
- By electronic ballot, the Council elected Mary K. Engelman, Malika Jeffries-El, Brian M. Mathes, Susan V. Olesik, and Susan M. Schelble for a three-year term (2022-2024) on the Committee on Committees (ConC).
- By electronic ballot, the Council elected Allison Aldridge, Holly L. Davis, Peter K. Dorhout, Silvia Ronco, and Martin D. Rudd for a three-year term (2022-2024) on the Committee on Nominations and Elections (N&E).

Key Council Actions

- On the recommendation of the Committee on Committees, and with the concurrence of the Council Policy Committee, Council (and Board) approved the Petition to Amend the Duties of the Committee on Minority Affairs. The Petition was amended on the floor of Council to strike the word 'minority' in Standing Rule VIII, Sec. 1, b, (9).
- The Council (and then the Board) also approved the continuation of the Committee on Environmental Improvement.
- On the recommendation of the Committee on Economic and Professional Affairs, and with the concurrence of the Council Policy Committee, Council (and then the Board) approved the 10th version of the Professional Employment Guidelines.

Council Special Discussion

President Cheng introduced and led a special discussion on ideas to increase involvement and membership from business and industry. For the last 5 years there has been a steady decrease in industry members. This can be attributed to a variety of factors, but there have been ongoing efforts to decrease the cost-related attrition while increasing member value. To address value, ACS has a variety of offerings available to members to advance, discover, connect, and share. To address cost, actions were taken by the Council this past spring in the schedule of membership for 2022 that will provide industry members with flexibility as to membership options. Councilor input was then requested on the following two questions:

1. How can we improve the value that ACS provides to its industrial and business members?
2. How can we encourage academic inventors and entrepreneurs and support start-ups?

Budget and Finance

The Society's 2021 financial performance through June 30 yielded a Net Surplus from Operations of $55.0 million, which is $33.6 million favorable to budget and almost $6 million greater than the same period in 2020. These mid-year results are based on total revenues of $324.4 million that are 4.3% favorable to budget, and total expenses of $269.4 million, or 7% below budget, with unrestricted net assets estimated at $645 million.

Meetings & Expositions

The Fall 2021 Meeting was held live from August 22–26, and on-demand from August 30 – September 30. As of August 25, there were 8,205 registrations (1,895 hybrid and 6,310 virtual). Of the approximately 1,200 oral sessions held, 71 were only in-person, 244 were hybrid, and 855 were held virtually.

On the recommendation of the Committee on Budget and Finance, the Board approved the ACS 2022 Spring and Fall Meetings in-person/hybrid member registration fee at $399 and the virtual member registration fee at $199, both within a range of +/–15%. ■

BOB SYVRET

The Division's total assets have increased approximately **19.3%** over the course of the 12-month period ending **September 11, 2021**. This increase is due to large Divisional allocations from the ACS ($18,723.54 in 2020 and $17,673.35 in 2021) and good performance of the Moissan Fund investment portfolio.

ASSETS *(actual as of 31 December 2020)*

	($) as of 30 September 2021	*($) as of 11 September 2021*
Wells Fargo Bank Account	$17,220	$19,790
Long-term Investment Accounts	$179,566	$214,885
TOTAL ASSETS	$196,786	$234,675
Percent Change		**+19.3%**

2021 FINANCIAL HIGHLIGHTS:

> In 2021 the Division provided 1 Moissan Summer Undergraduate Research Fellowship in the amount of **$5,000** to Professor Simon Lopez D'Sola at the University of Florida – Gainesville.

> The Division will provide **$2,500** to the SERMACS Conference to be held in Birmingham, AL. November 10 – 13, 2021.

> The Division will provide **$7,500** for three co-sponsored symposia to be held at the Pacific Basin Conference (Pacifichem) in December 2021.

OUTLOOK FOR 2022:

> The Division will provide any necessary funding to support the 25th Winter Fluorine Conference to be held in January 2022.

> The Division will provide **2 Moissan SURF @ $5,000 each** in 2022.

> The Division will sponsor the **2023 ACS Award for Creative Work in Fluorine Chemistry** at a cost of **$17,000**. ■

ELECTION BALLOT

THE INVITATION TO VOTE ELECTRONICALLY FOR OFFICES OF THE DIVISION OF FLUORINE CHEMISTRY WILL BE SENT BY EMAIL.

VIEW THE BIOGRAPHICAL DATA OF THE CANDIDATES ON PAGE 9.

(SPONSORED BY ARKEMA, INC.)

2022 ACS AWARD FOR CREATIVE WORK IN FLUORINE CHEMISTRY

PROFESSOR JINBO HU, Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences has been selected for the 2022 ACS Award for Creative Work in Fluorine Chemistry from the American Chemical Society.

Jinbo was born in Zhejiang, China in 1973. After he completed his B.S. (Hangzhou University) and M.S. (Chinese Academy of Sciences) degrees, he did his Ph.D. work during 1997 to 2002 at the University of Southern California with Professors G. K. Surya Prakash and George A. Olah. After his postdoctoral work at USC, he joined the Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences (SIOC, CAS) as a full professor in early 2005, where he served as the Head of the CAS Key Laboratory of Organofluorine Chemistry during 2010 to 2020. He is a highly creative and imaginative organic chemist, who has made major contributions to the field of synthetic organofluorine chemistry, especially in developing new reagents and reactions that make fluoroalkylation and fluoroolefination easier. Difluoromethyl 2-pyridyl sulfone, *N*-tosyl-*S*-difluoromethyl-*S*-phenylsulfoximine, 2-[(difluoromethyl) sulfonyl]-benzo[*d*]thiazole, together with their derivative sodium difluoromethanesulfinate, have received wide use in academia and have been recognized as "Hu's Reagents". Jinbo has pioneered the development of novel difluorocarbene reagents from fluoromethylsilanes. He has disclosed (bromodifluoromethyl)trimethylsilane as the most versatile and general difluorocarbene source for introducing difluoromethyl, difluoromethylene and difluoromethylidene motifs into various organic molecules. He has also co-developed (trifluoromethyl)trimethylsilane as a convenient difluorocarbene source. The *gem*-difluorocyclopropanation of alkene with (trifluoromethyl) trimethylsilane is an important reaction in pharmaceutical research. His related contributions include the on-site generation of tetrafluoroethene from (trifluoromethyl)trimethylsilane for its safe use in academia and the selective assembly of fluorinated carbons by using (bromodifluoromethyl)- and (trifluoromethyl)trimethylsilane to synthesize tetrafluoroethylene-, pentafluoroethyl-, and bis(difluoromethyl)methylene-contaning organic molecules.

Jinbo has also achieved several ground-breaking fluorination methods, including the organocatalyzed Balz-Schiemann fluorination, the selective deoxyfluorination of electron-rich alcohols with 3,3-difluoro-1,2-diarylcyclopropenes (CpFluors), the rapid deoxyfluorination of alcohols with *N*-tosyl-4-chlorobenzenesulfonimidoyl fluoride (SulfoxFluor) at room temperature, and the fluorinative cross-coupling of *gem*-difluoroolefins and non-fluorinated olefins. All these methods are state-of-the-art in synthetic organofluorine chemistry.

Jinbo is highly prolific with more than 200 publications (with H index 58) and thirty patents. His published work has been highly cited and he has received many awards and accolades including RSC Fluorine Award, Novartis Chemistry Lectureship and IOCF Lectureship. ■

2021 ACS DIVISION OF FLUORINE CHEMISTRY DOCTORAL THESIS AWARD

DR. BENJAMIN SCHEIBE, who conducted his doctoral studies at Philipps Universität Marburg has been selected for ACS Division of Fluorine Chemistry Doctoral Thesis Award in 2021.

Advisor: Prof. Dr. Florian Kraus

Benjamin studied chemistry at the Philipps Universität Marburg in Germany after completing his training as a chemical-technical assistant in 2011. In 2014, he finished his B.Sc. with a thesis on ionic liquids. Afterward, he continued with his M.Sc. studies at the university in Marburg. He joined the research group of Prof. Dr. Florian Kraus in 2015 where he focused on inorganic fluorine chemistry and obtained his M.Sc. in 2017 with a thesis on the Lewis-acid properties of uranium pentafluoride. Thereafter, he began his doctoral studies which spanned the chemistries of chlorine trifluoride and of the fluorides of uranium, neptunium, and plutonium. He finished his doctorate in 2021with *summa cum laude* and is currently a postdoctoral research scholar in the research group of Prof. Dr. Thomas Albrecht-Schoenzart at Florida State University, exploring the chemistry of the transuranium elements.

Benjamin has been extremely productive with 21 peer-reviewed publications, 12 of them as first author. During his time as a graduate student, he has visited the Helmholtz-Zentrum Dresden-Rossendorf and Prof. Antti Karttunen at Aalto University in Finland for collaborative work. ■

ACS DIVISION OF FLUORINE CHEMISTRY
25TH WINTER FLUORINE CONFERENCE

Preparations for 25th Winter Fluorine Conference (which will take place at Hyatt Regency Clearwater Beach Resort, Clearwater, FL, January 16-21, 2022) is well underway!
The Organizers of the conference would like to remind you that the deadline for Abstract submission – November 1, 2021 – **is not extendable** and after that date the abstract submission will be closed. So, if you are planning to give a talk and attend this meeting, please make sure that abstract will be submitted before the deadline. Additional details on registration, abstract submission and hotel reservation can be found at 25th WFC website: www.winterfluorineconference.com. Please do not hesitate to contact conference organizers in case if you have questions or need additional information.

As many of you know, the Pacifichem was moved fully to a virtual format his year, so 25th WFC is your chance of face-to-face meeting!

Technical programming areas will include:

- Organic and Bioorganic Fluorine Chemistry
- Inorganic Fluorine Chemistry
- General Fluorine Chemistry
- Industrial Fluorine Chemistry
- Physical Fluorine Chemistry

We are looking forward to seeing all of you in Florida next year.

CONFERENCE ORGANIZERS

VIACHESLAV (SLAVA) PETROV
Chair of 25th Winter Fluorine Conference
The Chemours Company
Thermal and Specialized Solutions
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201 Discovery Blvd, Newark, DE 19713
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Tel: 610-758-3466
vicic@lehigh.edu

PACIFICHEM 2021

The Pacifichem 2021 will be held virtually from December 16 to December 21, 2021 via zoom. Three Fluorine Chemistry Symposia are included:

1. The Chemistry of 18F, 11C and Radiometal-based Probes for Molecular Imaging & Precision Medicine (Symposium #178) ORGANIZERS: Vasdev, Neil; VanBrocklin, Henry; Luyt, Leonard; Tamagnan, Gilles; Choe, Yearn Seong; Reiner, Thomas; Davis, Thomas

2. Diversity in Inorganic Fluorine Chemistry, from Fundamental Aspects to Applications for Global Challenges (Symposium #243) ORGANIZERS: Gerken, Michael; Hagiwara, Rika; Matsumoto, Kazuhiko; Mercier, Hélène; Schrobilgen, Gary J.; Syvret, Robert.

3. Innovative Fluorination/ Fluoroalkylation/ Fluoro-functionalization (Symposium #368) ORGANIZERS: Shibata, Norio; Amii, Hideki; Hu, Jinbo; Vicic, David.

For more details, please see the website Pacifichem.org.

2022 MOISSAN SUMMER UNDERGRADUATE RESEARCH FELLOWSHIP IN FLUORINE CHEMISTRY

THE AMERICAN CHEMICAL SOCIETY, DIVISION OF FLUORINE CHEMISTRY is committed to continuing its sponsorship of undergraduate research and actively encourages the submission of appropriate proposals for research to be conducted during the summer of 2022. This program is intended to encourage an interest in fluorine chemistry among prospective graduate students. The program will provide funds for a student's summer salary and will be awarded directly to faculty members conducting research in any area of fluorine chemistry at colleges or universities on the basis of competitively judged applications. The awards for 2022 are currently $5,000 for a ten-week program. In addition, a limited stipend of up to $500 will be available for the student to present his/her research results at an ACS sponsored meeting. Research expenses in connection with this program will be the responsibility of the faculty member or his/her department or institution. The number of awards to be made will be dependent upon the funds available. Applications for funding under this program may be submitted by a faculty member conducting research in fluorine chemistry. The application should be no longer than five pages and should outline the specific research to be undertaken by the student, should present reasons for anticipating progress by the student during the allotted time, and should suggest how the program might encourage the student to pursue graduate work in fluorine chemistry. All applications must state that the faculty member has adequate facilities and sufficient additional funds to cover research expenses for the proposed research program and must be signed by the applicant. In addition, the faculty member has to be a member or affiliate of the Fluorine Division. To be considered for an award in 2022, the Division Chair must receive an application by January 31, 2022.

The electronic submission should be in the form of a PDF document and sent to Prof. Olga Boltalina:
olga.boltalina@colostate.edu

No more than one award will be provided to an individual applicant per year. Applications for funding under this program will be judged by a committee consisting of the Division Chair, one academic member and one industrial member of the Division of Fluorine Chemistry and one member-at-large of the Fluorine Division. The awards for 2022 will be announced in the Spring 2022 Newsletter of the Division and the award recipients will be notified prior to this by e-mail or telephone. It is anticipated that students in this program will have completed the equivalent of three years of a chemistry major's program, although outstanding students with less academic experience can also be considered. Faculty members will be urged to consider students from institutions other than their own and especially from schools that provide limited opportunities for undergraduate research. However, selection of a student for participation in this program will be at the sole discretion of the faculty member. The selection process should be completed by March 1, 2022. Brief reports (two to three pages) to the Division Chair are expected from the faculty member and student by October 1, 2022. The faculty report should include a summary of technical accomplishments, skills realized by the student, perceived interest by the student in graduate work, and the perceived success or failure of this program in encouraging interest in fluorine chemistry by the student. The student report should include a summary of technical accomplishments and an evaluation of the influence of the award program in his/her decision to consider graduate work in chemistry or fluorine chemistry. ■

EXECUTIVE COMMITTEE (Three-year term, 2022-24)

Early Career Chemists

FANG WANG obtained his B.Sc. in 2006 from Zhejiang University. There, he conducted research in the field of synthetic organic chemistry with Prof. Ping Lu. He was also a visiting undergraduate student in Prof. Jinbo Hu's group at Shanghai Institute of Organic Chemistry, where he became fascinated by organofluorine chemistry. He pursued graduate studies with Prof. G. K. Surya Prakash and Prof. George A. Olah at the University of Southern California. His doctoral research centered on developing versatile fluoroalkylating reagents and investigating key reaction intermediates in fluoroalkylation processes, including the trifluoromethyl anion. After obtaining his Ph.D. in 2012, he joined Prof. Stephen J. Lippard's laboratory at MIT. He developed fluorine-containing fluorescent sensors for detecting mobile zinc in live biological samples and studied the difluoromethyl group as a hydrogen bond donor. In addition to exploring the use of fluorine in biologically related research, he also designed platinum complexes exhibiting remarkable activity against chemoresistant cancer. Since 2020, he has been an assistant professor of chemistry at the University of Rhode Island. His current research entails developing new functional fluorinated molecules to study biological problems. He is the author of 36 peer-reviewed journal articles, five book chapters and holds one US patent. He has been an active member in the fluorine community and received student awards from fluorine chemistry conferences, including the Best Poster Award of 22nd International Symposium on Fluorine Chemistry and the 19th Winter Fluorine Chemistry Student Travel Award. As an early-career chemist of the Division of Fluorine Chemistry, he is committed to training young scientists to answer critical questions in biology using chemical approaches, particularly fluorinated molecular tools.

JEAN-DENYS HAMEL,Tier 2 Canada Research Chair in Organofluorine Chemistry and Catalysis, completed his Bachelor's degree in chemistry at the Université Laval (Canada) in 2013. He received his Ph.D. in chemistry (Honour Roll) in 2018 after completing graduate studies at the same institution under the supervision of Prof. Jean-François Paquin, and during which he spent three months as a visiting student at the Université de Rennes I (France; 2016). His doctoral work centered on the chemistry of allylic, vinylic and propargylic fluorides. As a trainee, he was the recipient of numerous awards that culminated in a prestigious Vanier Canada Graduate Scholarship (2015-2018). This was later followed by an FRQNT postdoctoral fellowship to undertake work at the University of California – Berkeley (USA; 2018-2020). In January 2021, he started his academic career as Assistant Professor in the Department of Chemistry and Biochemistry at the University of Lethbridge (Canada). His research program currently focuses on the development of new synthetic methods to prepare and derivatize organofluorine compounds that rest on catalytic C–H and C–C bond functionalization, and he is on a trajectory to becoming a pillar of the Canadian Centre for Research in Advanced Fluorine Technologies (C-CRAFT), of which he is already Associate Director. He is also a member of the Canadian Society for Chemistry (CSC) and the American Chemical Society (ACS). To this day, he has co-authored fourteen publications and book chapters, with more in the works. His participation to the 22nd and 23rd Winter Fluorine Conferences led to poster awards on both occasions, and in total, he has given twenty-one presentations, including three invited lectures.

JOHNNY W. LEE is a Senior Scientist at Pfizer in the Process Chemistry group within Chemical Research and Development (CRD). After receiving his B.S. degree in Chemistry in 2015, he remained at Stony Brook University (USA) for his Ph.D. studies in Chemistry under the direction of Prof. Ming-Yu Ngai. During his Ph.D., he made significant contributions to the field of organofluorine chemistry: he developed novel strategies and reagents for the introduction of perfluoroethers (OCF_3, OCF_2H, $OCF(CF_3)$) into organic compounds as well as authored and co-authored 10 peer-reviewed journal articles, one book chapter, and one U.S. patent. In 2020, he completed his Ph.D. and started his career at Pfizer, where he currently works on enablement of small-scale syntheses in support of discovery programs and commercial route development. At Pfizer, he has been a part of the Abbvie, Boehringer Ingelheim, and Pfizer Alliance on fluorine chemistry since 2021 and has served as a member through Pfizer at the ACS GCI Pharma Roundtable since 2021. Within the chemistry community, he has been very active as a Synfacts Contributor for Georg Thieme Verlag since 2020 as well as a peer-reviewer for GDCh (*Angew. Chem. Int. Ed.*) since 2021. Johnny W. Lee received the NSF Graduate Research Fellowship (honorable mention) in 2017, selected for ACS DOC GRS in 2019, awarded the CAS Future Leaders Award from Chemical Abstracts Service (CAS) in 2020 and featured in the Sigma Aldrich Next Great Impossible series from Merck KGaA in 2021. His major research interests are in the areas of process chemistry, green chemistry, and fluorine chemistry. He is committed to the field of fluorine chemistry as part of Pfizer's Chemical Synthesis Innovation (CSI) committee to enable industry-academic collaborations for the development of novel methodologies for the synthesis of organofluorine compounds.

S. MARYAMDOKT (NAZANIN) TAIMOORY, obtained her M. Sc. in organic chemistry from Sharif University of Technology (Prof. Firouz Moghaddam), Tehran, Iran, and as Trillium Scholar, completed her doctorate from Brock University with Prof. Travis Dudding. She has conducted her postdoctoral research with Prof. John. F. Trant at the University of Windsor, and Prof. Melanie Sanford at the University of Michigan, USA. She has contributed to several

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subfields ranging from organic synthesis, computational (bio)organic/medicinal chemistry, in silico design of novel artificial amino acids and host-guest complexes for biomedical applications, catalysis, and supramolecular/polymer chemistry both experimentally and computationally.

Senior Chemists

CHADRON M. FRIESEN has been a Full Professor of Chemistry at Trinity Western University in British Columbia, Canada since 2010, and was elected as Department Chair in 2021. He also holds an adjunct research appointment at Simon Fraser University, since 2004 supervising graduate research. He is a current holder of the prestigious Discovery Grant in Chemistry from the National Science and Engineering Council of Canada. He has served as Past Chair, Chair, Vice-Chair/Secretary for the American Chemical Society, Division of Fluorine Chemistry in 2014, 2013 and 2009-2012, respectively. In addition, he was awarded the Chaire Total Fondation Balard in 2014. Prof. Friesen has also spent sabbatical years as a visiting professor at the Unities States Air Force Academy collaborating with Scott Iacono (2020-2021), *Ecole Nationale Supérieure de Chimie* Montpellier, France collaborating with Prof. Bruno Ameduri (2013-2014), and *E. I. du Pont de Nemours and Co., Inc* in collaboration with Jon L. Howell (2006-2007, 2001). Prof. Friesen's research interests reside in green industrial applications of fluorine chemistry. Many of Prof. Friesen's journals, technical reports and patents focus on fluorinated alkoxides formation, design of fluorinated ether stability, functionality, and their expanded applications in light cured materials, block co-polymers, fluorous biphase catalysis systems, and medical detection and delivery devices. Prof. Friesen completed a B.S. in Chemistry and a B.S.E in Secondary Education from John Brown University in Siloam Springs, Arkansas, USA in 1995. In 1996, he began graduate school in fluorine chemistry at The University of Alabama in Tuscaloosa, AL, USA under the direction of Prof. Joseph S. Thrasher. Additionally, Dr. Jon L. Howell co-supervised Friesen in the latter part of his Ph.D. degree while being employed by E.I. du Pont de Nemours and Co., Inc. Prof. Friesen completed his Ph.D. in 2000 and began his independent career with Trinity Western University in 2000. He was awarded the Trinity Western University Research Fellowship in 2005. In addition to research, he also teaches general, organic and advanced organic, analytical chemistry, thermodynamics, fluorine chemistry, and advises research students in fluorine chemistry both at the undergraduate and graduate level. In addition to Prof. Friesen's academic work, he enjoys working with children programs such as Scouts and Awana International, the outdoors, and spending time with family and friends.

HANS-CONRAD ZUR LOYE is the David W. Robinson Palmetto Professor and Carolina Distinguished Professor in the Department of Chemistry and Biochemistry at the University of South Carolina; he holds a joint appointment at Savannah River National Laboratory. He received his Bachelor of Science Degree at Brown University in 1983 and his Ph.D. in Chemistry from the University of California, Berkeley in 1988 under the supervision of Prof. Angela Stacy. He spent one year as a postdoctoral fellow at Northwestern University with Prof. Duward Shriver before starting as an assistant professor in the Chemistry Department of MIT in 1989. In 1996 he moved to the University of South Carolina. He is currently the director of the DOE EFRC, the Center for Hierarchical Waste Form Materials, where his group works on the synthesis of new complex fluorides for sequestering actinide elements. He has published over 500 papers and reviews. He received the ACS administered Exxon Award in Solid State Chemistry in 1994 and the IPMI Henry J. Albert Award in 2009. He was elected to the rank of Fellow of the AAAS in 2009. He has been very active in the American Chemical Society and was the chair of the Solid State Chemistry subdivision of the Division of Inorganic Chemistry. He has organized multiple symposia at national ACS meetings, and he was the Technical Sessions Chair, 2016 South East Regional Meeting of the American Chemical Society (SERMACS). He was named the South Carolina Section of the ACS "Outstanding Chemist" in 2010 and was elected to the rank of Fellow of the ACS in 2011. He received the Southern Chemist Award in 2011, the University of South Carolina Trustee Professorship Award in 2012, and the Charles H. Stone Award from the ACS Carolina Piedmont Section in 2017. In 2016 he received the South Carolina Governor's Award for Excellence in Scientific Research. He is an associate editor for the *Journal of Solid State Chemistry* since 1997 and a past editor for the *Journal of Alloys and Compound*. He is a member and past President of the South Carolina Academy of Science, which promotes science education in South Carolina.

HAORAN SUN is a chemistry professor at the University of South Dakota (USD) and currently the director of the Center for Fluorinated Functional Materials (CFFM). He earned his B.S., M.S., and Ph.D. degrees in chemistry from Jilin University. After a short stint at Jilin University as a faculty member, he and his family moved to the United States in 1999, worked at University of Nebraska-Lincoln with Prof. Stephen DiMagno on highly reactive nucleophilic fluorinating reagent, anhydrous TBAF and fluorinated metalloporphyrins. After joining the Chemistry Department at USD, he focuses on study of fluorinated materials for organic semiconductor and energy storage applications, non-covalent bonding and crystal engineering involving fluorine, and lately safer and selective deoxyfluorination methods using fluoride salts and electron-deficient fluoroaromatics. He has authored and co-authored five book chapters and 85 peer-reviewed journal articles; and obtained four U.S. patents. He was an NSF CAREER grant awardee. With the support from the South Dakota Governor's Office of Economic Development, he and his colleagues at USD established the Center for Fluorinated Functional Materials (CFFM) in 2017. In addition to his own research concentration, as the CFFM director, he promotes fluorine chemistry and fluorinated materials through both graduate and undergraduate research. Together with an NSF REU grant

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support (*REU Site: Undergraduate Research in Fluorine Chemistry, 2018-2021*), he and his colleagues at USD guide 12 undergraduate students each summer to explore research projects related to fluorinated materials and fluorine chemistry. His professional service experience includes serving on the ACS Sioux Valley Local Section as the chair in 2011 and as a member of its Executive Committee from 2010 to 2012. In the future, Dr. Sun will continue promote fluorine chemistry by 1) initiating and joining collaborative efforts to solving bigger-picture problems related to fluorine chemistry, and 2) engaging and training students to be the next generation workforce in fluorine chemistry.

KAZUHIKO MATSUMOTO studied chemistry at Kyoto University where he received his PhD degree in 2004 in the group of Profs. Rika Hagiwara and Yasuhiko Ito. He extended his research areas as a postdoc at Aichi Institute of Technology with Prof. Tsuyoshi Nakajima (surface fluorination of graphite anode for Li ion batteries), at McMaster University with Prof. Gary Schrobilgen (synthesis and characterization of new Xe(VI) species), and at Kyoto University with Prof. Rika Hagiwara (functional fluorine-containing salts including ionic liquids). He was appointed Assistant Professor in 2010 at Kyoto University and was promoted Associate Professor in 2015. His research interests are in inorganic and physical fluorine chemistry including structural characterization of new chemical species, synthesis and application of ionic liquids, and evaluation of electrolyte and electrode materials for electrochemical devices and F2 gas generation. Kazu co-organized fluorine chemistry symposia at Pacifichem 2010 and 2015 (Honolulu), 248th ACS Meeting (San Francisco) in 2014 and served as a secretary of the 20th International Symposium on Fluorine Chemistry (Kyoto) in 2012. He is a member of the ACS Fluorine Division, the Society of Fluorine Chemistry, Japan, the Chemical Society of Japan, the Electrochemical Society, and the Electrochemical Society of Japan. He received the Molten Salt Prize for Young Researchers (Molten Salt Committee, the Electrochemical Society of Japan) in 2009, the Sano Award for Young Researchers (the Electrochemical Society of Japan) in 2013, and Commendation for Science and Technology by the Minister of Education, Culture, Sports, Science and Technology (Young Scientist Award) in 2017. He was on the Executive Committee of the Fluorine Chemistry Division of ACS from 2015 to 2020.

MINE UCAK-ASTARLIOGLU is a Research Chemist at the Concrete Materials Branch (CMB), Geotechnical and Structures Laboratory (GSL), U.S. Army Engineer Research and Development Center (ERDC) located in Vicksburg, Mississippi. Dr. Ucak-Astarlioglu is experienced in physical organic chemistry and materials science with focus areas in materials, organic and inorganic synthesis, characterization, spectroscopy, and computational chemistry. Prior to joining ERDC in 2020, Dr. Ucak-Astarlioglu worked in the academia for over 15 years nationwide where she developed and taught courses, directed labs, managed personnel and equipment, and contracting. Over the years she taught more than 3,500 students. She always valued the importance of partnership and collaborations across the labs and institutions she worked. She is a member of the American Chemical Society and American Concrete Institute and also participates in numerous committees related to emerging materials issues in government, academic, and private domains. Dr. Ucak-Astarlioglu has a PhD in Chemistry from Worcester Polytechnic Institute, an MS degree in Chemistry from Brandeis University, and another MS degree in Fuel Science from Penn State University.

TOM BAKER obtained his B.Sc. (Honors) in Chemistry (1975) from the University of British Columbia, Canada and Ph.D. in Inorganic Chemistry (1980) from UCLA (Fred Hawthorne, advisor). After a postdoctoral stint with Philip Skell at Penn State working on metal atom chemistry and EPR spectroscopy, Tom spent fifteen years at DuPont CR&D developing applications of homogeneous catalysis to fluorochemicals, titanium dioxide, and nylon intermediates. In 1996 he joined the Chemistry division at Los Alamos National Laboratory where he led projects in bifunctional and multiphasic catalysis approaches for alkane functionalization and chemical hydrogen storage and production. In 2008 Baker joined the Chemistry Department at uOttawa as Tier 1 Canada Research Chair in Catalysis Science for Energy Applications and Director of the Centre for Catalysis Research and Innovation. He was a founding member of the US NSF-funded Center for Enabling New Technology through Catalysis (CENTC), member of NSERC's H2CAN research network and a theme leader of the Lignoworks Biomaterials and Chemicals network. In 2009 Baker was appointed Fellow of the American Association for the Advancement of Science and in 2011 he received the Canadian Institute of Chemistry's Green Chemistry and Engineering award. He was presented with the 2013 Kalev Pugi award from the Canadian chapter of the Society of Chemical Industry and became a fellow of the Canadian Institute of Chemistry and the Royal Society of Chemistry (UK) in 2016. Baker was recently selected as the 2019 International Fellow of the Industrial and Engineering Division of the ACS. Current research interests are
centered around application of base metal complexes for polyfluoroalkene conversion to important fluorinated organic compounds and bifunctional base-metal catalyst mechanisms.

VICE-CHAIR PROGRAMS (Three-year term, 2022-24)

ANDREJ V. MATSNEV obtained both his B.Sc. (1998) and M.Sc. (2000) degrees in Chemistry at the National Technical University of Ukraine in Kiev. He received a Ph.D. in Organic Chemistry (2004) from the Institute of Organic Chemistry of the National Academy of Sciences of Ukraine in Kiev (IOCh NASU), where he worked under the supervision of Prof. Lev M. Yagupolskii. Thereafter, Dr. Matsnev continued working at IOCh as a research associate mainly on the synthesis of optically active fluoroorganic sulfoxides, sulfimines, and iodides; electrophilic and

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radical perfluoroalkylating reagents; and the synthesis of some agrochemicals. He was a recipient of several fellowships and grants: National Academy of Sciences of Ukraine's fellowship (2002-2003, Ukraine); President of Ukraine's fellowship (2005-2006, Ukraine); and Grant of the President of Ukraine to support scientific research of young scientists (2007, Ukraine). In 2008, Andrej Matsnev joined the research group of Prof. Norio Shibata at the Nagoya Institute of Technology (Nagoya, Japan) as a VBL postdoctoral fellow. There, the main areas of his research were the enanthioselective synthesis of fluorinated compounds and the development of new electrophilic trifluoromethylating reagents. In 2010, he joined the research group of Prof. Joseph S. Thrasher at the University of Alabama and moved with the group to Clemson University in 2012. At Alabama and Clemson, he worked on the synthesis of polymer electrolytes for PEM fuel cell technology, the development of new approaches to SF5-containing materials, and the improved syntheses of practically important fluoroorganic substances. In addition to research training in the Ukraine, Japan, and USA, he spent shorter periods of time as a visiting scientist in both Poland and Germany, e.g., in the research laboratories of Professor Józef Drabowicz (2003, Centre of Molecular and Macromolecular Studies, Lodz and Jan Dlugosz University, Czestochow, Poland) and Professor Günter Haufe (2012, University of Münster, Münster, Germany). In 2015 Andrej Matsnev started his industrial career at Halocarbon Products Corporation at the same time he was appointed as an Adjunct Assistant Professor at Clemson University. Andrej served as a Secretary of the ACS Division of Fluorine Chemistry from 2016-2019 and as a Chair of the Division in 2020 subsequently.

Currently, Dr. Matsnev is a Principal Scientist at The Chemours Company. He also serves as a Past Chair of the American Chemical Society (ACS) Division of Fluorine Chemistry. ■

FONDATION DE LA MAISON DE LA CHIMIE

2022 GRAND PRIX

PURPOSE AND VALUE The prize is intended to reward original work in chemistry of benefit to mankind, society or nature.

The GRAND PRIX will be awarded for the eighteenth time in 2022, to one or several persons, irrespective of nationality. The prize will carry a monetary award of 35,000 Euros.

ENTRIES All entries must imperatively be presented through a learned society or a national or international scientific organisation without any direct link with the nominee.

Entry forms, together with a report detailing the arguments for the nomination, must be returned to the *Fondation de la Maison de la Chimie* by April 30,2022.

These documents should be sent by e-mail to the following address: presidence@maisondelachimie.com.

General information including entry forms are available on the Foundation's website: Grand Prix 2022

JURY The international jury is composed of a Chairman, nine members recognized for their work in the different fields of chemistry, and the laureates of the two previous GRAND PRIX. Three jury members must be of a nationality other than French. The jury is assisted by a scientific coordinator.

The Chairman of the Jury is the incumbent President of the *Fondation de la Maison de la Chimie*, the other members being appointed by the Board of the Foundation.

EXAMINATION OF ENTRIES All entries will be submitted to the jury members for examination. After due deliberation, the jury members will choose the laureate by a majority vote.

Entry form on following pages.

Created in 1986 on the initiative of the Board of the *Fondation de la Maison de la Chimie,* this Prize has been awarded in recent years to:

- **Professor Ludwik Leibler in 2012**
- **Professor Jean-Pierre Sauvage in 2014**
- **Professor Vincenzo Balzani in 2016**
- **Professors Thomas Ebbesen and Susumu Kitagawa in 2018**
- **Professors Guy Bertrand and Krzysztof Matyjaszewski in 2020**

Fondation de la Maison de la Chimie

ENTRY FORM for the GRAND PRIX of the

FONDATION DE LA MAISON DE LA CHIMIE

to be mailed or e-mailed to :

Secrétariat du Grand Prix,
Fondation de la Maison de la Chimie, 28 rue Saint-Dominique, 75007 PARIS, France
presidence@maisondelachimie.com
Applications should be received no later than 30th April 2022

NOMINATING SOCIETY, NATIONAL OR INTERNATIONAL ORGANISATION without any direct link with the nominee :

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Address : .....

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Represented by (surname, position and signature) : .....

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NOMINEE'S SURNAME : .....

First name : ..... Nationality : .....

Date of birth : .....

Address : .....

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Telephone : ..... E-mail address : .....

UNIVERSITY DEGREES (add lines if necessary):

..... Year : .....

..... Year : .....

..... Year : .....

AWARDS (add lines if necessary):

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CURRENT POSITION : ..... since : .....

Company or Organisation : .....

Address : .....

Telephone : ..... E-mail address : .....

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5 PUBLICATIONS (please list them here & send a copy by e-mail) :

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MAJOR CONFERENCES GIVEN DURING THE LAST 3 YEARS (titles & locations) :

(add lines if necessary)

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PLEASE DETAIL THE REASONS WHY YOU ARE NOMINATING THIS PERSON : (add pages if necessary)

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ACS NEWS

THE BIANNUAL NEWSLETTER FOR THE AMERICAN CHEMICAL SOCIETY DIV. OF FLUORINE CHEMISTRY

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