Society of Toxicology
Midwest Regional Chapter

2023
Spring Newsletter

June 9th, 2023

Midwest Regional Chapter
OF THE SOCIETY OF TOXICOLOGY

President's Message

Dear MRC/SOT Members,

I hope all of you are having a fantastic 2023 so far! MRC/SOT has been busy this year finding ways to support and engage toxicologists at all levels in our region – highlights include:

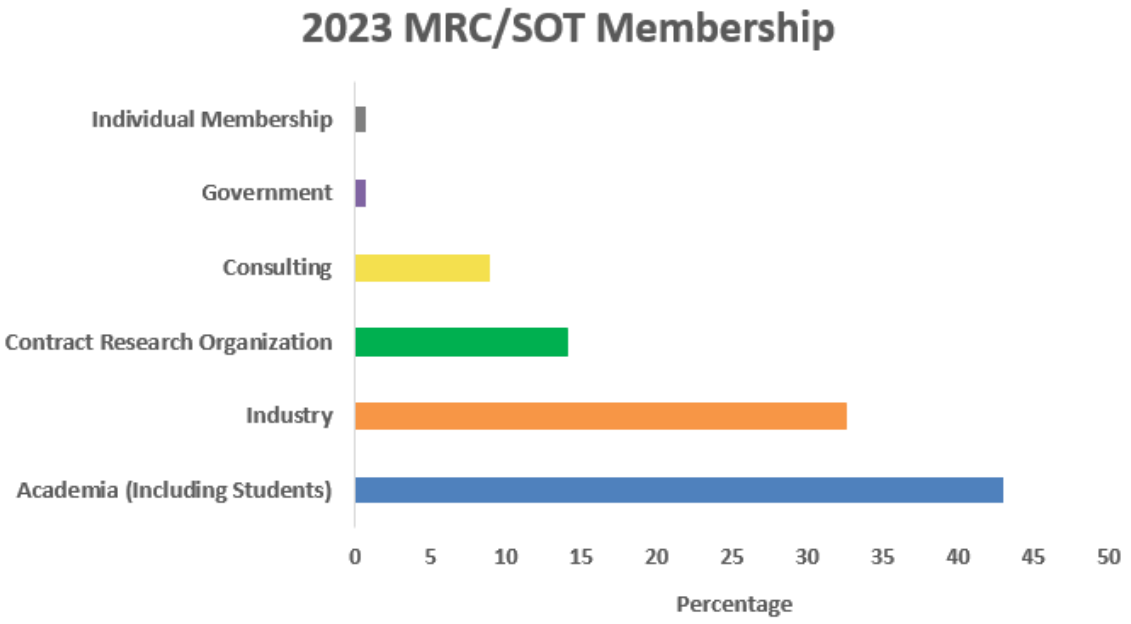
- Collaborating with our friends at Midwest SETAC to present a webinar entitled, **"Toxicological Risk Assessment – Environmental and Human Health Perspectives"**, which had approximately **90 registrants**, bringing together toxicologists involved with Midwest SETAC, MRC/SOT, as well as the broader SETAC and SOT communities.
- Participation in the **National SOT Meeting** in March, which included **presenting a poster** with information on MRC/SOT and hosting a **networking breakfast** for toxicologists in our region and beyond.
- A successful second year of the **MRC/SOT Mentoring Program**, which culminated with an in-person mentoring session at the networking breakfast in Nashville.
- Encouraging trainee involvement with our chapter by continuing to **waive all student and postdoc membership dues as well as student and postdoc Spring Meeting registration fees**.
- Welcoming our incoming **new 2023-2024 MRC/SOT Executive Committee Members**!
- Hosting a successful **Spring Meeting** entitled, **"Emerging Trends in Gene Therapy"**. We heard fantastic presentations from Dr. Almudena Veiga-Lopez and Dr. Muhammad Zeeshan Afzal, as well as our 2022 Young Investigator Award winner, Vicki Mourikes. A student poster session was held, with Sana Iqbal winning the Victor A. Drill Award for best poster! We finished out the day by presenting our 2023 Awards and by playing a fun round of tox trivia. Thank you to the MRC/SOT Program Committee for organizing the meeting, and to all attendees for joining us!

On behalf of the MRC/SOT Executive Committee, I would like to thank you for your continued support and interest in our regional chapter. As always, we welcome any of your suggestions on improving how MRC/SOT enriches your experiences in toxicology at the regional level. Please join me in welcoming our new 2023-2024 MRC/SOT Executive Committee, and I hope everyone has a great summer!

Kind regards,
Tracy Henriques, PhD, DABT
MRC/SOT President 2023-2024

About the Midwest Regional Chapter

The Midwest Regional Chapter of the Society of Toxicology (MRC/SOT) has served its Illinois and Wisconsin members for over 40 years, since 1981. Our chapter is currently comprised of **135 members** with a professional interest in toxicology, and we continually accept new members. Our membership by affiliation for 2023 is 43% from academia, 32% from industry, 14% from contract research organizations, 9% from consulting firms, 1% from Government, and 1% from individual membership.



One of our main objectives is to facilitate professional interactions amongst toxicologists in industry, academia, and government. To accomplish this, we host two scientific programs annually, in the spring and fall, with invited speakers from across our represented areas, host trainee poster sessions and talks, and support career outreach, both during our chapter meetings and at the National SOT meeting.

Want to know more about the Midwest Regional Chapter?

Regional Chapter newsletters, information pertaining to membership, MRC-SOT awards, and nomination/application forms may be viewed or printed from our **newly updated** website!

MRC-SOT Executive Committee (2023-2024)

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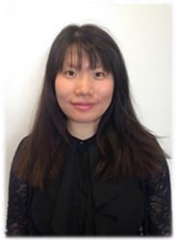

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Thomas Peterson
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University of Wisconsin -Madison
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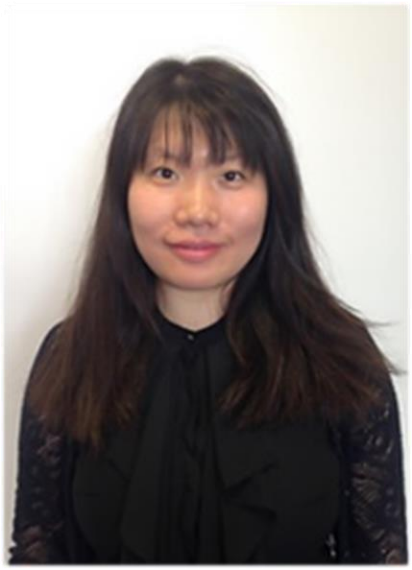
Welcome to the newly elected members of the MRC/SOT Executive Committee!

Matt Wolter, PhD, CQA
President-Elect (2023-2024)

Dr. Wolter currently serves as an Associate Manager in Human Toxicology within the Global Product Safety department at SC Johnson, where he supports Air Care, Home Storage, and Home Cleaning products from a toxicology perspective, and department procedures and supplier management. He received his PhD in Environmental and Occupational Health from the University of Wisconsin-Milwaukee in 2015. He is the co-author of 4 peer-reviewed journal articles. He is also a Certified Quality Auditor and Certified Six Sigma Green Belt. Dr. Wolter has been an SOT member since 2012 and an MRC-SOT member since approximately 2015. He has presented at 2 MRC-SOT conferences, assisted on several initiatives, served as the MRC-SOT Councilor from May 2018 to May 2020 and just completed his second year as MRC-SOT Secretary.

Lei Wang, PhD, DABT
Secretary (2023-2025)



Dr. Wang is currently a Principal Scientist within Preclinical Safety at AbbVie. In this role, she serves as the Study Toxicologist for assigned studies for various modalities which includes design of in vivo toxicology studies, integrated scientific data interpretation and report generation, engagement in multi-disciplinary teams to provide scientific and technical expertise, and participation on issue-resolution teams through active engagement in scientific discussions. Lei received her MS and PhD degrees in Reproductive Physiology from West Virginia University Morgantown, West Virginia in 2009 and 2014, respectively. Subsequently in 2015, she joined the Pathology department at University of Kansas Medical Center (KUMC), Kansas City, Kansas as a postdoctoral fellow, where she worked on epigenetic regulation of trophoblast stem cell differentiation. Following her postdoc, Lei worked as a Study Director at Charles River Ashland and developed strong expertise in report and developmental toxicology and juvenile toxicology. Lei has been an active member of the Society for Birth Defects Research and Prevention and is currently serving as the secretory of the Middle Atlantic Reproduction and Teratology Association (MARTA). Lei has authored over 20 of scientific papers published in national and international peer-reviewed journals and/or conference abstracts.

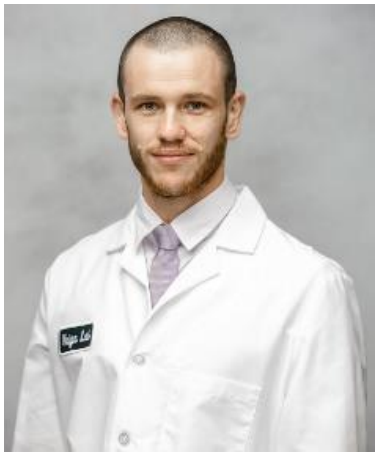
Amy Sheppard
Councilor (2023-2025)

Ms. Sheppard resides in Union Grove, WI and is currently a Supervising Scientist in the Food and Consumer Products practice at ToxStrategies, providing toxicological support for a wide variety of companies in the consumer products, agricultural and food industries. Previously, she held the position of Toxicology Manager and subject matter expert at SC Johnson where she led a team of human health and environmental toxicologists to support global regulatory registration and/or commercialization of consumer products, pesticides, personal care and industrial use products. Amy received her Bachelor's of Science degree in Biology and Chemistry from the University of Wisconsin-Parkside. Prior to her position at SC Johnson, Amy spent a portion of her 30 year career in various product safety/toxicology positions at companies such as Mary Kay, Kimberly-Clark and Diversey, focusing on basic toxicological support, data-driven risk assessments and internal validation efforts for alternatives to animal testing.

Thomas Peterson
Graduate Student Representative (2023-2025)

Mr. Peterson is a graduate research assistant at the University of Wisconsin-Madison where he is currently investigating the role of a long non-coding RNA in TCDD toxicity. He received his bachelor's degree in 2019 from the Pennsylvania State University where he worked with Dr. Andrew Patterson to determine the role of the gut microbiome in mediating drug interactions and human disease. He also worked with Dr. Udayan Apte in the University of Kansas Medical Center Summer Research Opportunity Program where he examined mechanisms of vinyl chloride-induced steatohepatitis. He has served as an NIH/NIEHS T32 pre-doctoral Fellow and a UW-Madison SciMed GRS fellow and has presented research to the U54 O'Brien Center, NIH CAIRIBU community, and MRC/SOT community. He has been a member of the UW-Madison Molecular and Environmental Toxicology Student Liaison Committee and a mentor for a gifted student in the Molecular and Environmental Toxicology Student Research Opportunity Program. He has been a member of WiSolve consulting group and completed the MORGRIDGE Entrepreneurial Boot Camp. He currently runs a seminar series focused on research In developmental biology and endocrinology. He is first author on one publication and co-author on one more. He has been a member of SOT since 2020 and has served as the secretary of the programming subcommittee, an Ad Hoc member of the MRC/SOT Executive Committee, from which he co-founded the MRC/SOT mentor-mentee program and continues to co-direct the program with Dr. Ellen Baker, and a member of the Awards Committee for the MRC/SOT Executive Committee.

Elvis Ticiani
Postdoctoral Representative (2023-2025)



Dr. Ticiani is a postdoctoral researcher fellow at department of Pathology at University of Illinois at Chicago, his research focuses on reproductive toxicology and aims to understand how environmental exposures to endocrine disrupting chemicals during prenatal life can induce adaptive maternal and fetal mechanisms in humans, leading up to pathophysiological consequences during postnatal life. He received his doctorate in animal science from Federal University of Rio Grande do Sul - Brazil, in 2018, and was a postdoctoral fellow at Michigan State University from 2019-2020. He is author/co-author of 22 peer-reviewed articles, and he has been a member of the SOT since 2019 and has served as postdoc representative to the Out Toxicologists and Allies (OTA) Special Interest Group of SOT.

Want to become an MRC/SOT Executive Committee Member?

It's never too early to start thinking about applying! In Fall 2023, we will be recruiting for three **Councilor** positions and our **President-Elect** position. Please keep your eyes open for further communication and check our updated bylaws for position responsibilities. Reach out to Dr. Ashley Brinkman (abrinkman@central.com) with any questions!

2023 MRC/SOT Awards

CONGRATULATIONS to all winners!

2023 MRC/SOT Kenneth P. DuBois Award

- **Dr. Jodi Flaws** – Professor, Comparative Biosciences @ University of Illinois – Urbana-Champaign

2023 MRC/SOT Early Career Toxicologist Award

- **Dr. Brita Kilburg-Basnyat** – Senior Scientist @ Arcus Biosciences

2023 MRC/SOT Young Investigator Award

- **Adira Safar** – Undergraduate Research Assistant @ University of Illinois – Urbana-Champaign

2023 MRC/SOT Victor A. Drill Poster Award

- **Sana Iqbal** – Graduate Student @ Loyola University, “Topical porphyrin antioxidant alleviates allergic conjunctivitis in environmental toxin exposure to particulate matter”

2023 MRC/SOT Student Travel Awards

- **Zane Inman** – Undergraduate Travel Award Winner
- **Monica Ridlon** – Graduate Travel Award Winner
- **Chamia Chatman** – Graduate Travel Award Runner-Up
- **Dr. Natalia Pascuali** – Postdoctoral Travel Award Winner
- **Dr. Elvis Ticiani** – Postdoctoral Travel Award Runner-Up

MRC-SOT members have had some wonderful recent accomplishments! Please join us in recognizing:

Dr. Almudena Veiga-Lopez for being awarded the 2023 Stephen B. Harris Mid-Career Scientist Award from the Reproductive & Developmental Toxicology Specialty Section of SOT

Dr. Elvis Ticiani for a platform presentation at the 2023 SOT meeting entitled, "A mixture of epidermal growth factor receptor-disrupting chemicals reduces cellular bioenergetics and alters mitochondrial dynamics in human placental trophoblast cells", as well as for being awarded the 2023 Sheldon D. Murphy Postdoctoral Endowment Award from the SOT Mechanisms Specialty Section and the 2023 Postdoctoral Travel Award from MRC/SOT

Dr. Natalia Pascuali for a poster presentation at the 2023 SOT meeting entitled, "Spatial characterization of region-specific dyslipidemia in mouse ovaries exposed to tributyltin using state-of-the-art MALDI-TOF mass spectrometry imaging", which won first place Best Postdoctoral Poster Award for the Reproductive & Developmental Toxicology Specialty Section of SOT, as well as for being awarded the 2023 Postdoctoral Travel Award from both the SOT Hispanic Organization of Toxicologists and MRC/SOT

Anita Waye for a poster presentation at the 2023 SOT meeting entitled, "Exposure to a chemical mixture exacerbates the effects of EGFR-mediated trophoblast cell functions compared to single chemical exposures", as well as for being awarded the 2023 SOT Toxicologists of African Origin Student Travel Award

The **Viega-Lopez lab** for their publications:

- Ticiani E, Pu Y, Adomshick T, White M, Veiga-Lopez A. Organotin mixtures reveal interactions that modulate adipogenic differentiation in 3T3-L1 preadipocytes. Archives of Toxicology 2023 (in press).
- Ticiani E, Villegas J, Murga-Zamalloa C, Veiga-Lopez A. Binding sites in the epidermal growth factor receptor are responsible for bisphenol S effects on trophoblast cell invasion. Chemosphere 2023, 318:137960.

Dr. Alison Neff for receiving the 2023 Edward W. Carney Trainee Award from the Reproductive & Developmental Toxicology Specialty Section of SOT

Sana Iqbal for passing the preliminary exam with distinction, and for being invited to give an oral presentation at the International Society for Eye Research (ISER) Conference in Gold Coast, Australia, which is funded by the Robert S. Jacobs Graduate Student Travel Fellowship.

Dr. Mary Laws for two publications:

- Laws MJ, Meling DD, Deviney ARK, Santacruz-Márquez R, Flaws JA. Long-Term Exposure to Di(2- Ethylhexyl) Phthalate, Diisononyl Phthalate, and a Mixture of Phthalates Alters Estrous Cyclicity and/or Impairs Gestational Index and Birth Rate in Mice. Toxicol Sci. 2023 Mar 17:kfad030. doi: 10.1093/toxsci/kfad030. Epub ahead of print. PMID: 36929940.

- Tarvainen I, Soto DA, Laws MJ, Björvang RD, Damdimopoulos A, Roos K, Li T, Kramer S, Li Z, Lavogina D, Visser N, Kallak TK, Lager S, Gidlöf SB, Edlund E, Papaikonomou K, Öberg M, Olovsson M, Salumets A, Velthut-Meikas A, Flaws JA, Damdimopoulou P. Identification of phthalate mixture exposure targets in the human and mouse ovary in vitro. Reprod Toxicol. 2023 May 7:108393. doi: 10.1016/j.reprotox.2023.108393. Epub ahead of print. PMID: 37160244.

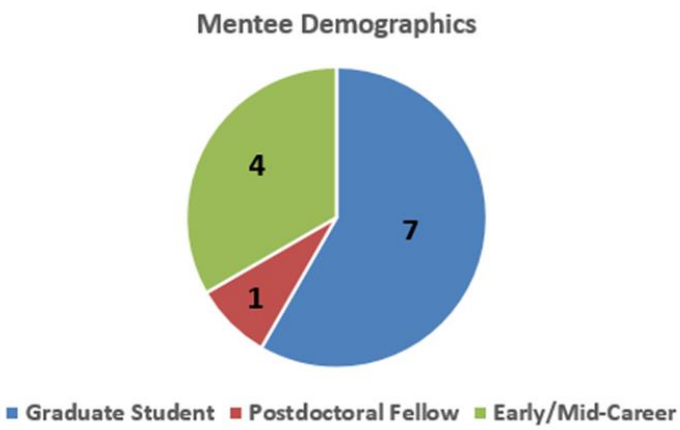
Dr. Ellen Baker for recertifying as a Diplomate of the American Board of Toxicology (DABT).

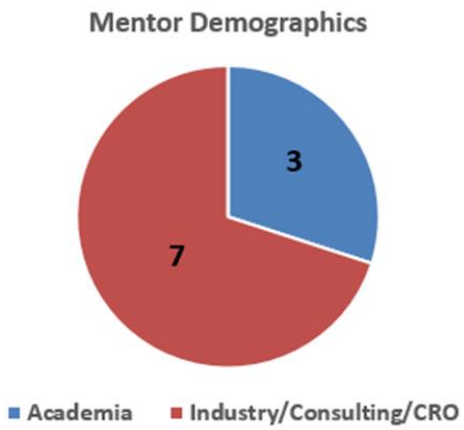
Dr. Ashley Brinkman for being elected to the SOT Nominating Committee for the 2023-2025 session.

2022-2023 MRC/SOT Spring Meeting

We had a successful Spring Meeting on May 19th, 2023 in Mundelein, IL entitled, "Emerging Trends in Gene Therapy". 47 participants were in attendance for presentations from Dr. Almudena Veiga-Lopez, DVM, PhD (Associate Professor, Department of Pathology, University of Illinois at Chicago), Dr. Muhammad Zeeshan Afzal, PhD (Study Director, Toxicology & Safety Assessment, Labcorp Early Development Laboratories, Inc.), and our Young Investigator Award Presenter, Vicki Mourikes (DVM-PhD Candidate, University of Illinois at Urbana Champaign). A trainee poster session, with eight posters being presented, was held, and the Victor A. Drill Award was presented to Sana Iqbal, a graduate student at Loyola University for her poster, entitled "Topical porphyrin antioxidant alleviates allergic conjunctivitis in environmental toxin exposure to particulate matter". The group played a round to Tox Trivia, organized by 2023 Postdoctoral Representative Dr. Alison Neff and Councilor Dr. Keegan Baldauf, and the remainder of our 2023 awards were presented. A special thanks to Tracy Henriques, PhD, DABT (2023 MRC/SOT President-Elect, now President) our Program Chair and organizer of this meeting, and to Dr. Ellen Baker, Dr. Keegan Baldauf, and Dr. Alison Neff for their hard work on the program committee.

2022-2023 MRC/SOT Mentor/Mentee Initiative





The second annual MRC-SOT Mentoring Program launched in October 2022 and ran through March 2023. We had 10 mentors (representing academia and industry) and 12 mentees (including graduate students, postdocs, and early career scientists). At the launch of this year's program, each mentee was matched with a mentor, and they arranged several one-on-one meetings throughout the duration of the program. This year's program culminated with an in-person mentoring session at the 2023 SOT Annual Meeting MRC/SOT Networking Breakfast. Thank you to those who participated in the program and made it a success, and to **Dr. Ellen Baker** and **Mr. Thomas Peterson** for directing the program!

Please be on the lookout for another round of the program later this year!

Special Feature:

Chat with a Toxicologist – Chuck Mattis, MS, MBA, DABT

Q: How did you become interested in toxicology?

A: I was exposed to toxicology through a technical position. I didn't really know much about toxicology or was exposed to it before working in that position. I did my undergrad at the University of Iowa. I was a biology major, and at the time, I was considering pre-med. I began to work in a laboratory while I was in undergrad studying the genetics of psychiatric disorders. So, my first exposure to what a career would look like after college was more basic research and I didn't really have anything to do with toxicology.

After I left the University of Iowa, I returned home to the Chicago area and eventually wound up at a contract research laboratory. There, I was studying immunotoxicology, and it was really eye opening for me because I had a basic interest in immunology. As an undergrad at Iowa, I attended a seminal class where I learned about immunology, and I found it very fascinating. I was in this technical position in Chicago, in immunotoxicology, and I gained a deep understanding of immunotoxicology and conducted experiments that measured immune function parameters. I just found it very fascinating. That was my first exposure to toxicology.

I decided to continue my education with a master's degree. I returned to a basic research setting as a technician at the University of Chicago while completing my master's degree at night. I moved into industry shortly after completing my master's degree. Eventually, I wound up in pharmaceutical research and development. This position was centered around preclinical safety, I was evaluating the preclinical safety of compounds and seeing if they were sufficiently safe to progress to human clinical trials. This was my first exposure to pharmaceutical toxicology and pharmaceutical safety. We used preclinical research models to assess toxicity before we progressed to human clinical trials. I was exposed to toxicology in a more technical and operational sense.

I have always been the type of person that needs to appreciate the practical aspects of knowledge. How do we utilize this basic knowledge to solve problems or answer questions that need to be addressed? Then over the course of it, I continued to dive a little bit deeper into the science aspect, But, without a PhD, I felt the need for additional credentials. When I was eligible, I signed up to take the American Board of Toxicology exam and that provided great background information. It provided a lot more exposure to the concepts behind toxicology than I was getting while working in an operation that was focused on preclinical safety, and that was very enriching and very interesting. It was obviously a lot of hard work, again, I was doing this in my off hours away from the office. But I found it personally rewarding and I was very proud to earn that credential and maintain it all this time. Of course, that comes with a requirement to continue your education periodically, recertification exams and remaining active in the field. So, I do a lot of that by remaining active in professional societies, attending meetings and when the opportunity arises, contributing to publications that have a connection to toxicology. For someone that's focused on operations, that can be a little bit challenging, but there's also many operational challenges associated with conducting our work. So, I have certainly had the opportunity to contribute to the knowledge and the publication knowledge base.

Q: How would you describe your career path so far, and what role does toxicology play in it?

A: So again, I guess my initial love and passion was as an undergraduate. I found the material challenging at the time because I wasn't connecting it, I needed to know certain information. When I began working in a laboratory as an undergraduate, and this was a very basic position where I was washing dishes but being exposed to that environment and having the opportunity to ask questions and having people very gladly talk about what they were doing and share their knowledge. It became very exciting for me to be involved with that and very interesting. So, I became familiar with toxicology through my various technical roles that I held prior to where I'm at today. I enjoyed a lot of the problem solving and the creativity that the positions required at times. Certainly, in academia a lot of times you are wearing many hats in a laboratory, you could be a bench scientist, you could be reviewing a grant proposal from a PI and providing feedback. That's certainly a very good feeling when you know you are asked to participate in the process, and you are encouraged to contribute with your ideas.

I would say I valued working in a team environment, but also one that your creativity was rewarded when you were able to solve problems and benefit the laboratory, team, or organization you are supporting. That is very enriching and satisfying. I would say that that theme or that intrinsic motivation, you know that satisfaction about contributing to the success of an organization really has motivated me along the way. And really, that's a big part of my current position and frankly everything that I've done. I think it's solving problems at the end of the day. Setting and contributing to the goals of the organization, whether they are basic research, getting publications, advancing a program, or solving a day-to-day operational problem. It's all connected in a way, and it just happens that I'm in an area that is associated with the field of toxicology.

I think about the GLP aspects: there is a regulatory component there, there is an operational component. You have to have sufficiently trained staff when there are errors that are made in the experiment, they need to be documented and addressed. Again, I view my responsibilities, my professional responsibilities as solving problems, and it just turned out that I fell into the world of toxicology by chance. In a way, it provided me a great environment to exercise and develop those skills over time, problem solving, relationship building, and team building.

Q: What are some challenges and opportunities you faced in your route to your current position?

A: Well, certainly for me it was the lack of an advanced scientific degree. Years ago, it was explained to me that if you really want to do science properly (I don't know if it's a dated view, but it is certainly something that makes sense to me), you need a PhD. It is considered a union card almost, if you want to relate it to trades or something like that. As a technician at University of Chicago in particular, I was exposed to a lot of world class basic research. It was far from bench scientist duties and executing predesigned experiments that a PI or postdoc would hand down to you. I was given a project to implement certain capabilities in the laboratory around transient transfection. Where I'm going with this is that although I was a non-PhD scientist, I felt that there was a lot of technical information I needed to obtain, digest, understand and apply to get that work done. At the time, I was really getting into the basic research around things, and that sort of came hand in hand. I did a thesis option for my master's. So, I probably got a small taste of what a PhD dissertation would be like, although on a much smaller scale. After that experience I moved into industry again, I was in more of a support role. It was not technical, but I was handling the day-to-day aspects that a PhD scientist would be responsible for, and I felt very comfortable with the types of study designs that we were running for preclinical safety assessment.

I sort of pressured management for study director responsibilities. I was a non-PhD and in the organization at the time there was a lot of apprehension about assigning a non-PhD scientist to be

in that role. I persisted and slowly demonstrated that I was capable of performing the role and then I was given responsibility as a study director. So, to me that required a lot of persistence and open communication with my management that if I was not going to be advanced in that manner, then I probably would not be staying with the organization. It was a give and take situation and ultimately, I was steered into more of an operations role that involved management of people. Looking back, I'm very thankful for that because I still don't consider myself like a true scientist, but it's not really where my interests lie.

I felt that I was perhaps not someone that was an innovator, I was using scientific information to address certain challenges. I acknowledge that you don't necessarily need to discover penicillin or something like that to be like a bona fide scientist. But I felt that my strengths lay more in the things that I have been talking about. Figuring things out such as: what are the challenges we need to address and how do we do it in the most efficient manner and not worry necessarily about every scientific detail that may not be relevant for the experiment that you are running. So, I would say there were some barriers that I had to break down. I would say the challenge was a lack of credentials which were traditionally expected. Again, I did elect to do the American Board of Toxicology exam. I got certified as a Diplomate, so that certainly helped to partially make up for the fact that I was a non-PhD scientist in my organization.

Q: How critical do you think the American Board of Toxicology certification was?

A: It was very critical for me at the time because I did not have a PhD working in industry. I would say it helps a lot. It signals to management that you are an individual that is interested in building your career and obtaining new credentials. Like any academic experience, it really teaches you to think differently. It is a demonstration that you have a certain degree of curiosity or at least motivation to put in extra work to build your career.

Q: What skills did you find necessary to establish a career in industry?

A: I would say leadership and soft skills were very important. I happen to work for a very large organization, and we are dealing with a lot of complex topics. So, the organization that I'm in consists of 2500 people and I think that leadership skills, soft skills and sharp basic skills are really important for being successful in a corporate environment. In terms of being successful in industry: leadership, soft skills, being able to work with people, knowing how to talk to people, understand that people have different communication styles or different ways of understanding things. We are working in a very fast-moving environment with a lot of complexity. A skill that I found to be very important is being able to make the complex simple but not inaccurate - finding the right balance of information and being concise in communication is essential. Getting to the point and making sure that presentations and discussions are not unnecessarily complex is extremely important. Particularly, when dealing with senior management. You may, for example, be exposed to a senior leader. You may have heard about the elevator speech, like: the CEO walked into the elevator with you, what's your 30 second speech? What are you doing for the company today? You need to be ready to pull that off. Well, there is a little bit of truth to that, but I boil that down to knowing your audience, making the complex understandable to a broad audience, with the knowledge that not everyone has the same background, focus, depth of knowledge or interest in a topic that you might have. So that's very important.

I think resilience has been a hot word that has been thrown around for a few years. So certainly, teaching youth to be resilient, not give up when you encounter failure. I happen to work in an environment of preclinical safety research where most of the things that we observe fail. We are tasked in our organization to identify the killer experiment, find the thing that ruins a drugs ability to pass human trials. To identify the killer experiment, many times we ask questions like what do

we need to assess? What are the liabilities that we think are associated with this and how do we test for that as early and cheaply as possible? Again, that comes back to taking complexity and breaking it down to its most basic elements. What are the elements that we need to understand? How do we derive our answers as quickly as possible?

Having fun with it is also very important. There is going to be a lot of tedious aspects to anyone's job. I think that we all individually have the role or responsibility to make it fun in some way. Be a good teammate, be a good coworker and try to make it enjoyable whenever possible. I think that's important as well. It goes into organizational culture and situational leadership. I think in a way it is like you can be an individual contributor but lead by example with a positive attitude and demonstrating resilience and solving problems.

Q: Who are some of your mentors, both personally and professionally?

A: The first one comes to mind; I had some successes as a cross country runner in high school. We had a famous Illinois program that won many state titles in cross country, and that coach's name was Joe Newton. He really instilled this incredible team culture, that was really hard to describe. There is a movie documentary on it called The Long Green Line that is really well done. It was a really important, formative experience for me. In my teen years it was a sports-centric culture where I learned basic things like having to show up on time, not be absent without an excuse. Everybody, regardless of ability, were held to standards on the team. There was a real culture of work ethic, persistence, and resilience that I was exposed to at a young age. I still look back on that time with a lot of fond memories and a lot of important lessons that I was exposed to at a relatively young age.

The next person that comes to mind would be my PI that I was supporting at IIT Research Institute. Robert House, who exposed me to immunotoxicology, and he saw something in my potential. He was very encouraging and wanted me to continue my education. He remained on very good terms with me even when I told him that I needed to leave and search for a new environment and see where science would go. To this day he remains very encouraging to me, when I was President of Midwest SOT, I was able to recruit him to give a talk on vaccine development. So, he was always great about encouraging me while I was employed. I remember him expressing a little bit of pride when he saw that I became the President of MRC/SOT, it was something that he had done, and I thought that was a good accomplishment.

At the University of Chicago, the PI Janice Burkhart was very encouraging to me, and there was an opportunity pursue a PhD at University of Chicago. Some days I look back and kind of regret I didn't follow, but I was not convinced at the time and things so far have worked out acceptably.

My parents as well. My dad was a physician and I saw the work ethic that he had. My mother did a lot of volunteer work and has always been known for extreme kindness and generosity. That is very admirable and something that continues to inspire me.

I think I used to struggle a little bit with the concept of a mentor because I had a resistance to people offering me advice. Now I look back and I'm very thankful. Maybe a little bit embarrassed about not always acknowledging them as mentors because I think I had an idea that a mentor would reprogram you in a way as opposed to maybe making some fine adjustments. I look back and there are a lot of great influences that I had in my life, there was a lot of self-exploration along the way and trying to figure this out on my own. But, I look back and there were a lot of mentors and a lot of people that gave me great advice and encouragement along the way. In turn, I feel obligated to them, I'm obliged for their wisdom that they passed along to me.

Q: What aspect do you enjoy most about your career?

A: The personal satisfaction of solving problems. Being somebody that provides meaningful contributions to a team. I don't feel bad about being just a small cog in a great machine. But I do take a lot of pride in the accomplishments of my organization that I may have had a very little part of. I view our successes as an organization as the culmination of many people putting their best efforts forward and making good decisions, contributing to the overall success. So that is what I find most satisfying.

When there is a measurable end product and it could be you finish a toxicology report, or you successfully get a publication out, or you reach some sort of goal that may have required months or years of work. To me, that is the satisfying aspect when you hit those milestones and certainly the journey is part of the experience. Without having those successes, it's hard to maintain motivation.

Q: What advice do you have for trainees or early career scientists interested in pursuing a career in toxicology?

A: I definitely encourage completion of graduate studies and obtaining a PhD. Go to professional meetings and try to determine a potential career path after academia. It can be that you want to stay in academia, maybe in basic research or there is a great environment within an academic institution that you like but have an idea of what a next step is. I would say connecting with people in the industry can provide that guidance. I'm in industry and so I'm a little bit biased there, but I think understanding what is out there in the world. Like I said, I kind of fell into the world of toxicology by chance. I didn't really know anything; I don't have any scientists in my family. My father was a physician, but not a PhD scientist or anything like that. Again, understanding what you could possibly do with your training and maybe think about what the next step is really important.

I know that can be very challenging at times when you might feel like you are stuck in an endless cycle of research. I certainly experienced a lot of failed experiments at the University of Chicago, that kind of swayed me away from academia, but I would say persist, and get that necessary scientific training that identifies you as an expert, and that is really going to open a lot of opportunities. So, you don't necessarily have to claw your way to the top like somebody without a degree.

Q: What is your favorite event at the national SOT meeting?

A: I like the plenary speakers. Usually somebody that is very distinguished in their field and summarizing a large body of work. When they do it correctly, it emphasizes the teamwork aspect and the community aspect of the scientific community. I mean, obviously there's many egos involved, very talented and intelligent people that don't always agree, but when somebody can put together all the accomplishments in a field that they have done and acknowledge hundreds of scientists that have contributed to various aspects of a body of knowledge, I find that to be very comforting in a way. You know on a day-to-day basis, we may have fights, arguments or disagreements with people, but we are contributing to a knowledge base that hopefully is helping humanity as best as we can, and advancing a field that has the potential to benefit the health of society.

So usually, it's the plenary speakers that I like and then also going to posters sessions as well. I like talking to the people that are presenting their work. I like interacting with the trainees that maybe are thinking about what their next move is and trying to identify talent that we could use in my organization. I think that is very exciting and then I would say lastly, connecting with colleagues that may have moved on to other organizations or even retired, having the chance to connect with them at a professional meeting is very fun too.

Q: If you were not a toxicologist, what would you be and why?

A: If I were not a toxicologist? I imagine myself in some sort of industry that again requires creativity and problem solving. I don't really know what I would do, I certainly have interest in science, I find it very enriching so, perhaps, I think being a physician would be very interesting for me.

Possibly a lawyer that would be on the side of physicians, helping them.

If I had the talent, I would be a musician. I'm not quite there, although I have an interest in playing the guitar and doing things like that. I don't know if I could make any money doing it, so it would probably be for personal enjoyment, but I don't know if I would be gainfully employed doing it.

Q: What do you like to do outside of work?

A: I'm a guitar player, I have been playing for over 30 years. Long ago, before I had family responsibilities, I played in a band for a little while. I was not particularly successful or anything like that. It was pretty noisy, but I still reunite with my former band members all these years later and about once a year we get together, and I play some music on my own. I do play guitar probably on a daily basis.

I also feel a lot better about myself when I stay fit, so I still try to run as much as possible or do other forms of exercise like biking and weightlifting. I enjoy traveling when I can, more to a nature setting, hiking with my wife in various places. Recently we were in Sedona, AZ. I thought that was very beautiful and a place that I would like to visit again or something similar.

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