THE MIDLAND CHEMIST

A publication of the Midland Section of the American Chemical Society

September 2020, Vol. 57, No. 9

Contents

Chair Column – COVID Can't Stop Us

Mark Jones, Chair, Midland Section ACS

My sister lost a diamond ring. Sad, but not all that remarkable. She found the ring, at least a little bit remarkable. It turned up in her horse corral well over a year after it went missing. It likely came off of her finger while feeding horses and found its way into the mud of the corral. It certainly fell off as she put hay out for the horses. She tosses handfuls of hay for the horses to eat off the ground and also places broken bales into the hay rack. The ring likely caught up in the hay, either deposited directly as she tossed the hay or otherwise was transported to where it was found. Its location indicates that it may well have passed through a horse. The chemistry of a horse's gastrointestinal tract is no match for gold and diamonds. They are valued, at least in part, because they are immutable. Passing through a horse doesn't change them.

In these times of COVID-19, my sister's ring gives a little hope. More time around the horses thanks to COVID-19 may, in part, have played a role in finding the ring. The forces that brought it to the surface and noticing it during the time when it surfaced are unlikely. It was an unlikely occurrence in a trying time that brought happiness to my sister. We should all find reasons, unlikely or not, to be happy, to be thankful. They are all around us. It is also a reminder that many things don't change, even when covered with horse excrement. Remove the horse excrement and they are back to their former glory.

COVID-19 continues to limit activities, certainly putting a damper on the normal outreach of the Midland Section ACS. Activities that we would normally explore with schools can't occur in the normal format. We're adapting and we'll need community volunteers as we attempt to encourage STEM in the community in the coming months. Smaller groups will certainly be the norm. We want to bring the thrill of science to this generation. They shouldn't grow up without the experience.

The 2020 Fall Scientific Meeting will soon be upon us. Please attend and please consider submitting a poster. We'll never be able to duplicate the full meeting experience, but we are trying hard to give those with chemistry results to share their opportunity to do so. We hope to give the one-on-one experience of a traditional poster session using online tools. Wonderful speakers will give interesting talks, talks that you can experience from the comfort of your own home. I'll miss the casual conversations, meeting old friends, and meeting new people for the first time. COVID-related horse excrement prevents them this year. Next year's meeting will, by most estimates, be back to its former glory. COVID won't stop us.

Call for Nominations for 2021 Officer and Director Candidates

Michelle Cummings, Chair, Nominations and Elections Committee

Here is your opportunity to become more involved in your local ACS section! We need candidates to run for the following positions for 2021:

- Chair-Elect (1-year term)
- Treasurer (1-year term)
- Secretary (1-year term)
- Chair, Nominations and Elections Committee (1-year term)
- Directors (3 positions for 3-year terms)
- Director (1 position for 1-year term)
- Councilor (3-year term)
- Alternate Councilor (3-year term)

If you are interested in running for any of these positions, or if you know of someone who might be interested, please contact Michelle Cummings at michelle.cummings@dow.com. If you have any questions regarding the responsibilities of any of the positions, please contact the current officers or Michelle Cummings. You are also encouraged to visit our website at http://www.midlandacs.org.

ACS Diversity, Inclusion & Respect Commitments and Activities: A Letter to ACS Members

Luis Echegoyen, National ACS President

Editor's note: This letter from **Luis Echegoyen** (photo below) is reprinted, in part, from the September 1, 2020 issue of *ACS Matters*, an online publication of the American Chemical Society.

August 31, 2020

Dear ACS Members:

Diversity, Inclusion & Respect is a core value of the American Chemical Society (ACS). Recent events have prompted all of us at the ACS to take a critical look at how this core value is reflected in all that we are and all that we do. As part of this reflection, the ACS has engaged in discussions with its staff, governance, and membership about how we can be a stronger and more positive force in the battle against racism within the chemistry enterprise. These discussions revealed that there is much work to be done, and continued input needed, to fully realize our core value.

While we stand in solidarity with our Black and Brown members and condemn racism, discrimination, and harassment in all forms, we recognize that this work is a journey that requires sustained resolve and commitment. We appreciate that no single statement or no single program can eradicate decades of racism, discrimination, bigotry, intolerance, and harassment. We realize that real progress will require regular measurement to gauge and monitor the effectiveness of our efforts to ensure that we are on course to improve things.

Informed by the above referenced discussions and additional input, the American Chemical Society has taken some initial steps that build on and expand beyond existing efforts.

- Committed an additional $1 million dollars toward advancing our core value of Diversity, Inclusion & Respect. Half of those funds will support the ACS Bridge Project, an effort to increase the number of chemical science PhD degrees awarded to underrepresented minority (URM) students. The remaining funds will support other related initiatives, which we are in the process of identifying.

- Designated our Diversity, Inclusion & Respect Advisory Board (which includes the chairs of the ACS committees under the diversity umbrella) as the central coordinating body for related issues impacting the ACS and its membership. This governance body has been tasked by the ACS Board of Directors to develop an action plan based on concrete recommendations to guide the ACS in its journey to ensure that our Black and Brown members and colleagues, as well as all disadvantaged groups, are afforded the same rights and opportunities as those afforded to those of privilege.

- Updated our Diversity, Inclusion & Respect webpage to include resources for ACS members and the general public, such as helpful readings, courses, and multimedia resources related to this area. The webpage will be the central point for the Society to post its messages and actions related to Diversity, Inclusion & Respect.

These actions build on several efforts already existing or underway at the ACS to support Diversity, Inclusion & Respect, such as:

- The ACS Scholars Program that annually provides approximately $900,000 in renewable scholarships to 350 underrepresented minority students majoring in undergraduate chemistry-related disciplines.
- ACS Project SEED, a paid summer internship program for economically disadvantaged high school chemistry students to work in real laboratories, with real scientists serving as their mentors.
- A suite of initiatives actively seeking to increase diversity and address bias within our community of editors, peer reviewers, and authors across our 60-plus scientific journals.

All of these efforts, however, are just the initial foundation that we will continue to build upon moving forward. We know that tangible and concrete steps involve far more than crafting lofty statements of resolve and instituting quick fixes, so we are working hard to develop efforts for meaningful and sustainable change.

We ask for your continued help as we work toward improving ourselves, our organization, and our enterprise. Only by working together will we be able to make real progress toward a truly better world. If you have suggestions and ideas helpful to this mission, please send them to secretary@acs.org.

Sincerely,

Luis Echegoyen, Ph.D.
2020 President, American Chemical Society

Continuing COVID-19 Pandemic Precautions

Amanda Palumbo and Gina Malczewski, Midland Section ACS

As a precaution against the COVID-19 pandemic, and in compliance with best practices as advised by government agencies, a number of Midland Section ACS events will be hosted virtually only, postponed until further notice, or cancelled entirely.

Our committees have a selection of exciting networking and career development events coming up once the public health situation allows. Many thanks for your continued community support and partnership.

For the most up-to-date information on events and activities, please visit http://www.midlandacs.org/, or https://www.facebook.com/MidlandACS.org/.

2020 Midland Section ACS Virtual Fall Scientific Meeting, October 10
Anirudha Banerjee, 2020 Fall Scientific Meeting Chair, Midland Section ACS

The 2020 Fall Scientific Meeting Committee is announcing that a virtual format meeting will be held this year.

76th Midland Section ACS Virtual Fall Scientific Meeting: "Sticking with Chemistry"

Date: Saturday, October 10, 2020

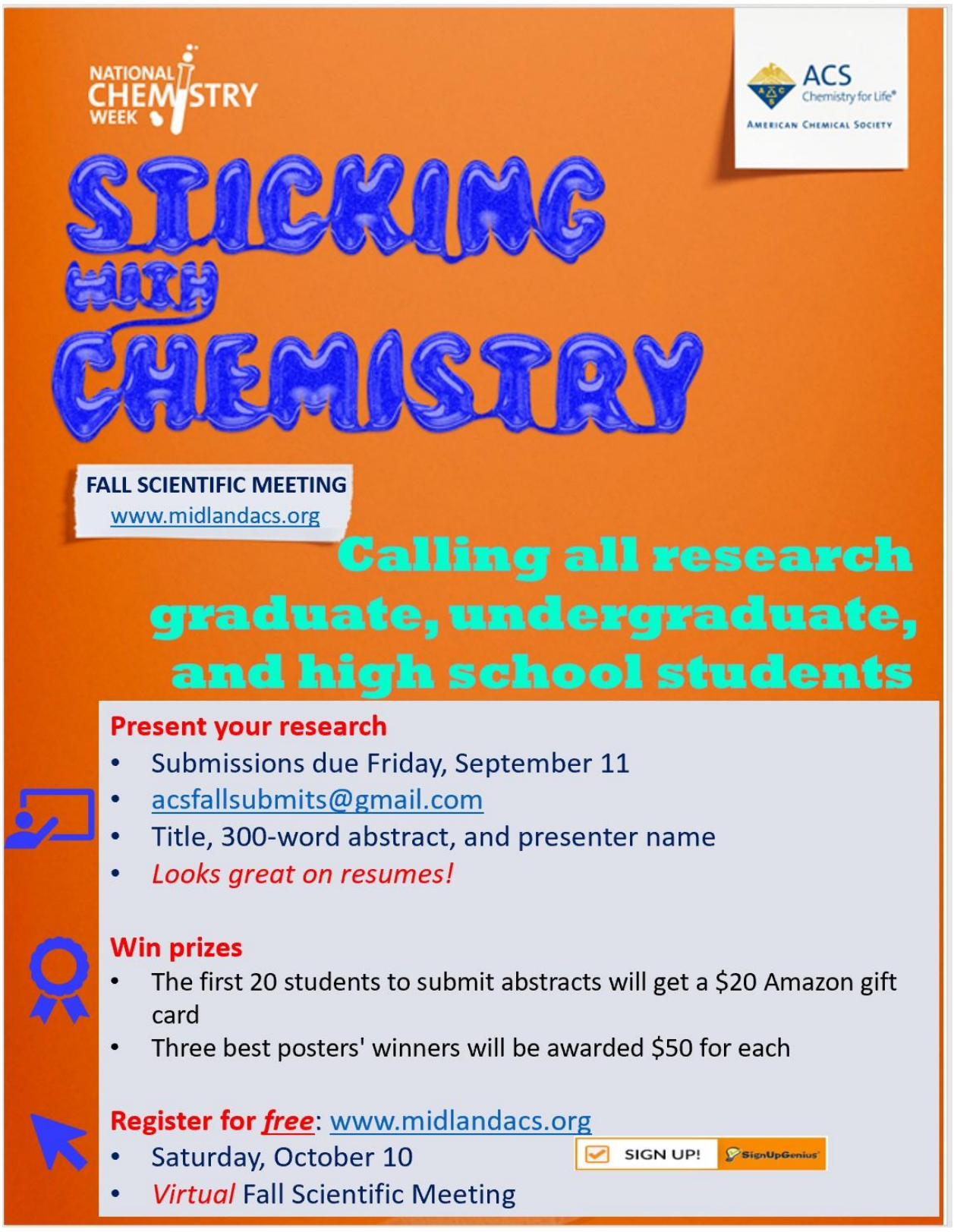
Registration: Please follow the Sign Up Genius link at www.midlandacs.org
Deadline: Extended to September 18, 2020

Abstract Submission: Please submit poster titles, 300-word abstracts, and the presenter's name to acsfallsubmits@gmail.com
Deadline: Extended to September 11, 2020

Note: The first 20 students to submit abstracts will each receive a $20 Amazon gift card. The three best posters' winners will be awarded $50 each.

P.S. to Professors, Teachers, and Educators: Please encourage your students to participate in this meeting.

Details of the virtual format meeting will be updated on www.midlandacs.org. Please watch for updates, and please also see the Virtual Fall Scientific Meeting flyer below. We hope to see you at the meeting virtually!


NATIONAL CHEMISTRY WEEK
ACS Chemistry for Life
American Chemical Society
SPICING WITH CHEMISTRY
FALL SCIENTIFIC MEETING
www.midlandacs.org
Calling all research graduate, undergraduate, and high school students
Present your research
• Submissions due Friday, September 11
• acsfallsubmits@gmail.com
• Title, 300-word abstract, and presenter name
• Looks great on resumes!
Win prizes
• The first 20 students to submit abstracts will get a $20 Amazon gift card
• Three best posters' winners will be awarded $50 for each
Register for free: www.midlandacs.org
• Saturday, October 10
• Virtual Fall Scientific Meeting
SIGN UP! SignUpGenius

Chris Goralski Named ACS Fellow, Class of 2020

Steve Keinath, Co-Editor, The Midland Chemist

Christian T. Goralski (photo at left) has been named an ACS Fellow of the Class of 2020. This was first announced in the July 27, 2020 issue of *C&EN* (Vol. 98, No. 29, page 40). Chris was one of just 53 ACS members so honored this year. The ACS Fellows program began in 2009 as a way to recognize society members for outstanding achievements in and contributions to science, the profession, and the ACS.

Within the Midland Section of the ACS, Chris joins a distinguished and growing set of other local section ACS Fellows, now numbering 14 in total since 2010 (see *The Midland Chemist*, Vol. 57, No. 1, page 13 (January 2020).

Excerpts from Chris's ACS Fellow nomination package are appended here to recognize and applaud his career-long achievements in and contributions to science, the profession, and the ACS:

Award Citations:

- Co-inventor on the US Patent on the preparation of the pure, higher melting polymorph of Terfenadine, a non-sedating antihistamine which reached a billion dollars in sales.
- Served on the Editorial Advisory Board of Organic Process Research and Development and as a reviewer for 16 years (2000-2015), helping this journal to become a leading journal in organic process chemistry.

Professional Affiliations:

- American Chemical Society, 50-year member, 1971 to present
- Society of Sigma Xi, member, 1966 to present
- Phi Lambda Upsilon Honorary Chemical Society, member, 1965 to present
- Tau Beta Pi Engineering Honor Society, member, 1963 to present
- Alpha Chi Sigma Chemistry Fraternity, 50-year member, 1962 to present
- Midland Section ACS, secretary, treasurer, chair-elect, chair, and past-chair, 1974-1979

Volunteer Service to the ACS Community:

- Program Chairman of the 14th Central Regional ACS Meeting, Midland, MI, June 16-18, 1982. Invited Professor Herbert C. Brown to be the keynote speaker and also to hold a symposium on boron chemistry. Professor Brown also spoke as part of the Matrix:Midland program in Midland, in June 1982. Chris helped to set high standards for later regional ACS meetings hosted by the Midland Section ACS.
- One of just 15 Midland Section ACS members to hold all elected section officer roles (chair-elect, chair, past-chair, secretary, and treasurer). See *The Midland Chemist*, Vol. 41, No. 7, page 25 (October 2004).
- Chris became the co-editor of the professional news column for *The Midland Chemist* in November 1969, and assumed the role of editor of the professional news column in March 1970, retaining that position until January 1975. Chris was proactive in publicizing Midland Section members' professional activity, and during his tenure recruited a staff of 21 members from various sections of

Dow, Dow Corning, and various colleges and universities. This allowed Midland Section ACS members to be more widely recognized for their professional activities and contributions.

Selected Contributions to the Science/Profession:

- Synthesis and Reactions of Monomeric and Dimeric Aminoboranes. See Pasumansky, L.; Haddenham, D.; Clary, J.W.; Fisher, G.B.; Goralski, C.T.; Singaram, B. "Lithium Aminoborohydrides 16. Synthesis and Reactions of Monomeric and Dimeric Aminoboranes" *J. Org. Chem.* **2008**, *73*, 1898-1905. Very useful reagents for organic synthesis. Two of the lithium aminoborohydride reagents, lithium pyrrolidinylborohydride and lithium dimethylaminoborohydride, are available commercially from Millipore Sigma. See U.S. Patent 5,466,798.
- Special Feature Section: Hydride Reactions. See Goralski, C.T.; Singaram, B. "Special Feature Section: Hydride Reductions" *Org. Process Res. Dev.* **2006**, *10*, 947-948. This report offered a discussion of useful reagents for organic synthesis.
- Lithium Aminoborohydrides: Reagents with Multiple Personalities. See Christian T. Goralski, Bakthan Singaram, Christopher Collins, Jennifer R. Cuzens, and Marc Lanz, "Lithium Aminoborohydrides: Reagents with Multiple Personalities" in Organoboranes for Synthesis, *ACS Symposium Series* **783**, P.V. Ramachandran and Herbert C. Brown, Editors, 2001. This report offered a discussion of useful reagents for organic synthesis.
- A New Class of Powerful, Selective, Air-Stable Reducing Agents. See Gayane Godjoian, Gary B. Fisher, Christian T. Goralski, and Bakthan Singaram, "Synthesis, Characterization, and Synthetic Utility of Lithium Aminoborohydrides: A New Class of Powerful, Selective, Air-Stable Reducing Agents" in Reductions in Organic Synthesis, *ACS Symposium Series* **641**, Ahmed F. Abdel-Magid, Editor, 1996. This report introduced a new class of useful reagents for organic synthesis.
- New Method of Aromatic Substitution Giving Meta-Substitution with Substrates such as Toluene. See Discovery and elaboration of a new method of aromatic substitution giving meta-substitution with substrates such as toluene. Kovacic, P.; Lange, R.M.; Foote, J.L.; Goralski, C.T.; Hiller, J.J.; Levisky, J.A. "A New Method of Aromatic Substitution Yielding Unusual Orientation. Amination with N-Haloamines Catalyzed by Aluminum Chloride" *J. Am. Chem. Soc.* **1964**, *86*, 1650; Kovacic, P.; Goralski, C.T.; Hiller, J.J.; Levisky, J.A.; Lange, R.M. "Amination of Toluene with Trichloramine-Lewis Acid Catalyst" *J. Am. Chem. Soc.* **1965**, *87*, 1262. This work was presented at the 148th ACS National Meeting and was written up in the September 14, 1964 issue of *Chemical and Engineering News*, page 56, in a section entitled "Brief from the 148th ACS National Meeting." The title was "Toluene Amination Gives m-Toluidine." Portions of these publications were taken from Chris's senior thesis work at Case Institute of Technology.

Honors and Awards:

- Distinguished Alumni Award in Chemistry, School of Science, Purdue University, 2002

Excerpts from Wendell Dilling's primary nomination letter:

It is my pleasure to serve as the primary nominator for Dr. Christian T. Goralski for the honor of ACS Fellow. Chris has many scientific and technical achievements as recounted in other sections of this nomination.

My major association with Chris has been with his service to the Midland ACS Section. My first interaction occurred when Chris became co-editor of the professional news column for *The Midland Chemist* (*MC*), the Midland Section's newsletter, in November 1969. I was co-editor of *The MC* at that time. Chris assumed the

role of editor for the professional news column in March 1970, retaining that position until January 1975. Chris started employment at The Dow Chemical Company in November 1968, and his volunteer activity with the Midland Section ACS began only one year after he arrived in Midland.

Chris began serving in elective Midland Section offices in 1974 beginning with Section treasurer while continuing to edit the professional news column. He served as Section secretary in 1976, chair-elect in 1977, and Section chair in 1978. He is one of the few Midland Section members who has served in all four of these elective offices, and he performed all of these jobs in an admirable fashion.

The chair-elect is automatically the program committee chair in the Midland Section. A few of the programs organized by Chris and the program committee during 1977 were "Chemistry and Analysis of Materials Utilized in Laser Fusion Research" by Robert Nolan, KMS Industries, Ann Arbor MI; "Occupational Stress Among Chemists" by Professor Joy V. Reeves, Stephen F. Austin State University, Nacogdoches, TX; and "Chemistry and Art" by Alfred Bader, President, Aldrich Chemical Co., Milwaukee, WI. These and other programs such as the annual half-day Fall Scientific Meeting made for a full and varied program for the members that year.

During Chris's term as Section chair the following special events were held: a mixer for new members; a mini course on "Characterization of Polymers," a special mixer in honor of Midland's IR-100 winners with Mac Pruitt, Dow's Vice-President and Director of Research as the speaker, and the E.C. Britton Symposium for fostering open communication between the academic and industrial sectors. These events that Chris helped organize offered members opportunities for further education and social interactions with fellow scientists and educators.

In my opinion, Chris's major ACS service contribution was his position as program chair of the 1982 Central Regional ACS Meeting, held at Northwood Institute in Midland, and the first regional ACS meeting hosted by the Midland Section ACS. As the general chair of the meeting, I needed a person with the scientific ability and organizational skills to pull together an outstanding program for such an important first regional meeting hosted by the Midland Section. We started planning in late 1976, five years prior to the meeting. Early in our planning, Chris was one of several Section members who volunteered to serve as a subcommittee chair. I chose Chris as the program committee chair because of his ability as an organic chemist, organizational skills, cooperative attitude, and enthusiasm for the meeting and the Midland Section.

Chris began planning the technical program well before the meeting. He communicated with Prof. Herbert C. Brown, who had recently won the Nobel Prize in Chemistry, about organizing a symposium on Organoboranes in Organic Synthesis. Prof. Brown suggested that his coworker, Dr. Ei-ichi Negishi, who later also won the Nobel Prize in chemistry, organize the symposium. A large contingent from Purdue University accompanied Prof. Brown and Dr. Negishi to Midland, several of whom participated in the symposium. Prof. Brown also gave a keynote speech at Matrix:Midland's science and arts celebration held at the Midland Center for the Arts during the regional meeting, which added to the outstanding program organized by Chris and his program committee.

Chris and his committee also organized several other outstanding symposia such as the XVI Organosilicon Symposium, which included every one of the previous National Kipping Award winners as a speaker or session chair, from Henry Gilman to Thomas Barton, who received the 1982 award at our meeting and at the Michigan Molecular Institute 10th Anniversary Polymer Symposium.

Wendell L. Dilling, Midland Section ACS Director and Historian, and 2010 ACS Fellow

Excerpts from Dan Henton's secondary nomination letter:
I would like to give my heartfelt recommendation for the selection of Christian T. Goralski, PhD, as an ACS Fellow. I have known Chris for over 40 years and during that time he has been a mentor, lab partner, and friend. Chris always maintained the highest standards of scholarship, ethics, and safe practices. Chris has been an active member of the ACS, always willing to step forward and contribute his time and talents to the improvement of the organization.

When I first met Chris, he was serving as the program chair of the 14th Central Regional ACS Meeting held at Northwood Institute in Midland, June 16-18, 1982. His work on that meeting, from planning the event, until its conclusion spanned nearly four years, from 1978 to 1982. That meeting was viewed as one of the best organized and executed meetings held up to that time, and much of the credit goes to Chris and his tireless efforts to leave nothing to chance.

In addition to Chris's service to the ACS, he was a respected scientist at Dow. He achieved the level of Associate Scientist relatively early in his career. This was in part a recognition of the many patents (over 45 in the US alone) that he was granted and the acknowledgment of his value to the company as a mentor and technology leader. Chris was an active participant in after-hours seminar discussion groups during which each participant in turn would present on a literature topic which they found of interest. Chris also actively pursued publication of his work in scholarly, refereed journals and presented at conferences, when permitted by Dow's stringent information release process.

Chris was also actively involved in the various meetings of the Midwest Pharmaceutical Process Chemistry Consortium over the years since its founding in 1992, ranging from presenting seminars on work which had been performed at Dow, to being the organizing force in planning the meetings. As an example of his level of involvement, he was one of two people charged with organizing the 2002 meeting (its 10th anniversary) which was held in Midland. All of these meetings were rightfully viewed as extremely well run and of immense benefit to the participants.

Finally, Chris has been called upon as a peer reviewer for several journals. In particular, he served for 16 years on the Editorial Advisory Board and as a reviewer for Organic Process Research and Development, the ACS journal of organic process chemistry (2000-2015).

Daniel R. Henton, PhD, Research Assistant Professor, MSU St. Andrews, Midland

Excerpts from Bakthan Singaram's secondary nomination letter:
It is a pleasure to write supporting the nomination of Dr. Christian T. Goralski for the American Chemical Society Fellows Membership. I have known Christian since March 1985, when he joined Professor Herbert C. Brown's group as an Industrial postdoctoral fellow. We very quickly established both a friendship and a synergistic working relationship. He was highly productive and produced several papers and patents in the six-month period he spent at Purdue University. Christian's fundamental work in the hydroboration of enamines laid the foundation for the future work in Brown's laboratory and my own labs when I joined as a faculty at the University of California at Santa Cruz. As a result of my long association with him I have come to respect his tenacity of purpose and sincerity of carrying out research of very high quality in the field of Organoborane Chemistry.

Christian is one of the most enthusiastic and creative organic chemists that I have had the pleasure to work with in my thirty-year career as an organic chemist. He rapidly transfers his enthusiasm to his coworkers and stimulates them to think about the problem under investigation and to make valuable contributions. After joining the faculty at UCSC we continued to collaborate in developing reagents useful in organic synthesis. Students in my lab enjoyed working with Dr. Christian Goralski, and we published over thirty papers in collaboration with Christian.

Christian is perhaps best known in the academic circle for his work on the use of achiral and chiral hydroborating agents, such as 9-borabicyclo[3.3.1]nonane and diisopinocampheyl borane, in organic synthesis to do the hydroboration of enamines. There are many reasons for his success in this field. Among these are his extensive knowledge of the organic chemical literature, mastery of essentially all available physical methods, and an incredible capacity to do sustained systematic work. His researches have led to the discovery of an array of reactions using Boron Chemistry: asymmetric synthesis of β-amino alcohols, HPLC separation of β-amino alcohols, discovery of selective and powerful reducing agents, and chiral auxiliaries synthesized from terpene epoxides, just to name a few. He has published over seventy technical papers and book chapters. These are truly remarkable achievements.

After attending numerous ACS Meetings, and other technical meetings it is clear that Dr. Christian Goralski is widely recognized as an expert in the Process Chemistry field. Dr. Goralski's expertise in the hydride reduction field was well recognized and he was asked to be a Guest Editor for a special issue of Organic Process Research and Development dedicated to hydride reductions in 2006. His work is becoming increasingly cited in the organic chemical literature and the work on asymmetric synthesis has received considerable note and should receive even more in the future. In keeping with his stature as a scientist, Dr. Goralski has presented numerous lectures at national and international meetings.

Dr. Christian T. Goralski is an outstanding research organic chemist. He strives to produce the highest quality research results, and results that will prove useful to other organic chemists in solving synthetic problems. Christian continues to serve as a valuable member of the American Chemical Society locally as well as nationally.

Prof. Bakthan Singaram, Department of Chemistry and Biochemistry, University of California at Santa Cruz

Excerpts from Mark Jones's Midland Section ACS Chair's supporting letter:

Chris Goralski is a chemist's chemist. Dow was a very different company when I first met Chris. While Dow is a plastics company today, our history includes pharmaceutical and agricultural chemical production. Chris was one of the real experts in the synthesis and scale-up of small molecule organic chemistry for pharmaceutical actives. He was a leader in the pharma area, skilled at the bench, pilot, and production scale. Scale-up is a necessary component of commercialization of any product. It is something that is learned through doing, not in an academic setting. Highly skilled practitioners are rare. Chris was and remains one of those rare experts. Chris was involved in many successful campaigns in the pharma area over the course of his career.

Testament to his unique skill set, Chris left Dow for a successful consulting career, very much in demand for his artistry in the development of economical, reliable, and practical options for the production of small molecules. Chris was also widely respected for his mentoring, and for his desire to impart his wisdom on to the next generation. Many of his mentees went on to great careers in pharma and ag chemicals within Dow and with other companies as Dow's interest declined in those areas.

I am currently on the staff of the Dow CTO, a position I've held for most of the last decade. As a Senior Research Fellow and a 30-year Dow veteran, I have known many exceptional industrial chemists, such as Chris. I never worked closely with Chris, but certainly knew him as I was a young employee. I know many of the folks he mentored, some still at Dow but most having moved on through divestitures and to other companies. He is widely respected to this day by those who worked with him.

I also serve as the Chair of the Midland Local Section for the 2020 term, and I offer both my personal endorsement and support on behalf of the Midland Local Section for Chris's nomination for ACS Fellow. I believe Chris's unique skill set and history of excellence, coupled with his involvement with the local ACS section make him an excellent nominee for ACS Fellow.

Mark Jones, PhD, 2020 Midland Section ACS Chair, and 2017 ACS Fellow

Christian T. Goralski, Ph.D.

Education:

- B.S. in Chemistry, 1964, Case Institute of Technology.
- Ph.D. in Organic Chemistry, Purdue University, 1969, under the direction of Professor William E. Truce, specializing in the chemistry of organosulfur compounds.
- Postdoctoral Scholar (Sponsored by The Dow Chemical Company), Purdue University, 1985-1986, under the direction of Professor Herbert C. Brown, specializing in the asymmetric hydroboration of enamines.

Research and Professional Experience:

- Employed as an organic chemist by The Dow Chemical Company from November 1968 until July 2004. Spent five years working on the synthesis of new agricultural chemicals and antimicrobial agents. Spent thirty years working on the design and scale-up of organic chemical processes for the manufacture of pharmaceutical agents. Retired from Dow at the level of Senior Associate Scientist.
- Currently president of an independent consulting business, CTG Consulting, LLC.

Collaborators and Affiliations:

- Since 1986, collaborated with Professor Bakthan Singaram of the University of California at Santa Cruz in the area of organoboron chemistry. More specifically, this collaborative research has focused on the synthesis, chemistry, and synthetic utility of lithium aminoborohydride reagents and the synthesis, chemistry, and synthetic utility of aminoboranes. Also collaborated on the use of terpenes and terpene derivatives in the preparation of chiral amino alcohols for use as chiral auxiliary agents in asymmetric organic synthesis.
- On-site (The Dow Chemical Company) advisor and mentor during Sterling Gatling's work toward a Ph.D. in Chemistry from Michigan State University. Sterling's graduate work was sponsored by the Dow Chemical Company.
- Member of Alpha Chi Sigma (50 Year Member), Phi Lambda Upsilon, Sigma Xi, and Tau Beta Pi.

ACS Activities:

- Member of the ACS for 50 years.
- One of fifteen local section members (Midland Section) to hold all section offices (chair, chair-elect, secretary, and treasurer). See *The Midland Chemist*, Vol. 41, No. 7, page 25 (October 2004).
- Program Chairman of the 14th Central Regional ACS Meeting, Midland, Michigan, June 16-18, 1982.
- Member of the Organic Division.
- Member of the Editorial Advisory Board of Organic Process Research and Development, the American Chemical Society journal of process chemistry, for 16 years (2000-2015).

Publications and Patents:

- Author or co-author of over 65 peer-reviewed journal articles.
- Named as inventor or co-inventor of over 50 U.S. and foreign patents.

Selected Publications since 2004:

- Goralski, C.T.; Singaram, B. "Special Feature Section: Hydride Reductions" *Org. Process Res. Dev.* **2006**, *10*, 947-948.
- Pasumansky, L.; Goralski, C.T.; Singaram, B. "Lithium Aminoborohydrides: Powerful, Selective, Air-Stable Reducing Agents" *Org. Process Res. Dev.* **2006**, *10*, 959-970.
- Goralski, C.T.; Hasha, D.L.; Singaram, B.; Steiner, D. "Scale-Up of the Preparation of (1R,2R,4S)-1-Methyl-4-(1-methylethenyl)-2-(4-morpholinyl)cyclohexanol" *Org. Process Res. Dev.* **2007**, *11*, 776-779.
- Pasumansky, L.; Haddenham, D.; Clary, J.W.; Fisher, G.B.; Goralski, C.T.; Singaram, B. "Lithium Aminoborohydrides 16. Synthesis and Reactions of Monomeric and Dimeric Aminoboranes" *J. Org. Chem.* **2008**, *73*, 1898-1905.
- Goralski, C.T.; Singaram, B. "The hydroboration of enamines" *Arkivoc* **2012**, (vii) 88- 112.
- Daniel R. Henton, Makato Nathanael Masuno, Ryan L. Smith, Alex B. Wood, Dimitri A. Hirsch-Weil, Christian T. Goralski, Joseph Araiza, "Oxidation Chemistry on Furan Aldehydes," U.S. Patent 10,392,358 B2 (2019).

Awards:

- Distinguished Alumni Award in Chemistry from the School of Science at Purdue University in 2002.

Chromebook Replacement Efforts Need Help

Bruce Rayce, President, Kiwassee Kiwanis Foundation, and Fred Honorkamp, Project Director

Editor's note: This article is reprinted, in part, from a *Letter to the Editor* that appeared in the Tuesday, September 1, 2020 issue of the *Midland Daily News*.

To the editor:

Shortly after the flood and devastation of May 19, the Kiwassee Kiwanis learned from Midland Public Schools Superintendent Michael Sharrow that 250 student-issued Chromebooks had been lost or destroyed in the flood. These computers are essential tools for enabling the virtual learning made necessary by the COVID-19 pandemic. The impact of this loss was approximately $70,000 for which there was no recovery. As the new school year rapidly approaches, the replacement of these Chromebooks is both "urgent and critical."

Wanting to help, our Kiwassee Kiwanis foundation board met with Sharon Mortensen of the Midland Area Community Foundation and after much discussion decided to establish the Midland Area Schools Chromebook Replacement Fund. We made an initial contribution of $10,000 and the Michigan Kiwanis Children's Fund contributed an additional $2,000.

In establishing this fund, we hoped that other area service clubs, foundations, businesses, and individuals would partner with us in addressing this community need. Several have already done so, yet we are still far short of our $70,000 goal. If we are fortunate enough to exceed our goal, we intend to provide the additional funds to other area schools similarly impacted.

The cost of each Chromebook is approximately $270, and we encourage those that can, to sponsor one or more of these devices. Of course, contributions of any amount are welcome and appreciated.

Tax exempt contributions can be made by mailing a check made out to the Midland Area Community Foundation/Chromebook Replacement Fund to the Midland Area Community Foundation, 76 Ashman Street, Midland, MI 48640, or by calling 989-839-9961 to donate, or by going online to donate at www.midlandfoundation.org/fund/chromebookreplacementfund/.

Thank you. Let's all work together for the betterment of our students and our community.

Bruce Rayce, President, Kiwassee Kiwanis Foundation
Fred Honerkamp, Project Director

Midland, Michigan

Invitation to Participate in a Survey – Toward Advancing the Graduate Student Curriculum

Qi Cui and Jordan Harshman, Department of Chemistry and Biochemistry, Auburn University

You are invited to participate in a research project being conducted at Auburn University that will investigate gaps between the knowledge and skills that chemistry graduate students will need to succeed in a position like the one that you have, or have had, in your career. Your participation will provide valuable insights into how chemistry departments can best train graduate students as future chemists.

We are asking that chemists who have received a doctoral degree to complete a brief survey (see the link below). The survey is expected to take 10 minutes to complete. As a reward for your participation, you will have the chance of being entered into a drawing to win a $100 Amazon gift card.

The expected outcomes of this project include valuable targets for graduate education in the chemical sciences. We will disseminate the results of the research project to chemistry graduate departments, meaning that your participation can impact how the next generation of chemists are trained. If you are interested in this opportunity, please click the link below.

Follow this Link to take the Survey, or copy and paste the following URL into your internet browser: https://auburn.qualtrics.com/jfe/form/SV_9Y1AL9BJlA5a1rn?Q_DL=awXgGWfkiEzLJ8o_9Y1AL9BJlA5a1rn_MLRP_3Cv3y7hRXiGhjmZ&Q_CHL=email.

If you have any questions about this project, please do not hesitate to e-mail Qi Cui (qzc0009@auburn.edu) or Dr. Jordan Harshman (jth0083@auburn.edu). Thank you for your time.

Central Regional Meeting Rescheduled to November 2020

CERM 2020 Organizing Committee, American Chemical Society

The health and well-being of our members, attendees, and staff is paramount. As a result of the rapidly changing situation related to the spread of and recovery from the Coronavirus pandemic (COVID-19), we are rescheduling the 2020 Central Regional Meeting (CERM) to November 2020.

Thus, the May 27-29 dates were cancelled for health and safety reasons. Please join the ACS Columbus Section as we reschedule to November 2020. A full refund of registration fees for the cancelled dates will be processed by the ACS.

We will continue to monitor and follow the state and national government safety guidelines to keep everyone safe. Thank you for your patience as we continue to "Plan with Optimism and Decide with Science" in approaching the rescheduled November 2020 event (dates to be published soon).

Please visit the Central Regional Meeting website for additional information, or reach out to us directly by e-mail at reglmtgs@acs.org for any questions. Again, please join us as we reschedule the May 2020 CERM meeting to November 2020 in Columbus.

Chemistry Books Available, Free to a Good Home

John Roy, Retired Midland Area Chemist

Upon my retirement, I have three banker storage boxes of chemistry books in good condition that I would like to donate to someone who can use them, or to a university chemistry department. Two boxes are of organic chemistry books, and one box is of physical chemistry books (see the list of authors and titles below). I have 11 volumes of Fieser and Fieser in the organic chemistry collection.

The books are in excellent condition, and all of the books were published in the late 1970s or early 1980s when I was doing organic/physical chemistry in graduate school. Once in Midland, my attention turned to analytical chemistry.

Let me know if you are interested, and I will make the arrangements to get these books delivered to you. Feel free to contact me on my cell phone (989-708-7267) or by e-mail (johntroy@chartermi.net). Thank you.

Organic Chemistry Books

- Fieser and Fieser, "Reagents for Organic Synthesis," Volumes 1 through 11
- "Organic Syntheses," Collective Volumes 1 through 5, with Cumulative Indices
- Carey and Sundberg, "Advanced Organic Chemistry," Part A and Part B
- House, "Modern Synthetic Reactions"
- George Odian, "Principles of Polymerization, Second Edition
- W. Carruthers, "Some Modern Methods of Organic Synthesis"
- Theodora Greene, "Protective Groups in Organic Synthesis"
- Stuart Warren, "Organic Synthesis, The Disconnection Approach," plus Workbook
- Alan Bassindale, "The Third Dimension in Organic Chemistry"
- Kurt B.G. Torssell, "Natural Product Chemistry, A Mechanistic and Biosythetic Approach to Secondary Metabolism"

Physical Chemistry Books

- Messiah, "Quantum Mechanics," Volumes I and II
- Karplus and Porter, "Atoms and Molecules"
- Cotton, "Chemical Applications of Group Theory"
- Atkins, "Molecular Quantum Mechanics"
- Richard Liboff, "Introductory Quantum Mechanics"
- Melvin Hanna, "Quantum Mechanics in Chemistry"
- Harris and Bertolucci, "Symmetry and Spectroscopy, An Introduction to Vibrational and Electronic Spectroscopy"
- Jeffrey Steinfeld, "Molecules and Radiation: An Introduction to Modern Molecular Spectroscopy"
- Orchin and Jaffe, "Symmetry, Orbitals, and Spectra"

Upcoming Dates, Events, and Other Updates

- September 8 (7:00 – 8:00 PM) – Midland Section ACS Board meeting, via a WebEx conference call connection only at Midland Section WebEx Board Meeting September 2020, phone number: 989-633-1166. ***Please note: This Board meeting is being held on Tuesday evening, not the usual Monday evening.***
- September 11 – ***Abstract submission deadline for 2020 Midland Section ACS Virtual Fall Scientific Meeting.*** Please submit poster titles, 300-word abstracts, and the presenter's name to acsfallsubmits@gmail.com. For any questions, please contact Anirudha Banerjee, 2020 Fall Scientific Meeting Chair, at fallscimeeting@midlandacs.org.
- September 18 – ***Registration deadline for 2020 Midland Section ACS Virtual Fall Scientific Meeting.*** Please follow the Sign Up Genius link at www.midlandacs.org. For any questions, please contact Anirudha Banerjee, 2020 Fall Scientific Meeting Chair, at fallscimeeting@midlandacs.org.
- October 5 (7:00 – 8:00 PM) – Midland Section ACS Board meeting, MCFTA Board Room (in person), or via a WebEx conference call connection at Midland Section WebEx Board Meeting October 2020, phone number: 989-633-1166.
- October 10 (Time TBD) – 2020 Midland Section ACS Virtual Fall Scientific Meeting. Meeting theme: *Sticking with Chemistry*. Please note: The ***abstract submission deadline is September 11***, and the ***meeting registration deadline is September 18***. For any questions, please contact Anirudha Banerjee, 2020 Fall Scientific Meeting Chair, at fallscimeeting@midlandacs.org.
- November 2 (7:00 – 8:00 PM) – Midland Section ACS Board meeting, MCFTA Board Room (in person), or via a WebEx conference call connection at Midland Section WebEx Board Meeting November 2020, phone number: 989-633-1166.
- November (Dates TBD) – 2020 ACS Central Regional Meeting, Columbus, OH. For more information, please see https://cerm2020.org/?sc=200226_mtg_em_regional_CERM_od.
- December 7 (7:00 – 8:00 PM) – Midland Section ACS Board meeting, MCFTA Board Room (in person), or via a WebEx conference call connection at Midland Section WebEx Board Meeting December 2020, phone number: 989-633-1166.

The Midland Chemist is published twelve times a year by the Midland Section of the American Chemical Society, P.O. Box 2695, Midland, MI 48641-2695, http://www.midlandacs.org.

Volunteer Staff

Vickie Langer	Editor (vllanger@dow.com)
Steve Keinath	Editor (skeinath54@charter.net)
Mike Malczewski	Webmaster, electronic distribution
(Open Position)	Membership roster, hardcopy mailings

Please submit all articles and photographs to the editor. Neither *The Midland Chemist*, nor the Midland Section, nor the American Chemical Society assumes any responsibility for the statements and opinions advanced by contributors of or to *The Midland Chemist*.

The Midland Chemist is now primarily available online with publication notification by e-mail. If you are currently receiving *The Midland Chemist* as a hardcopy, this means that we do not have an e-mail address for you. If you do have e-mail and would prefer to get the publication electronically, please notify the editor at newseditor@midlandacs.org. However, if you do not have e-mail, we are happy to provide the publication as hardcopy. If you have any questions about events and only electronic communication information is listed, feel free to contact the Midland Section ACS Chair, Mark Jones, at markjones@dow.com.